A CHRONOLOGY OF *PHYTOPHTHORA RAMORUM*, CAUSE OF SUDDEN OAK DEATH AND OTHER FOLIAR DISEASES

10/26

- Nine CA nurseries are undergoing enhanced inspections as part of post-confirmed nursery protocol requirements for nurseries that were previously *P. ramorum*-positive.

- After having tested positive for *P. ramorum*, eight OR interstate wholesale nurseries are in the process of compliance surveys, with an additional eight OR retail nurseries under compliance inspections as well.

- WSDA carried out Confirmed Positive Nursery Protocols at a municipal park after a symptomatic Rhododendron test positive for *P. ramorum.*

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- Eight California nurseries that were previously positive for *P. ramorum* underwent enhanced inspections in spring 2026. Six of the enhanced inspection nurseries were found positive, and an additional nursery was found to be positive through a trace back inspection from a California nursery. Trace forward inspections from positive nurseries found a positive plant at a residence in an infested county.

- Thirteen Oregon nurseries have had positive *P. ramorum* detections so far in 2026. Six interstate wholesale nurseries and seven intrastate retail nurseries were found to have positive plants. Eight nurseries had previous *P. ramorum* detections, while five nurseries were confirmed positive for the first time in 2026. Delimitation surveys were conducted at each nursery until negative survey results were achieved or the nursery elected to destroy the entire affected block. All positive nurseries have completed plant destruction, and many are proceeding with substrate solarization. Trace-forward and trace-back inspections were completed and did not result in any additional detections. Plants confirmed positive for *P. ramorum* in 2026 include *Rhododendron* spp., *Pieris* spp., *Camellia* spp., *Kalmia* spp., *Viburnum* spp., *Magnolia grandiflora*, *Arbutus unedo*, *Polystichum munitum*, *Myrica californica*, and *Ilex* × *meserveae*.

- WSDA received notice of multiple trace forwards in April and May 2026. One location yielded 2 positive rhododendron samples. Confirmed retail protocols were followed, and the location is waiting for steam treatment of soil. WSU staff sampled a suspect rhododendron in a new roadside landscape (5 months in ground) at a municipal park with abundant native vegetation and old growth. The sample was confirmed positive by WSDA and USDA.

5/26

- Sixteen Oregon nurseries (8 interstate shippers under federal compliance agreements and 8 intrastate shippers under state compliance agreements) are participating in ODA's *Phytophthora ramorum* Nursery Program. One interstate nursery was added to the program in February 2026 due to a

traceback detection and is still under PASS delimitation. To date, four nurseries tested positive for *Phytophthora ramorum* during their spring survey. Of these, one nursery was negative for their first delimitation, one nursery was positive for first delimitation and undergoing a second delimitation, and one nursery is awaiting results for their first delimitation. One intrastate nursery was added to the program in summer of 2025 and is still under the PASS delimitation process. Additionally, four intrastate nurseries identified through trace-forward detections in February and March of 2026 completed their PASS surveys and delimitations and are eligible for fall compliance survey. The remaining three intrastate nurseries have completed their spring compliance surveys. Two of the nurseries tested positive; one nursery was negative for their first delimitation, and one nursery was positive for the first delimitation and negative for the second. One interstate nursery and one intrastate nursery are eligible to be released after two more negative surveys, and one interstate nursery is eligible after four more negative surveys.

4/26

- Four CA have had *P. ramorum*-positive plants so far in 2026: (1) in January, a previously *P. ramorum* positive production nursery in a quarantined county was again confirmed positive for *P. ramorum* after one *Camellia* plant was determined positive from a December 2025 inspection. No additional positive plants were detected during follow up delimitation inspections at that nursery; (2) a trace back inspection from that nursery led to another production nursery in a nonquarantine county where *P. ramorum* was confirmed on multiple varieties of *Camellia* plants, with trace investigations for this nursery are underway; (3) another production nursery in a quarantined county was confirmed positive on *Rhododendron* and *Pieris* species in January from samples collected in December 2025. During delimitation inspections, additional detections were made on *Michelia*, *Pieris*, and *Rhododendron* species. Trace forward inspections from this nursery detected a positive plant at a residence in a quarantined county, with the county agricultural department working with the homeowner on destruction of the positive plant at the residence; and (4) a previously positive production nursery in a quarantined county was determined to be positive again in April after detecting *P. ramorum* on three *Loropetalum chinense* plants during a spring 2026 inspection. All positive nurseries are undergoing the Confirmed Nursery Protocol. Three of the positive nurseries are production nurseries in quarantined counties and one is a production nursery in a nonquarantined county. Plants confirmed positive for *P. ramorum* in 2026 are: *Camellia* sp. varieties 'Debutante', 'Blood of China', 'Bob Hope', 'Cleopatra', 'Hana Jiman', 'Kramer's Supreme', 'Nuccio's Gem', 'Pearl Maxwell', 'Setsugekka', 'Silver Waves', 'Spellbound', 'Swan Lake', and 'White Doves'; *Loropetalum chinense*; *Pieris* sp., *Pieris japonica* 'Bisbee Dwarf'; *Michelia* x *foggii*, *Michelia* sp. 'Warm Fuzzies'; and *Rhododendron* sp., *Rhododendron* sp. 'Alice Eastwood', *Rhododendron fragrantissimum* 'Coastal Spice.'

- In January and February, WSDA conducted trace forward investigations on plants that shipped from two positive out-of-state nurseries. Follow up inspections and samples collected were negative for *P. ramorum*. In March, a positive *Rhododendron* was detected in the quarantine hold area at a botanical garden in Kitsap County. Garden staff hold and monitor incoming host plants for symptoms of *P. ramorum* prior to introduction into the garden, and contact WSDA when they see something suspicious. Twice in the past year, the quarantine hold area has functioned as intended. A positive *Garrya* was detected last November. In the March incident, all plants in the quarantine hold area were destroyed, and all perimeter samples were negative. WSDA is conducting a trace-back investigation on the positive Rhododendron. For more information, contact Scott Brooks, SBrooks@agr.wa.gov.

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- In 2025, the USDA APHIS PPQ *Phytophthora ramorum* Program confirmed positive detections of *P. ramorum* at 24 nurseries across 7 states. Eleven were new locations, 10 were previously positive, and 4 were reconfirmed since they had a distant history in the program. Confirmation of 11 new nurseries are a result of effective trace forward and trace back protocols. Nine trace investigations occurred, impacting 17 states and 1 international province. Interstate operations (11 of the 24) were broken down as follows: 5 were previously positive and in compliance agreements; 2 were reconfirmed since they had a distant history with the program and will be reentering compliance; 4 are new to the program and will be under compliance; and 1 of the newly confirmed intrastate locations was both a nursery and a botanical garden. In 2025, 387 samples were confirmed positive across 14 genera. The *P. ramorum* Hosts and Associated Plants List (HAP), last published in 2022, has been updated.

- From mid-2024 through December 2025, the USDA Forest Service national stream monitoring program (focusing mostly on watercourses in the eastern U.S.) processed nearly 600 samples from nine eastern states, and all were negative for *P. ramorum.*

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- In 2025 in Oregon, a total of 51 new P. ramorum-infested sites were detected outside of the 2015 SOD Quarantine, expanding the SOD Emergency Quarantine Boundary to a total of 289 square miles. In addition, 22 streams tested positive for P. ramorum through plate culture methods, and eight streams tested positive for P. ramorum by PCR. Altogether, the Oregon SOD Program completed treatments on 202 acres.

- The 2025 SOD Blitz found P. ramorum in the epidemic phase in California's coastal counties, with 26.2% percent of bay laurels and/or tanoaks positive for the pathogen. Locations at high risk of true oak infection include Big Sur, western Sonoma County, the Santa Cruz Mountains, Carmel, northern San Francisco, the San Francisco Bay Peninsula, Marin County, Santa Cruz County, and Del Norte County. The 2025 samples documented that NA2 infections discovered in 2024 are larger on average than most NA1

infestations.

- Sampling in the United Kingdom in 2025 focused on both P. ramorum and P. pseudosyringae, since there is increasing incidence of P. seudosyringae and it is causing level of damage similar to P. ramorum in some locations. Samples tested by Forest Research found 1/3 positive for P. ramorum and 1/3 positive for P. pseudosyringae, primarily (75% of samples) on larch (Larix) species. Aerial surveillance by England's Forestry Commission found fewer infested sites than the previous year, part of a downward trend since 2022. Affected acreage in Wales remained similar to 2024 at 282 hectares but is significantly less than the previous ten years (~1,000 hectares). Similar results were seen in Scotland. In Northern Ireland, more cases of P. pseudosyringae have been confirmed in Larix spp. than cases of P. ramorum.

- In late 2025, researchers identified P. ramorum in a plant from a Minnesota (Hennepin County) nursery, the first detection of the pathogen in that state. The plant was destroyed and follow-up samples from plant hosts, water, and soil collected in September were all negative for the pathogen, though State officials will continue to monitor the site.

- In 2025, the California Department of Food and Agriculture monitored 308 establishments under compliance agreements for P. ramorum and processed 8,277 samples, yielding 20 positive results at 8 locations.

- In 2025, the Oregon Department of Agriculture held compliance agreements for P. ramorum with 12 establishments and processed 6,065 samples, yielding 327 positive results.

- In 2025, the Washington State Department of Agriculture processed over 1,110 plant, soil, and water samples, yielding 17 positive plant samples.

10/25

- In Oregon, one fall-surveyed nursery (in Lane County) has found *P. ramorum* onsite and the first delimitation will occur in early November. There have been no additional tracebacks or new nurseries since the summer. One nursery was released from ODA's program after the Fall survey.

- WSDA moved two retail nurseries through the Positive Nursery Protocols, after positives were found during trace forward investigations. One nursery voluntarily destroyed all plants in the quarantine zone and is no longer under an EAN. The other held on to non-host plants from the quarantine zone and is currently undergoing 90 surveillance protocols with the WSDA.

7/25

- Surveys undertaken in early 2025 documented the spread of *P. ramorum* at the perimeters of known infestations in Del Norte County while also working to provide more information about the pathogen strains present there. Fourteen stream baiting locations yielded detections at Peacock Creek, Myrtle Creek, Mill Creek, and Rowdy Creek (all previously detected); in Rock Creek (not previously found); and in the main stem Smith River (detected previously in 2011 at a different baiting location). This Smith River detection

was confirmed as the NA2 strain of *P. ramorum.* SOD Blitz surveys found terrestrial infestations in the middle Myrtle Creek watershed, the Morrison Creek watershed, and the Savoy Creek/South Fork Rowdy Creek watershed. Infestations were also delineated on private property along Rowdy Creek Road and in the neighborhood surrounding Peacock Creek and See-tr'ee-ghin-dvm-dvn.

4/25

- The California Board of Forestry and Fire Protection added Del Norte County to its sudden oak death zone of infestation (ZOI), bringing the number of counties within the ZOI to fifteen full counties, plus a portion of a sixteenth (Trinity). *P. ramorum* was first detected in Del Norte County and added to the USDA APHIS list of quarantined areas in 2019. CAL FIRE waited until now to add the county to the sudden oak death ZOI because of early management activities undertaken in 2020 that aimed to contain the pest to a specific portion of the county. However, since that time the pest has slowly spread, and new strains of the pathogen have appeared, making the ZOI designation necessary for the county as a whole.

- In the first quarter of 2025, there has been one positive nursery found in California. One previously positive nursery was found to be positive for *P. ramorum* in January after its fall enhanced inspection, and is participating in the USDA's Protocol. Seven CA nurseries that were previously positive for *P. ramorum* in 2023 and 2024 are undergoing spring enhanced inspections. Plants confirmed positive for *P. ramorum* at California nurseries so far in 2025 are: *Camellia* sp. varieties: Pearl Maxwell, Debutante Light Pink, Yuletide, and Chansonette. Trace inspections have yielded no additional positive plants.

- There are six Oregon nurseries participating in ODA's *Phytophthora ramorum* Nursery Program. Four nurseries are interstate shippers under federal compliance agreements, in Washington (2), Clackamas (1), and Marion (1) counties. Two nurseries are intrastate shippers operating under state compliance agreements in Clackamas County. Six nurseries require a compliance inspection entering the sampling season. During the Fall season, five nurseries were negative and one came back with positive samples. One nursery was released from the program after the Fall survey. Two nurseries are eligible to be released after the Spring survey if results are negative.

- In January, WSDA received one new trace forward regarding a positive out-of-state nursery. An inspection followed, all plants appeared free of symptoms and no samples were taken.

2/25

- The 2024 year in review for Oregon forests included 15 new *P. ramorum* detections outside the initial SOD quarantine area, resulting in an immeadiate expansion of the boundary to a new total of 148 square miles. Stream baiting in the second half of the year found 13 streams with *P. ramorum*-positive plant material and identified new areas for future ground

truthing.

- In 2024, 49 streams in nine eastern U.S. states (AL, FL, GA, IL, MD, MS, NC, SC, and TX) were surveyed in the USDA Forest Service, Cooperative Sudden Oak Death Early Detection Stream Survey. Of 464 baited samples, PCR analysis detected *P. ramorum* from one stream in AL and one stream in SC. The positive stream in AL was associated with a nursery previously confirmed for sudden oak death while the source of inoculum in SC could not be determined after intensive sampling and survey of the residential watershed.

- In all of 2024, the CA Department of Agriculutre processed appoximately 7,900 samples for *P. ramorum*, resulting in 162 positive finds of the pathogen. One previously-positive nursery completed six negative inspections and was released from enhanced inspections; seven previously positive nurseries remain under enhanced inspections.

- In 2024, the OR Department of Agriculture worked with six interstate shippers under federal *P. ramorum* compliance agreements. A trace inspection in June 2024 resulted in a new addition to the program. In mid-November, one nursery completed the required survey protocols and exited the program.

- In 2024, the WA State Department of Agriculture processed over 450 plant, soil, and water samples, none of which required follow up.

11/24

- Preliminary results from the U.S. Forest Service, Pacific Southwest Region, annual aerial survey of tree mortality find no great increase in sudden-oak-death-caused mortality in California wildlands so far this year. In the North Coast, tanoak mortality on approximately 3,400 acres (1,376 ha) was observed at very light to moderate intensities, mostly occurring in Mendocino County. In the Central Coast, tanoak mortality was detected across approximately 30 acres (12 ha) west of Alder Peak on the Monterey District, Los Padres National Forest. Mixed-oak mortality was detected across about 640 acres (259 ha), but the observed pattern indicates most of the mortality is not likely caused by *P. ramorum*. Mortality was widely scattered in the southern Bay Area and in the Los Padres NF. The cause of death for the oaks has not been identified.

- Significant new mortality detections have been made in Del Norte County, where intensive terrestrial and stream survey efforts have taken place throughout 2024. The newest detections were in the lower part of the Peacock Creek drainage, between State Route 197 and the main stem Smith River. This is an area roughly halfway between previously detected infestations that belong to the NA1 lineage along Mill Creek to the south, and EU1 infestations along SR 197 to the north. Most concerning about the newest detections, which have come from both stream water and tanoak

sprouts, is that they belong to both the EU1 and NA2 lineages. NA2 has not been detected in California forests before.

- There are currently seven nurseries participating in the Oregon *Phytophthora ramorum* Nursery Program. Five nurseries [Washington (2), Columbia (1), and Marion (2) Counties] are interstate shippers under federal compliance agreements. One nursery is an intrastate shipper operating under state compliance agreements in Clackamas County. Another nursery located in Clackamas County was newly added in July 2024. The nursery was identified from a trace-back investigation and is currently going through the delimitation process. Six nurseries are required to complete a compliance inspection entering the sampling season. During the spring season, four nurseries were negative and two came back with positive samples. No nurseries are eligible to be released from the program this fall.

- WA State Dept. of Agriculture received trace-forward information in August 2024 due to a *P. ramorum* finding at an out-of-state nursery. Four Washington nurseries received plants as part of this trace-forward. Most of the plants were shipped in February 2024, and many had already been sold. All four nursery locations were inspected, and one secondary inspection took place at another nursery. No symptoms were found, and no samples were taken. The out-of-state nursery reported three of the four positive varieties were purchased from a Washington nursery three years prior. WSDA inspected the Washington nursery as part of a trace-back investigation. No symptoms were found, and no samples were taken.

6/24

- After two wet winters, *Phytophthora ramorum* spread is apparent in Humboldt Redwoods State Park. Symptomatic tanoaks were found in a new area of the park, including an area that contains one of the largest known tanoak trees. Many pathogens with look-alike symptoms were also recovered, underscoring monitoring challenges under a changing climate regime.

- To date in 2024, 14 new *P. ramorum* infestations have been detected at or beyond the Oregon Generally Infested Area (GIA) and six stream drainages have tested positive. Despite several new infestations being outside the current official quarantine area, those areas are covered under the current ODA SOD (sudden oak death) rules; but given the 23 new detections outside of the 2015 SOD quarantine boundary since 2021, SOD program staff propose to expand the quarantine and GIA. The new proposed quarantine area is 901 square miles or 45% of Curry County, an increase in area of 15%. The proposed GIA area is 178 square miles.

- CDFA has confirmed five *P. ramorum* positive nurseries so far in 2024. Six CA nurseries that were previously positive underwent enhanced inspections in March and April. Of the six previously positive nurseries, three nurseries

were again found positive; the other two positive nurseries were found during trace forward inspections or annual inspections. A trace forward inspection yielded additional positive plants at one retail nursery in a quarantine county. The fifth nursery, not previously positive, was found positive during an annual inspection.

- *P. ramorum* positive plants at California nurseries are: *Arbutus* x 'Marina' (1); *Camellia sasanqua* 'Shishi Gashira' (1); *Cornus capitata* 'Mountain Moon' (1); *Cornus capitata* 'Porlock' (1); *Cornus capitata* (1); *Cornus kousa* var. chinensis (1); *Hamamelis virginiana* (1); *Loropetalum chinense* (134); *Loropetalum chinense* var. rubrum (3); *Rhododendron* sp. (3); *Rhododendron* sp. `Aurora' (2); *Rhododendron* sp. 'Firestorm' (2); *Rhododendron* sp. 'Holden's Solar Flair' (3); *Rhododendron* sp. 'June Pink' (1); *Rhododendron macrophyllum* 'Pacific Rhododendron' (1); and *Viburnum* `Mariesii' (2). Arbutus x 'Marina' is not on the USDA APHIS *P. ramorum* host or associated host list. Koch's postulates need to be completed prior to it being added to the host list.

- WSDA concluded trace-forward investigations from a March detection of an out-of-state nursery shipment which affected 70 homeowners. In total, 13 tissue samples and two soil samples were collected and all samples tested negative for *P. ramorum.*

4/24

- Recent monitoring in Del Norte County has detected *P. ramorum* in several new streams relatively near ones with previous detections along the State Route 197 (North Bank Road) corridor; these "new" infested streams include Peacock Creek, the North Fork of Rowdy Creek, and Sultan Creek. An infected tanoak sapling has been found along the banks of Peacock Creek very close to the creek's intersection with SR 197.

- Six CA nurseries that were previously positive for *P. ramorum* are undergoing enhanced inspections this spring. Three nurseries, two of which were previously positive, were found positive for *P. ramorum* in the first months of 2024. All three 2024 positive nurseries are undergoing the confirmed nursery protocol. Plants confirmed positive for *P. ramorum* in 2024 are: *Cornus capitata* 'Mountain Moon', *Loropetalum chinense, Cornus* 'Porlock*', Rhododendron* sp., and *Camellia sasanqua* 'Shishi Gashira'. Trace forward investigations have yielded no additional positive plants that were shipped to other nurseries.

3/24

- WSDA received trace-forward information on plants that shipped to 70 homeowners from a positive out-of-state nursery. Of the specific varieties found positive at the nursery, only one plant was shipped into Washington.

- USDA APHIS PPQ revised the *P. ramorum* Domestic Regulatory Program Manual. The revisions updated figures and definitions, clarified operational

steps, and revised Chapter 4, "Confirmed Retail Nursery and Retail Nursery Dealer Protocol. Protocol for Intrastate Retail Nurseries and Retail Nursery Dealers when *Phytophthora ramorum* is Present (rCNP)." For more details see the APHIS *P. ramorum* website, Information for Cooperators, https://www.aphis.usda.gov/plant-pests-diseases/pramorum.

2/24

- In 2023, sixty-three streams in 10 eastern U.S. states (AL, FL, GA, IL, MD, MS, NC, PA, SC, and TX) were surveyed in the USDA Forest Service, Cooperative Sudden Oak Death Early Detection Stream Survey. Of 557 baited samples, PCR analysis detected *P. ramorum* from two streams in AL, one stream in MS, and one stream in NC. All positive streams were associated with nurseries previously positive for sudden oak death.

- Between 2019-2023, *P. ramorum* has been detected from eight streams in four eastern U.S. states—five streams in AL, one stream in MS, one stream in NC, one stream in SC. The pathogen has been consistently present in these streams for longer than ten years except the recent detection in SC. The SC isolate belongs to the NA1 lineage but the source of inoculum could not be determined.

- England's 2023 *P. ramorum* aerial surveillance program surveyed over 31,000 ha (>76,000 ac) of larch across England, generating around 280 targets for follow-up ground investigations. The most affected areas remain the southwest and northwest. The total number of infested sites for 2023 is considerably lower than that of 2022 (approx. 200), seemingly due to less conducive weather conditions for sporulation in 2021 and 2022.

- Four helicopter flights were undertaken across Wales in 2023, identifying approximately 150 sites to investigate. All sites were visited and there were approximately 60 positive sites for *P. ramorum*, mainly on larch but with a couple of noble fir (*Abies procera*) as well. Infection seems less than previous years, but we now tend to be dealing with smaller forest blocks. There has been no major expansion from known infested areas.

- In Northern Ireland in 2023, two survey flights were carried out in June and September. The flights identified 49 locations for follow-up by inspectors indicating that *P. ramorum* was still active and spreading in forests in Northern Ireland. Many sites identified for follow-up in 2023 were located in forests where *P. ramorum* had previously been identified. At two locations where *P. ramorum* was suspected, aerial surveillance follow-up inspections and sampling of larch confirmed *Phytophthora pseudosyringae*.

- Approximately 7,400 *P. ramorum* program regulatory samples were submitted to the California Department of Food & Agriculture Plant Pest Diagnostics Laboratory in 2023, leading to 78 *P. ramorum* positives for the year. Two nurseries that were previously positive and receiving enhanced biannual inspections completed the required six negative inspections

necessary to be released from the enhanced inspection portion of the program and will revert to annual inspections in 2024. There are currently six previously positive California nurseries receiving enhanced biannual inspections.

- In 2023, the Oregon Department of Agriculture *Phytophthora ramorum* Nursery Program worked with five interstate shippers [in Washington (2), Columbia (1), and Marion (2) counties] under federal compliance agreements. The ODA also held a compliance agreement with one intrastate shipper in Clackamas County, which is regulated under Oregon state quarantine requirements. The ODA tested 1,228 foliar samples for *P. ramorum*, of which ten tested positive. Delimitations resulted in an additional 334 foliar sample collected, 25 of which tested positive. The nursery incinerated all plants in the destruction and quarantine zones and will opt for non-host placement as their soil mitigation method. An annual inspection at a Washington county nursery found plants impacted by *P. ramorum*, leading to 167 foliar samples and the detection of ten additional positive plants. All plants have been incinerated to ash on site, and soil mitigation included solarization and non-host placement to previously positive areas. Fall compliance surveys brought in 1,664 foliar samples, none of which tested positive for *P. ramorum*.

- In 2023, the Washington State Department of Agriculture (WSDA) processed over 300 plant, soil, and water samples. Washington's only regulated nursery for *P. ramorum* was released from its federal compliance agreement in March 2023 after six consecutive negative certification surveys. WSDA inspected five of the nine nurseries that 'opted-out' of the Federal regulations and can no longer ship interstate. Host material appeared free of symptoms and no samples were collected, and WSDA confirmed none of the 'opt-out' nurseries are shipping interstate. WSDA Plant Services staff conducted three trace-forward investigations and collected symptomatic plant samples from out of state positive nurseries; all samples were negative. Staff also conducted the required follow-up inspection at a residential site in Pacific County that was positive in 2022 as the result of a trace-forward. No symptoms were present on host plants in the perimeter of the property, and no samples were collected.

1/24

- USDA APHIS announced over $62 million for the Plant Pest and Disease Management and Disaster Prevention Program (PPDMDPP) portion of the Plant Protection Act, Section 7721 (PPA 7721, formerly known as "the Farm Bill"). The funds aim to strengthen U.S. infrastructure for pest detection and surveillance, identification, threat mitigation, and safeguarding of the nursery production system. For more details, view the fiscal year 2024 Plant Protection Act's Section 7721 spending plans online: www.aphis.usda.gov/ppa-projects.

9/23

- *Phytophthora ramorum* expanded its distribution in Del Norte County following a wet 2022-23 winter. Prior to 2022, two main *P. ramorum* infestations were known to exist in Del Norte County: an NA1 infestation in Jedediah Smith State Park, just to the south of the main stem Smith River, and an EU1 infestation along North Bank Road, just to the northeast of the same river. Surveys since December 2022 established that both these infestations continue to spread: an area of concentrated tanoak dieback and mortality was detected less than a mile downstream along Mill Creek, a tributary that feeds the Smith River from the south; and a satellite infestation was found just a few hundred meters to the south of North Bank Road, high on the banks of Little Mill Creek (another tributary of the Smith River). Further surveying and stream sampling in 2023 detected additional infected tanoaks along Hutsinpillar Creek, Rowdy Creek, Morrison Creek, and Myrtle Creek. Two of these detections were the EU1 strain.

6/23

- Tanoak have been confirmed infected with NA2 *P. ramorum* in a third forested area in Curry County, Oregon. The newly discovered infestation is in an undeveloped area near Humbug State Park on property managed by Oregon Parks and Recreation Department (OPRD), approximately 1.5 miles south of the existing emergency quarantine boundary around Port Orford, 6 miles south of Port Orford, and 28 miles north of Gold Beach. The area, along with a 3-mile surrounding buffer, has been placed under quarantine OAR 603-052-1230 (2)(d) by the Oregon Department of Agriculture (ODA). An emergency quarantine or an amendment to the existing quarantine did not need to be issued.

- A public meeting was held in Lincoln City, Oregon – 201 miles north of the *P. ramorum* quarantine boundary in Curry County – regarding the neighborhood *P. ramorum* infestation discovered and delimited in 2022. The ODA and Oregon State University Forestry & Natural Resources Extension shared plans to remove the known infected plants, destroy the material, and continue to monitor the area. Recommendations to replant with non-hosts are being shared with local landscapers. At the locations where plants will be removed, cedar chip mulch and *Trichoderma* biocontrol may also be applied to the soil. Funds for the eradication are being acquired from the U.S. Forest Service, Pacific Northwest Region. Mitigation plans are slated to begin in August 2023.

- During a 2022 survey of native and invasive plants in Marin County, necrotic leaf spots were detected on *Cotoneaster pannosus* (silverleaf cotoneaster). Isolations yielded two *P. ramorum* isolates from different leaf samples from the same tree and were confirmed by sequence analysis of the ITS-region. The *Cotoneaster* sampled in 2022 was again symptomatic in spring 2023. Official regulatory samples were taken by the California Department of Food and Agriculture (CDFA) and submitted to USDA APHIS for confirmation. Other symptomatic *Cotoneaster* plants were also observed in 2023.

- CDFA has completed trace investigations searching for potentially positive plants shipped from the positive nurseries identified in spring 2023. Two positive plants from one nursery were detected at two retail nurseries. The USDA Retail Confirmed Nursery Protocol was performed at the two positive retail locations and no additional positive plants were detected. A *Cornus capitata* "Mountain Moon" dogwood sample from a nursery in a quarantined county tested positive for *P. ramorum* and was confirmed by the CDFA Plant Pest Diagnostic Center and the USDA APHIS PPQ Plant Pathogen Confirmatory Diagnostics Laboratory in April. This is the first record of

Cornus capitata "Mountain Moon" dogwood in the U.S. It has been previously detected with *P. ramorum* in the U.K.

- Seven nurseries are participating in the Oregon *Phytophthora ramorum* Nursery Program: five (Washington (2), Columbia (1), and Marion (2) Counties) are interstate shippers under federal compliance agreements and two (Clackamas and Linn Counties) are intrastate shippers operating under state compliance agreements. An additional twenty-six (Nursery A in Marion County) and ten (Nursery B in Washington County) were detected during delimitation surveys; all positive plants at both locations were incinerated to ash on site. Water samples at all locations tested negative for *P. ramorum*. No nurseries were eligible to be released from the program this spring.

- WSDA received trace-forward information on plants that shipped to three nurseries in Washington from a positive out of state nursery. Inspectors followed up at each location. Two samples of *Prunus laurocerasus* 'Schipkaensis' were collected and tested negative for *P. ramorum*.

- Recent EU legislation changes the regulatory status of *P. ramorum* based on the origin of the infected material. "Non-EU isolates" of *P. ramorum* are quarantine pests. These pests are treated as the most serious pests in the EU, and if detected, extensive control actions must be taken. The other legislative grouping is for *P. ramorum* "EU isolates" which are now treated as regulated non-quarantine pests (RNQP). The focus of the legislation on RNQP's is to limit the spread of these pathogens on plants for planting only.

5/23

- CDFA spring compliance inspections are complete. Earlier this year, regulated nurseries in counties quarantined for *P. ramorum* and five California nurseries that were previously positive for *P. ramorum* were inspected and sampled, with four nurseries (all in *P. ramorum* quarantine counties) confirmed positive for *P. ramorum*. Two additional nurseries were also confirmed positive after trace-forward investigations found positive plants at those nurseries, bringing the total to six positive nurseries in California for 2023.

- There are currently seven nurseries participating in the ODA *Phytophthora ramorum* Nursery Program. Five of the nurseries are interstate shippers under federal compliance agreements in Washington (2), Columbia (1), and Marion (2) Counties. One of the two nurseries in Washington County was newly added to the program in May 2023. Two nurseries are intrastate shippers operating under state compliance agreements in Clackamas and Linn Counties. Six nurseries required a compliance inspection entering the sampling season: one nursery tested positive with ten positive rhododendron plants detected; one additional delimitation has been completed with lab results pending; and all other nurseries tested negative.

- WSDA received trace-forward information on plants that shipped to ten homeowners from a positive out-of-state nursery. Inspectors are following up at each location and all samples collected so far have been negative.

3/23

- Recent detections confirm the presence of both EU1 and NA1 lineages of *P. ramorum* in Del Norte County. The NA1 lineage was first detected in 2019 though subsequent intensive sampling in 2020, 2021, and 2022 in the same area failed to

recover the pathogen a second time. The EU1 lineage was detected in 2020 approximately six miles downstream from the original NA1 detection. In February 2023, dead and dying tanoaks were observed near the original NA1 detection, and *P. ramorum* grew from the collected tanoak samples. The samples were confirmed by the California Department of Food and Agriculture (CDFA) Plant Pathology Laboratory and sent to the USDA Agriculture Research Service (ARS) lab in Corvallis, OR for genotyping and further analysis, where their identity as NA1 was confirmed.

- AmplifyRP® XRT has been released by Agdia as a fast lab or field assay for *P. ramorum* identification. The test can be performed on leaf tissue and run outside of a lab in less than 30 minutes; it is specific for *P. ramorum,* detects all European and North American lineages, and is not known to cross react with other *Phytophthora* species, *Phytopythium,* or *Pythium.*

- WSDA received trace-forward information on plants that shipped to two homeowners from a positive out-of-state nursery. Inspectors will follow up at each location once the plants have broken dormancy and leaf material is present to inspect.

- WA's only regulated interstate shipping nursery was released from the *P. ramorum* program after testing negative for six consecutive compliance surveys.

2/23

- CDFA found one interstate shipping nursery positive for *P. ramorum* (it had not been positive previously), as well as another interstate shipping nursery that has been previously positive for *P. ramorum*. Both positive nurseries are undergoing or have completed the Confirmed Nursery Protocol and trace investigations are underway in 30 counties.

1/23

- In 2022, ODF continued to aggressively treat all known NA2 *P. ramorum* infestations with large buffers of 300-600 feet in the Port Orford area. No new *P. ramorum* infestations were detected outside the SOD quarantine Area in 2022. From 2001 through 2022, eradication treatments have been completed on more than 8,200 acres in Oregon at an estimated cost of over $35 million. 2022 saw the return of the annual fixed-wing aerial survey for the SOD Program, covering over 420,000 acres. ODF and USFS surveyors flew, on a 2-mile grid pattern, from the California border to the Curry/Coos County line, to take in the 3-mile emergency quarantine established last year in Port Orford. Other SOD survey and detection efforts continued in and adjacent to the SOD quarantine area throughout 2022 including monitoring 60 stream bait sites, aerial imagery interpretation of 379,000 acres, and 469 acres of ground transect surveys for the harvesting of disease-free tanoak.

- In 2022, ten eastern states (AL, FL, GA, IL, MD, MS, NC, PA, SC, and TX) participated in the USDA Forest Service, Cooperative Sudden Oak Death Early Detection Stream Survey. A total of 650 bait samples were collected from 65 streams. PCR analysis of the samples detected *P. ramorum* from three streams in AL and one stream in SC. The positive streams in AL are associated with nurseries previously positive for *P. ramorum*. The SC stream is a first detection and is not known to be associated with a nursery. The watershed, comprising a residential

neighborhood and streamside riparian vegetation, is being surveyed for *P. ramorum*. All samples collected so far have been negative with additional sampling planned. For the last four years (2019-2022), *P. ramorum* has been detected from eight streams in four states: five streams in AL, one stream in MS, one stream in NC, and one stream in SC. In some of these previously positive streams, the pathogen has been present for longer than ten years.

- In 2022, the USDA APHIS, PPQ *P. ramorum* Program supported compliance activities, diagnostics, and surveys in 25 states. *P. ramorum* was detected at 18 different establishments: 12 were new and six were previously positive. Confirmed positive samples were collected at interstate shipping nurseries, at intrastate shipping nurseries including big box stores, a small botanical garden and four residential locations.

- In 2022, approximately 7,200 *P. ramorum* program regulatory samples were submitted to the CDFA Plant Pest Diagnostics Laboratory for processing in 2022. No samples were determined to be positive for *P. ramorum* in 2022. Three nurseries that were previously positive and are receiving enhanced biannual inspections completed the required six negative inspections necessary to be released from the enhanced inspection portion of the program and will revert to annual inspections in 2023. There are currently five California nurseries receiving enhanced biannual inspections. In fiscal year 2022-2023, funding allocated to the CDFA for the *P. ramorum* program was reduced to $1,308,771.

- In 2022, the ODA *P. ramorum* Nursery Program worked with six interstate shippers [in Washington (2), Columbia (1), Linn (1) and Marion (2) counties] under federal compliance agreements. The ODA also held a compliance agreement with one intrastate shipper in Clackamas County, which is regulated under Oregon state quarantine requirements. Three new nurseries were added to the program between March and June. One new nursery in Washington County was identified from a trace-forward investigation and was subject to its first compliance inspection in spring. The other new nurseries, in Linn and Clackamas Counties, were found to have plants infected with *P. ramorum* during routine annual inspections. The first compliance inspections for both nurseries were conducted in fall 2022. Spring compliance surveys were completed by the end of May. The ODA tested 1,633 foliar samples for *P. ramorum*, of which one tested positive. The Confirmed Nursery Protocol (CNP) delimitation resulted in an additional 19 foliar samples collected, none of which tested positive. The nursery incinerated all plants in the impacted block on site and removed and replaced the gravel substrate. Fall compliance surveys were completed by the end of November. The ODA tested 1,929 foliar samples for *P. ramorum*, of which three plants tested positive. One nursery still has compliance inspection results pending. The CNP delimitation work was completed at the two nurseries that tested positive. A total of 19 foliar samples were taken, of which three tested positive. The entire blocks of impacted plants at both nurseries were incinerated to ash on site. One nursery will solarize the impacted ground in summer 2023. The other nursery disinfested the ground and will not place host plants back in the impacted area. A nursery in Washington County fulfilled the CNP requirements and was released from the program in December. ODA detected the presence of *P. ramorum* at a botanic garden and private residence in Lincoln City, Oregon. In response, ODA and USDA APHIS surveyed the neighborhood around the confirmed positive locations. Results are being used to inform a mitigation plan. ODA and USDA APHIS suspect that the pathogen was introduced into Lincoln City

through the planting of infested nursery stock several years ago. As a result of this work, western sword fern (*Polystichum munitum*) was confirmed positive for *P. ramorum* by USDA and added to the USDA *P. ramorum* associated host list.

- In 2022, WSDA assisted in the required certification sampling for Washington's only interstate shipping nursery under a federal compliance agreement for *P. ramorum*. Spring and fall surveys were conducted at the nursery. All foliar and water samples were negative in 2022. The nursery is scheduled to be released from the program in 2023. WSDA inspected four of nine 'opt-out' nurseries in 2022. These are nurseries that 'opted-out' of the Federal DA-2014-2 regulations and can no longer ship interstate. Host material appeared free of symptoms and no samples were collected. WSDA confirmed the nine 'opt-out' nurseries are not shipping interstate. WSDA conducted four trace-forward investigations from out of state positive nurseries: (1) in January 2022, two receiving nurseries in Washington were inspected during a trace-forward from an out-of-state positive nursery. Most host plants had been sold. Remaining plants on site were in good condition.; (2) In April, four big box stores in Washington were inspected during a trace-forward from an out-of-state positive nursery. Nine samples were collected with results being negative for *P. ramorum*. All other host plants were in good condition.; (3) In April, seven receiving locations in Washington were inspected during a trace-forward from an out-of-state positive nursery. Sixteen samples were collected. At a residence in Pacific County, a camellia tested positive for *P. ramorum*. A soil sample at the same location also tested positive. The Confirmed Residential Protocol was enacted and required follow-up inspections will occur over the next two years; (4) In September and October, WSDA conducted its largest trace-forward ever. Over 160 residential sites received host plants from an out-of-state positive nursery, but complete trace information was only provided for 64 locations. WSDA worked with PPQ personnel in Washington to complete the investigation with the information available. Twenty-five samples were collected at 13 locations. All samples were negative for *P. ramorum*.

- For FY23, Plant Protection Act's Section 7721 (formerly called the Farm Bill) will support $642,775 for sudden oak death (*P. ramorum*) and related species projects. The work will be conducted in 15 states, and nationally, for survey, diagnostics, mitigation, probability modeling, genetic analysis, and outreach.

11/22

- ODA and USDA APHIS confirmed the presence of *P. ramorum* (provisionally EU1 lineage) at a botanical garden and private residence in Lincoln City, Oregon. This detection is well over 150 miles from the northernmost known wildland detection in Port Orford, OR. Officials suspect that the pathogen was introduced into Lincoln City through the planting of infested nursery stock several years ago.

- *P. ramorum* has been detected on *Polystichum munitum* (common names western swordfern or sword fern) very close to several heavily infected rhododendrons at a residence in Lincoln City, OR. The lineage of the positive fern sample has not yet been determined. The infected rhododendrons are not associated with recent nursery trade.

- In California, *P. ramorum* forest detections by community scientists participating in local SOD Blitzes are at their lowest level in more than 15 years. The survey did find the EU1 lineage in Del Norte Co. on two samples near the previous EU1 detection

first reported in 2020.

- There are currently seven nurseries participating in the Oregon *P. ramorum* Nursery Program. Six of the nurseries (in Washington [2], Columbia [1], Linn [1] and Marion [2] counties) are interstate shippers under federal compliance agreements; one nursery is an intrastate retail nursery in Clackamas County under a state compliance agreement. The intrastate retail nursery in Clackamas Co. and two other nurseries were found to be negative for *P. ramorum*. The nursery in Columbia Co. has fulfilled the program requirements and will be released from the program in mid-December. During its fall compliance inspection, one nursery was found to have two *Magnolia grandiflora* plants positive for *P. ramorum*. The delimitation discovered three additional positive *Magnolia grandiflora* plants. Delimitation work has been completed, and impacted plants are scheduled for incineration. The nursery grounds will not contain host plants until solarization work is completed in summer 2023.

- Since June, WSDA has conducted two trace-forward investigations from out-of-state positive nurseries. At one residential site in Pacific Co., a trace-forward camellia tested positive for *P. ramorum*, as did soil adjacent to the plant. During a separate trace-forward event, WSDA received limited customer information. This made contact difficult, so follow-up only occurred at 64 of 164 receiving locations, which were all residential. Samples were collected at 13 residential locations; all samples tested negative for *P. ramorum*.

- WSDA conducted the fall certification survey at Washington's only regulated interstate shipping nursery in late September. All plant and water samples were negative for *P. ramorum*.

9/22

- Eighty-one plant species have been added to the USDA APHIS Lists of Proven Hosts of and Plants Associated with Phytophthora ramorum: 30 plant species are new to the proven host plant taxa list, and 51 plant species have been added to the associated plant taxa list regulated for P. ramorum. Among the added species are more than 15 California manzanita (Arctostaphylos) species.
- Louisiana currently has one nursery under compliance for *P. ramorum* (previously positive in 2020). While *P. ramorum* was not detected in the 2021 spring and fall compliance inspections, the 2022 spring compliance inspection resulted in six positive samples. Subsequent delimiting surveys, trace forward investigations, and additional foliar samples have not identified the pathogen, with a fall compliance inspection scheduled for the end of October.

- Seven nurseries are participating in the OR *P. ramorum* Nursery Program: six [Washington (2), Columbia (1), Linn (1) and Marion (2)] are interstate shippers under federal compliance agreements; one (Clackamas Co.) is an intrastate retail nursery under a state compliance agreement. In addition, trace-forward investigations from a Marion County retail find resulted in three additional positive retail nursery detections [Lincoln (1), Multnomah (2)] on plants from a Columbia County source nursery.

- WSDA conducted two large trace-forward investigations during the summer resulting in a EU1 positive find on a trace-forward camellia and its soil at a residence in Pacific County.

6/22

- Since the NA2 lineage was detected in forests outside Port Orford in spring 2021, over 400 ac have been surveyed with ground transects and aerial observations, resulting in over 200 samples and 154 detections of this variant. A tentative 600 ft treatment buffer has been placed around the confirmed positive trees, comprising a 581 ac buffer zone. Treatment has been completed on 141 ac, with treatment currently underway on 130 ac. None of the surveyed sites outside of the current treatment areas were positive for *P. ramorum.*

- Eight California nurseries that were previously positive for *P. ramorum* were inspected, sampled, and found to be free from *P. ramorum* during spring 2022 inspections. A trace-forward investigation from a positive nursery in Oregon that shipped plants to homeowners in California has been completed and yielded no positive samples. There have been no *P. ramorum* detections in nurseries in California in 2022.

- Currently, there are seven nurseries participating in the Oregon *P. ramorum* Nursery Program. Six of the nurseries are interstate shippers under federal compliance agreements (in Washington (2), Columbia (1), Linn (1) and Marion (2) counties); one is an intrastate retail nursery in Clackamas County under a state compliance agreement. The intrastate retail nursery was confirmed positive for *P. ramorum* for the first time in June during a routine nursery inspection and completed plant and soil mitigation; five OR nurseries were impacted as part of the ongoing traceback investigations. During a routine nursery inspection at a retail nursery in Marion County, inspectors observed rhododendron plants in poor health sourced from a nursery in the program in Columbia County, resulting in mitigation measures at both nurseries.

5/22

- Oregon has shifted its highest treatment priority from targeting the sites infested by the EU1 *P. ramorum* lineage for complete eradication to treating the more recent NA2 *P. ramorum* infestation in Port Orford (Curry County). The decision was based on lab studies that demonstrated NA2 as the most aggressive *P. ramorum* strain and the infestation's proximity to the Curry/Coos county line. The state strategy for the NA1 *P. ramorum* lineage will now be to 'slow the spread' by targeting sites with the greatest potential to expand beyond the overall disease boundary. Despite the Port Orford infestation being outside the current official SOD Quarantine area, the area is covered under the current Oregon Department of Agriculture SOD rules which require establishment of a quarantine on any area in the state where a *P. ramorum* infestation occurs (OAR 603-052-1230(2)(d). Since September 2021, ODF has expended $624,000 on SOD treatment work in the Port Orford area; treating the remaining acreage is estimated to cost $1,247,400 over the next year.

- In fall 2021, what appeared from the air to be *P. ramorum* damage on larch was determined to be a new, first-in-the-world infection of *P. pluvialis* causing resinous cankers on western hemlock (*Tsuga heterophylla*). The trees showed crown dieback, needle drop, cankers and mortality on understory trees. This is the first detection of *P. pluvialis* in Europe, which is also known to occur in Oregon, Washington, and California on Douglas-fir (*Pseudotsuga menziesii*) and tanoak (*Notholithocarpus densiflorus*) where it causes needle chlorosis, and in New Zealand where it causes red needle cast on *Pinus radiata* (radiata pine, Monterey pine). The pathogen is considered a quarantine pest in the UK, under mandatory eradication,

so infected trees are removed along with surrounding trees.

- Seven California nurseries that were previously positive for *P. ramorum* were inspected, sampled, and found to be free from *P. ramorum* during spring 2022 inspections. One previously positive nursery is still awaiting their spring inspection. Annual inspections at nurseries in quarantined counties that haven't been positive for *P. ramorum* are also underway. There have been no *P. ramorum* detections in California nurseries in 2022.

- Currently, there are six nurseries participating in the Oregon *P. ramorum* Nursery Program. Compliance surveys for the 2022 spring season for five of the nurseries have been completed, with a sixth still undergoing delimitation surveys and completing mitigation measures. One nursery was confirmed positive for *P. ramorum,* results are pending for another, and the other three compliance surveys were completed with no *P. ramorum* detected. The positive nursery was involved in a trace-forward investigation triggered by a positive confirmation in another state. As a result of the trace inspection, three foliar samples were found to be positive. After mitigation measures, all foliar samples collected during the second delimitation survey came back negative for *P. ramorum*. Trace-back investigations were completed at two other Oregon nurseries with no additional nurseries being added to the program - all samples were negative. Another nursery was confirmed positive for *P. ramorum* for the first time in April due to a single foliar sample taken during a routine annual nursery inspection. A CNP/delimitation survey found 18 more positive foliar samples. One water sample was collected and tested negative for *P. ramorum*. A second delimitation inspection was completed, and sample results are pending. Five nurseries were impacted as part of the trace-back investigations. One nursery is in Canada, the rest are in Oregon. Results from trace-back investigations are pending. To be released from the program, nurseries must have six consecutive negative results from compliance inspections over three years. No nurseries will be eligible to be released from the program this spring.

- This spring, WSDA conduced two separate investigations involving plants sent to big box stores. All samples collected were negative for *P. ramorum*. A third investigation is still in progress, with trace-forward plants installed in landscapes at residential sites in Washington. So far, samples have been negative. A spring certification survey was conducted at Washington's only regulated interstate shipping nursery in early May. All plant samples were negative for *P. ramorum*. Water samples from the survey are still pending lab results. The next certification survey will take place in fall of 2022.

2/22

- California's 2021 aerial survey found decreased tree mortality attributed to *P. ramorum.* An estimated 97,000 dead trees were seen across 16,000 acres, compared to ~885,000 dead trees across 92,000 acres in 2019. The greatest amount of tree mortality was observed in Humboldt and Sonoma Counties. The declining trend in SOD tree mortality is understood to be driven by climatic conditions, namely a wet year in 2017, followed by a run of dry years. Substantial tanoak mortality caused by drought stress and other fungi was also recorded both in SOD infested areas and beyond. A California 2021 aerial survey of tree mortality report and a synopsis infographic are available from the U.S. Forest Service, Pacific Southwest Region.

- In 2021, USDA APHIS PPQ surveyed 22 states and found *P. ramorum* at 17 different establishments: eight were new and nine were previously positive. Confirmed positive samples were collected at interstate shipping nurseries, at intrastate shipping nurseries including big box stores, and at a large managed landscape. A complete report with several tables is available HERE.

- In CA, 8 nurseries that were previously positive for *P. ramorum* are undergoing their first biannual inspection for 2022 in compliance with federal regulations. One nursery that had 145 positive *Viburnum tinus* plants detected in December 2021 is now undergoing a trace-back inspection after a positive trace-forward plant was detected at a nursery in another state.

- Five interstate shippers under federal compliance agreements are participating in the Oregon *P. ramorum* Nursery program. They are in Washington (2), Columbia (1), and Marion (2) counties.

- The Oregon Department of Agriculture was notified in February that five nurseries would be impacted from a trace-forward from another state. Inspectors followed the trace-forward protocol and detected no *P. ramorum* at four of the nurseries. One nursery in Washington County was found to have one positive foliar sample, so the nursery has been added to the program.

- In February, WSDA conducted two trace-forward investigations on plants that shipped from positive out-of-state nurseries. Inspectors followed up on high-risk genera at five receiving nurseries in Washington. Thirteen samples were collected at four locations and all samples tested negative for *P. ramorum*. In early May, a certification survey will be conducted at Washington's only regulated interstate shipping nursery.

1/22

- In California in 2021, the estimated general infection rate of new *P. ramorum* infections statewide on California bay laurel and tanoak leaves was 3.3%, an historic low, compared to 7.4% in 2020 (based on the 2021 Sudden Oak Death (SOD) Blitz). Aerial surveys also found less tree mortality with approximately 20,000 acres of tanoak mortality attributed to *P. ramorum* recorded by the U.S. Forest Service (USFS), Forest Health Protection flights.

- In Del Norte Co., the EU1 strain was again detected on tanoaks along State Route 197. The detected strain is genetically consistent with EU1 isolates from Oregon forests, the only U.S. state in which it has been previously found in wildlands. The NA1 strain was not detected this year in Del Norte Co.

- In Oregon in 2021, two new infestations of *P. ramorum* were found outside the state SOD quarantine area. The first, detected in March, was on the Rogue River-Siskiyou National Forest along the north bank of the Rogue River, six miles north of any previously known infestation. The second infestation, just outside Port Orford, 21 miles northwest of the Rogue River and 13 miles south of Coos Co., was detected April 27th along Highway 101. All samples collected have tested positive for the NA2 variant of *P. ramorum*. Previously found only in nurseries, this is the first time this variant has been found in wildlands. Two separate 3-mile emergency quarantines have been put into place by ODA until the extent of the new infestations has been determined.

- The Oregon State Legislature appropriated $1.7 million to ODF to carry out an integrated pest management program to combat SOD with $50,000 set aside to fund the OR SOD Task Force.

- In California in 2021, three nurseries were confirmed with *P. ramorum* positive plants, down from five positive nurseries in 2020. The USDA Confirmed Nursery Protocol was implemented at all the positive nurseries. One nursery that shipped plants interstate was found to be positive. This nursery will continue to receive enhanced inspections where over 300 foliar samples are collected biannually. There are currently eight California nurseries receiving enhanced biannual inspections. Approximately 6,800 *P. ramorum* regulatory samples were submitted to the CDFA Plant Pest Diagnostics Laboratory. A total of 156 samples were determined to be positive for *P. ramorum*, all from foliar samples. Positive plant species consisted of *Camellia* sp., *Loropetalum chinense*, *Rhododendron* sp., and *Viburnum tinus*.

- In Oregon in 2021, the *P. ramorum* nursery program worked with eight interstate shippers under federal compliance agreements. Four nurseries tested positive for *P. ramorum,* and the Confirmed Nursery Protocol has been conducted at all the nurseries. ODA collected 3,547 foliar samples; 96 tested positive for *P. ramorum*. Thirty soil samples and five water samples all tested negative. Most of the positive plants were rhododendrons or azaleas.

- In Washington in 2021, over 1,200 samples were taken with only three positives, all from water collected at a botanic garden in Kitsap Co.

12/21

- Preliminary results from CA's 2021 sudden oak death aerial survey show reduced numbers of trees killed by *P. ramorum* as compared to prior years, due to drought conditions. Along the North Coast, tanoak mortality attributed to *P. ramorum* was recorded on approximately 17,000 acres with intensity rated at light (4 -10% trees per acre), to moderate (11-30%). The heaviest mortality observed is west and north of Healdsburg (Sonoma Co.) and around Garberville (Humboldt Co.). Mortality overall has greatly decreased from 2019. Along the Central California Coast, tanoak mortality was detected across 1,600 acres and was mostly observed at light to very light (1-3% per acre) intensity. Mortality is concentrated south of the San Francisco Peninsula (San Mateo Co.), along Big Sur and along the southern Santa Lucia Range (Monterey Co). Some tanoak mortality was also detected outside of known infestation areas and categorized as "damage causal agent unknown".

- Results from the 2021 California SOD-BLITZ show *P. ramorum* incidence on bay laurel and tanoak leaves is at a historic low in California, comparable only to the incidence recorded in 2018. In 2021, 10.2 % of samples were positive for *P. ramorum* for an estimated general infection rate of 3.3% compared to 7.4% in 2020. Areas with higher infection rates ranged between 18.6% in East Sonoma County and 8.4% on the western slopes of the Oakland-Berkeley Hills, to 3.4% in Marin County. In Del Norte County two positive tanoaks were identified by PCR; both belonged to the EU1 lineage. The pathogen was not detected in San Luis Obispo County. Twenty-four local SOD blitzes, in 16 Counties, were held from Del Norte south to San Luis Obispo County. Nearly 500 volunteers participated, with 15,000 leaves from 2,067 trees analyzed by the University of California Berkeley, Forest Pathology and Mycology Laboratory.

- Eight California nurseries that were previously positive for *P. ramorum* and that ship host material interstate are being inspected and sampled in November and December

for quarantine compliance.

- ODA's *P. ramorum* program includes four interstate shippers under federal compliance agreements located in Washington (1 facility), Marion (2 facilities), and Columbia (1 facility) Counties. During fall compliance testing in mid November, one nursery tested positive and one tested negative for *P. ramorum,* while two are pending results. The positive nursery had seven plants confirmed positive for *P. ramorum*, all Azalea and Rhododendron cultivars. In total 372 plants, and water from a drainage canal and two holding ponds, were sampled. Trace investigations are ongoing and will continue into 2022.

- The fall certification survey at the only regulated interstate shipping nursery in Washington was negative for *P. ramorum*.

9/21

- The Oregon Department of Forestry has begun sudden oak death treatment work on private lands within the core of the NA2 infested area in Port Orford. The treatment area has expanded to 521 acres, encompassing 146 positive tanoak and rhododendrons in the area. Thus far 104 acres have been flagged off for treatment, with 80 acres of tanoak treated with herbicide. Fifteen acres of tanoak have been cut and piled and are ready to burn once fire restrictions are lifted in the area.

- The Oregon SOD Program recently released an updated version of the Oregon SOD Dashboard to share with the public information on survey, detection, and SOD treatment status in all areas under state quarantine.

- Of the 58 streams tested in north and central coastal CA, 4 streams in Humboldt County (Yager Creek, Stanley Creek, Widow White Creek, and Mill Creek near Azalea Ave.), tested positive for *P. ramorum*. All four of the creeks had been positive previously. The pathogen was not detected in San Luis Obispo County.

- For 2021, twelve eastern states (AL, FL, GA, IL, MD, MS, NC, PA, SC, TX, WI, and WV) participated in yearly USDA Forest Service, Cooperative Sudden Oak Death Early Detection Stream Survey, with 403 bait samples collected from 79 streams. PCR analysis of the samples detected *P. ramorum* from two streams in Alabama. Both positive streams were associated with nurseries previously positive for *P. ramorum*. All the other samples were negative.

- ODA's *P. ramorum* program included eight interstate shippers under federal compliance agreements located in Polk (1), Washington (1), Marion (4), Columbia (1), and Lane (1) Counties); and two intrastate shippers located in Clackamas and Lincoln Counties. The 2021 spring season marked the sixth consecutive inspection with no *P. ramorum* detected at the three interstate shippers and at both intrastate shipper nurseries. All were formally released of state and federal program inspection requirements.

- ODA completed steaming projects at three different nurseries where infested soil had been confirmed during previous delimitation inspections.

- WSDA conducted a fall certification survey in late September for an interstate shipping nursery under compliance. Lab results are pending.

8/21

- Oregon crews have conducted intensive ground surveys in the Port Orford area to determine the extent of the NA2 lineage infestation and found that it is larger than

initially realized. Since late May, over 136 positive *P. ramorum* samples have been collected from tanoaks and rhododendrons surrounding the initial two tanoak trees along Highway 101. A 600-ft treatment buffer has been set around all infected trees resulting in a 475-acre treatment area. The Oregon Legislature has allocated $1.7 million for detection and treatment of sudden oak death over the next two years with a further $190,000 coming in 2021 from the U.S. Forest Service under a cooperative agreement. Treating this area is estimated to cost about $1.7 million.

- USDA APHIS and APHIS-accredited laboratories have confirmed 128 positive samples for *P. ramorum* in various establishments (regulatory incidents) thus far in 2021. Rhododendron plants continue to be the most commonly detected infected genus, comprising 61.7% of the positive samples confirmed so far this year. The next most common genera to test positive were *Pieris* and *Loropetalum*, with 13.3% and 9.4% respectively.

- In WA this May, regulatory staff performed a 2-day certification survey at a wholesale shipping nursery under compliance; 413 samples were collected and all samples tested negative for *P. ramorum*. In June, WSDA conducted a trace-forward investigation on plants shipped from a positive out-of-state nursery. Eight receiving locations in Washington were inspected. One sample was collected that tested negative for *P. ramorum*. All other inspected host plants were in good condition or had been sold.

- Cal Fire and CDFA have entered into an agreement to allow Cal Fire Forest Health Specialists to be considered "official" *P. ramorum* samplers. Diagnostic results for materials collected by official samplers are recognized by the State and USDA APHIS as data to inform regulations (quarantines). Without such an agreement, "official samplers" are limited to employees of agricultural regulatory agencies. All samples must be submitted and tested by a laboratory approved by APHIS, using methods approved by APHIS.

- An updated map of the distribution of *P. ramorum* in California and Southern Oregon wildlands based on CALINVASIVES entries is now available. CALINVASIVES has also assembled a *P. ramorum* factsheet.

6/21

- The *P. ramorum* NA2 lineage has been detected infecting trees growing more than 20 miles north of the Oregon sudden oak death (SOD) quarantine area. Two infestations of *P. ramorum* have been found outside the SOD quarantine area in Oregon: (1) on national forest land on the north bank of the Rogue River, six miles north of any previously known infestation; and (2) just outside Port Orford, 21 miles northwest of the Rogue River and 13 miles south of the Coos County border. Previously found only in nurseries, this is the first time this lineage has been found infecting vegetation in wildlands.

- Del Norte County has been added to the *P. ramorum* quarantine area by the USDA Animal and Plant Health Inspection Service (APHIS) bringing the number of known wildland-infested, quarantine California counties to 16. This action is in response to the confirmation of *P. ramorum* in Del Norte County on tanoak on September 19, 2020.

- Nine previously positive nurseries in CA were inspected and sampled for *P. ramorum*; two had positive plants detected and at a third, nursery positives plants were found during a follow-up delimitation inspection triggered by a detection of positive plants in 2020. This brings the total number of known positive nurseries in California to three,

with the *P. ramorum* positive plant genera detected in 2021 being *Loropetalum*, *Rhododendron,* and *Camellia*.

- Eleven OR nurseries took part in spring compliance inspections: of eight interstate shipping nurseries that were inspected, three nurseries were confirmed positive for *P. ramorum.* The 2021 spring season marked the sixth consecutive inspection with no *P. ramorum* detected at several nurseries, including two intrastate shippers (Clackamas and Lincoln Counties) and three interstate shippers (in Polk and Marion Counties).

5/21

- A survey was conducted at the Kitsap County Botanical Garden (WA), with all plant samples negative for *P. ramorum*. The last positive plant sample was detected in February 2016, and during the last 6 years, over 5,000 samples have been collected and 99.1% have tested negative for *P. ramorum*. USDA APHIS and WSDA are taking steps to deregulate this site.

3/21

- Ten nurseries are participating in OR's *P. ramorum* Nursery Program; of these, eight are interstate shippers under federal compliance agreements, in Polk (1), Washington (1), Marion (3), Columbia (1), Lane (1), and Linn (1) Counties. The ODA also holds compliance agreements with two intrastate shippers, in Clackamas and Lincoln Counties. To date, five nurseries have been inspected and sampled with results pending for three nurseries. Two nurseries had no detections, marking their sixth consecutive inspection with no *P. ramorum* found. They will be formally released for successfully completing program requirements. One released grower is an intrastate shipper located in Clackamas County, first confirmed in 2012; the other is an interstate shipper located in Marion County, also first confirmed in 2012.

2/21

- Nine CA nurseries that were previously positive for *P. ramorum* are currently being inspected and sampled in compliance with federal regulations. At one previously positive nursery, 12 infected, 1-gallon *Loropetalum* sp. plants were detected in January. Four states and 41 counties were notified about required trace-forward inspections. Inspections have been completed in all 41 counties and there were no additional positive plants found.

- OR conducted delimitation work at an interstate shipper in Linn County that was confirmed positive in late November 2020. After two rounds of delimitation surveys, 26 plant, 1 water (taken from a puddle adjacent to a confirmed positive plant), and 18 soil samples were confirmed *P. ramorum* positive. After marking out destruction zones, the grower agreed to destroy all material within the quarantine and destruction zones around each confirmed positive plant. Approximately 2,000 plants were slated for destruction and the grower ultimately decided to close this growing location.

- WSDA conducted two trace-forward investigations on plants that shipped from positive out-of-state nurseries. Eight samples were collected at three locations and all samples tested negative.

- The Phytophthoras in Native Habitats Work Group was recognized with a 2020 IPM Achievement Award from the California Department of Pesticide Regulation.

1/21

- The 2020 summary of *P. ramorum* in California's wildlands is as follows: The pathogen was officially confirmed for the first time in Del Norte Co., on tanoaks and marking the first EU1 lineage detection on vegetation in CA; surveys were conducted to locate any southern spread into San Luis Obispo and southern Monterey Counties with none of the 130 samples from 5 streams testing positive for the pathogen; severe, advanced SOD mortality was seen in Monterey County, in areas south of Plaskett Creek; and finally, the usual sudden oak death aerial survey was not conducted in California in 2020 due to COVID-19 precautions.

- The 2020 summary of *P. ramorum* in Oregon's wildlands is as follows: In late 2020, ODA expanded the Generally Infested Area boundary to encompass areas within the SOD quarantine areas where the infestations were not treated from 2018 and 2019

due to priority rankings; due to the cancellation of regional aerial surveys due to COVID-19 safety concerns, SOD foresters at ODF and USFS scanned through 220,000 acres of high-resolution aerial imagery to detect dead tanoak trees, with over 600 points currently being ground checked and sampled; ODF, USFS, and BLM completed treatments on 30 acres infested with the EU1 lineage, with over 700 acres awaiting burning of tanoak material (to date since 2002, eradication treatments have been completed on more than 7,400 acres at an estimated cost of over $31 million); and finally, monitoring of seedlings in the genetic resistance study at the USFS Dorena Genetic Resource Center indicated about 10% mortality of tanoak seedlings throughout the planting and visible SOD symptoms on about 20% of the seedlings.

- The 2020 summary of *P. ramorum* in England, Scotland, and Wales is as follows: After several years of a decreasing disease trend, *P. ramorum* expanded into new geographical areas in England due to conducive weather conditions in 2019 with 274 woodland sites showing infection present or suspected (as has always been the case, EU1 was the only lineage identified from English samples); aerial and ground surveillance identified concerning areas of new infection on larch in areas of the south and west of Scotland where the climate is known to be suitable to disease and infections have been detected in previous years, with large scale spread of the disease detected in areas of Kintyre, Argyll, Mull, Cowal, Arran and the western Scottish Borders (areas that have had only limited infections historically); and finally, a highly significant increase of *P. ramorum* infections was detected in mid and north Wales with up to 50 to 80% dieback observed, and an increase in the overall area affected for the year (1,463 ha/3615 ac) compared to last year (804 ha/1986 ac).

- The 2020 Southeastern US stream survey summary is as follows: Monitoring of streams in seven southeastern states in the yearly USFS Cooperative SOD Early Detection Stream Survey program detected the pathogen in 4 streams in Alabama (AL), 1 stream in Mississippi (MS), and 1 stream in North Carolina (NC). The pathogen has been consistently present in these streams for at least the last ten years. In 2020, a total of 41 streams in seven states (AL, FL, GA, MS, NC, SC, and TX) were surveyed, with 400 baited samples taken and diagnosis completed for 220 samples to date; the pathogen has not been detected to date.

- The 2020 summary of Midwestern and Eastern US stream surveys is as follows: 6 states from Region 9 participated in the SOD Stream Survey, with 42 streams or waterways tested; 5 waterways were sampled in Illinois, 5 in Maryland, 8 in Ohio, 4 in Pennsylvania, 18 in Wisconsin, and 2 sites in West Virginia; PCR test results from 2020 spring-summer and fall samplings did not detect *P. ramorum*.

- The 2020 summary of California's *P. ramorum* stream monitoring results is as follows: 44 streams were monitored across northern and central coastal CA, focusing on high-risk and high-value forests, particularly at the boundaries of the pathogen's known range in northern Humboldt Co. and throughout Del Norte Co.; the pathogen was not detected in Del Norte Co. streams; Upper Yager Creek, Chadd Creek, and Stanley Creek (Humboldt Co.) were all found positive; San Carpoforo Creek and Salmon Creek, near the border between San Luis Obispo and Monterey Counties, were also positive.

- The 2020 summary of the USDA APHIS Plant Protection and Quarantine *P. ramorum* Program is as follows: *P. ramorum* was detected in 177 samples; the most common sample types were tissue samples from *Rhododendron* plants (49.4%), tissue samples from *Camellia* plants (15%), water (11%), soil (8%) and tissue samples from *Pieris*

plants (7%). No samples were confirmed positive from the other genera considered high-risk, *Viburnum* or *Kalmia*.

- The 2020 ODA *P. ramorum* program update: the Nursery Program worked with 9 interstate shippers under federal compliance agreements and held compliance agreements with four intrastate shippers; 1 intrastate shipper nursery was confirmed positive; of 4,321 foliar samples collected during various inspections, 75 samples tested positive.

- The 2020 CDFA *P. ramorum* program summary: Program funding allocated to the CDFA for the *P. ramorum* program increased for fiscal year 20-21 to $1,505,591; approximately 8,200 *P. ramorum* program regulatory samples were submitted to the CDFA Plant Pest Diagnostics Laboratory for processing with a total of 49 samples were determined to be positive for *P. ramorum*.

- The 2020 WSDA *P. ramorum* program summary: all foliar samples were negative this year; host material at 7 opt-out nurseries surveyed appeared free of symptoms and no samples were collected.

12/20

- The EU1 strain of *Phytophthora ramorum* has been detected in forest trees in Del Norte County, the first time the EU1 strain has been detected in forest trees in CA as well as the first officially confirmed detection of the pathogen in Del Norte County. The EU1 infested trees were found uphill of State Route 197 (also called North Bank Road) in a ~70-year-old redwood forest with a minor tanoak component and minimal California bay laurel. This location is 1 mile from Highway 101, near the Smith River. The genotypes present in the new infestation match genotypes previously collected both from Oregon forest samples, and from Oregon and California ornamental nursery samples, but the pathway for introduction to this site is still not understood. Del Norte Co. will be added to the list of counties regulated for the movement of host plant material by CDFA, APHIS, and the California Department of Forestry and Fire Protection. The presence of *P. ramorum* in the county, which has the potential to threaten numerous agricultural and natural resource-based industries, increases the number of confirmed and regulated California counties with *P. ramorum* wildland infestations to 16.

- The new chairperson for the National Plant Board, USDA APHIS, PPQ, *P. ramorum* Regulatory Working Group is Megan Abraham, Director, Division of Entomology and Plant Pathology, Indiana Department of Natural Resources. The Working Group assists William Wesela, National Policy Manager, USDA APHIS *P. ramorum* program by reviewing and updating policies and manuals to assist in regulating and limiting the spread of *P. ramorum* within the USA and is made up of representative members including both State Plant Regulatory Officials (SPROs) and APHIS State Plant Health Directors (SPHDs) of the shipping states from the Pacific West and the receiving states throughout the nation.

- Nine CA nurseries that were previously positive for *P. ramorum* and that ship *P. ramorum* host material interstate are being inspected and sampled for quarantine compliance. One previously positive interstate shipping nursery successfully completed inspections and reverted back to annual sampling. This brought the total number of previously positive nurseries participating in increased sampling to nine and total positive nurseries in California in 2020 to five.

- Four residential sites in King County (WA) placed under the Confirmed Residential

Protocol during the summer of 2020 have met requirements for release from quarantine.

- The fall certification survey at the only regulated interstate shipping nursery in WA was negative for *P. ramorum*.

9/20

- Due to COVID-19 concerns, the U.S. Forest Service, Pacific Northwest Region, Forest Health Protection and Oregon state cooperators mutually decided to not fly the 2020 annual forest insect and disease aerial detection survey (ADS) of Oregon, which includes the special fixed-wing and helicopter flights for sudden oak death (SOD).

- A stream bait approximately 2 miles south of the Rogue River, the northern quarantine boundary in Oregon, tested positive for the pathogen.

- High fire danger shut down SOD treatments in Oregon until fall rains begin. COVID-19 related impacts to state revenues in Oregon resulted in a $70,000 general fund reduction for SOD treatment activities was approved by the state legislature.

- WSDA has four residential locations in King Co. under the Confirmed Residential Protocol as a result of a trace-forward from an out-of-state positive nursery. Soil in the destruction and quarantine blocks at two of these residential sites tested positive. Steam treatment of the ground has been conducted at one location, with the second site to be steamed in October.

- This summer, a two-day survey was conducted at the Kitsap Co. (WA) botanic garden first found positive for *P. ramorum* in 2015. A total of 229 samples were collected near previously positive sites and around the perimeter of the garden. All samples were negative for *P. ramorum*.

7/20

- A North Carolina nursery reported positive *Rhododendron* plants that had been purchased from an Oregon nursery in Linn Co. During the traceback investigation, ODA detected positive *Rhododendron* plants at the site. The Linn Co. nursery has destroyed all material within quarantine and destruction zones and further tracebacks have been triggered at the locations where this material was purchased from. After a second round of delimitation surveys, no additional positive plants were found and no infested soil was detected.

- Two new Oregon nurseries in Marion Co. underwent the USDA Confirmed Nursery Protocol after they were confirmed positive during a traceback investigation and a routine inspection. Both nurseries completed the required mitigation measures and are under federal compliance agreements. The total number of nurseries in the Oregon *P. ramorum* Program is now up to 13.

6/20

- Spring compliance surveys of 10 nurseries (6 interstate and 4 intrastate shippers) in Oregon found no P. ramorum detected. One intrastate shipper located in Tillamook Co. successfully fulfilled program requirements and has been released. To date, this is the fourth nursery to have completed the program in Oregon.

- WSDA conducted a trace-forward investigation on plants from a positive out-of-state nursery. Most plants had been sold at the retail level and were untraceable. However, 37 Rhododendron 'Polarnacht' had been installed in several residential

locations in King County. Inspections were performed and samples collected on symptomatic trace-forward plants. So far six positive 'Polarnacht' have been detected at four sites. The Confirmed Residential Protocol has been enacted at all four locations.

5/20

- APHIS posted a revised "APHIS List of Regulated Proven Hosts and Plants Associated with Phytophthora ramorum" consistent with 7 CFR §301.92-2 (Restricted, regulated, and associated articles; lists of proven hosts and associated plant taxa).

- To date in Oregon, 15 new infestations have been detected at or beyond the Generally Infested Area (GIA). Using a 300 ft treatment buffer, 2020 treatment areas total approximately 76 acres of private land, 80 acres on Bureau of Land Management lands, 42 acres on State Park lands, and 40 acres on U.S. Forest Service lands.

- Of the 10 CA nurseries that ship interstate and were previously positive for *P. ramorum*, *P. ramorum* was detected in 3 of the nurseries on *Loropetalum chinense* and *Camellia* sp. This brings the total number of positive nurseries in California to five so far in 2020.

4/20

- Surveys in WA found a positive water sample in one nursery and one wildland setting near a previously positive nursery.

- Four additional species of manzanita (*A. glauca, A. peninsularis A. viridissima,* and *A. viscida*) have been recognized as susceptible to *Phytophthora ramorum*, bringing the total to at least 18 manzanita species are now known to support the pathogen, including several rare, threatened or endangered species. The detections were made from native plant nurseries, botanic gardens and natural wildlands. CDFA has completed Koch's postulates on several of the species, with reports pending publication. It is worth noting that some of the detections were in areas with no associated California bay laurel (*Umbellularia californica* Lauraceae), a common source of the disease. Further work needs to be done to determine if these *Arctostaphylos* species sporulate and can contribute to the spread of *P. ramorum*.

- Two CA nurseries have been detected as positive for *P. ramorum* so far in 2020. One nursery in Santa Cruz County had a *P. ramorum* positive *Camellia*; the other positive nursery is in Contra Costa County had positive *Camellia* and *Loropetalum*.

- After a positive find during fall 2019 field testing, a nursery in Washington County, OR has taped off areas with infested soil (one in a greenhouse and another in a gravel lot) to prohibit entry and will steam the soil as a mitigation option (estimated for July 2020).

- A retail nursery in Multnomah County, OR is currently laying cement over part of the nursery to treat a soil infestation. Trace-back investigations from this retail location led to a commercial interstate shipper in Marion County where positive *Camellia*, *Pieris*, and *Rhododendron* plants were found. This was a first detection for this location and the Confirmed Nursery Protocol (CNP) has been implemented. Additionally, as a result of a routine inspection, another interstate shipper in Marion County was confirmed positive in early March 2020.

- At a regulated botanic garden in Kitsap County, WA three confirmed water positives have been detected since the beginning of 2020. All positive water baits are from baiting sites previously found positive.

- USDA APHIS has updated the Potentially Actionable Suspect Sample (PASS) protocol for submission of official, regulatory samples where preliminary diagnostics indicate *P. ramorum* is present and confirmation is required by the USDA APHIS Plant Protection and Quarantine Science and Technology, Beltsville laboratory. Samples now need to include symptomatic plant tissues and DNA.

- For federal compliance agreements, USDA-APHIS increased the number of required samples for large nurseries that ship interstate from 199 to 332. The sampling is designed so the minimum number of regulated plants that must be sampled in a confirmed-positive nursery ensures detection at a 1.0% incidence with 95% confidence level.

- Over $1.2 million for *Phytophthora ramorum* projects has been awarded via the Plant Pest and Disease Management and Disaster Prevention Program (formerly referred to as the Farm Bill) administered by the USDA APHIS. The funds support *P. ramorum* nursery survey and research in 22 states.

3/20

- USDA APHIS Plant Protection and Quarantine (PPQ) released "*Phytophthora ramorum* 2019 Season Hotwash Report," a review of communications and operations for the *P. ramorum* regulatory program. In 2019, federal labs confirmed over 250 positive samples of *P. ramorum* from 14 states, with two nurseries acting as the major source of the positive plants. Trace-back information revealed that the two source nurseries had potentially shipped infected plants to 28 states, resulting in the largest trace-forward investigation for the U.S. *P. ramorum* program in any single year for over a decade. There have been no major trace forwards reported to date in 2020.

1/20

- As of the end of 2019, the Generally Infested Area (GIA) within Oregon's SOD quarantine area (where eradication treatment is no longer required) covered 89 square miles (231 square kilometers) of disease establishment and intensification. The current SOD quarantine area for *P. ramorum* in Oregon has reached 515 square miles (1,334 km2), 31% of Curry County. From 2018-2019, ODF treated 306 acres (124 ha) for SOD; the Bureau of Land Management (BLM) treated 249 acres (101 ha); and the US Forest Service (USFS) treated 128 acres (52 ha). ODF currently has 420 acres (170 ha) of SOD treatments in progress with plans to complete them in 2020.

- An economic assessment in Oregon found that up until now the disease has not had a significant impact on the Curry County economy, with no decline in timber harvest, export or log prices or on recreation or tourism revenue. However, it appears certain private properties where tanoaks have died may have lost real estate value. The assessment concluded that current efforts are keeping the infestation's spread to between 0.5 - 4.5 miles (0.8 – 7.2 km) a year. With continued treatment, *P. ramorum*'s spread north of the Rogue River could be delayed until about 2028. Without any treatment, the disease would most likely appear north of the Rogue River just a few years from now (2023) and enter Coos County by 2028. The report also highlighted that the disappearance of tanoak from southwest Oregon forests is impacting the local ecology and Native American culture in ways not reflected in purely economic terms.

- Outbreaks of SOD continued to cause high levels of mortality throughout much of the pathogen's known distribution in fifteen California coastal counties in 2019. For 2019, the aerial survey recorded an estimated 885,000 recently killed trees across 92,000 acres (37,231 ha), as compared to 2018, where about 1.6 million dead trees were observed across 106,000 acres (42897 ha). In comparison, approximately 21,000 dead trees were recorded across 18,000 acres (7284 ha) in 2017. Increases in tree mortality extent and severity were observed in the known infested areas along the Pacific Coast from Monterey County to Humboldt County.

- In 2019, 48 streams in seven eastern U.S. states (AL, FL, GA, MS, NC, SC, and TX) were surveyed in the USFS, Cooperative Sudden Oak Death Early Detection Stream Survey. AL (9), FL (3), GA (14), MS (5), NC (5), SC (7), TX (5) = 48 total. Of 495 baited stream samples, *P. ramorum* was detected from seven streams—five in Alabama, one in Mississippi, and one in North Carolina. All positive streams were associated with nurseries previously positive for *P. ramorum*.

- Approximately 7,600 *P. ramorum* program regulatory samples were submitted to the CDFA Plant Pest Diagnostics Laboratory for processing in 2019. A total of 155 samples were determined to be positive for *P. ramorum*, 152 from leaves and three from soil. Fifteen nurseries were confirmed positive for *P. ramorum* in California in 2019. This number is up from eleven positive nurseries in 2018. One interstate shipper was found to be positive for *P. ramorum* in 2019. The positive interstate shipper was previously positive and is already in compliance with quarantine regulations. Four nurseries found to be newly positive for *P. ramorum* in 2019 will begin receiving biannual inspections in 2020., bringing the total number of California nurseries receiving biannual inspections to 10.

- In 2019, fourteen nurseries in eight counties participated in the Oregon *Phytophthora ramorum* Certification Program. Of these, eight are interstate shippers regulated at the federal level and six nurseries are regulated by Oregon state quarantine requirements. Four nurseries - two interstate shippers (Washington and Marion Counties), one intrastate shipper (Marion County), and one retail nursery (Multnomah County) - were confirmed positive for *P. ramorum* in Oregon in 2019. Upon successfully fulfilling the program requirements, one nursery in Marion County was released from the *P. ramorum* certification program after nine years of inspections. To date, this is the third Oregon nursery to be released from the program.

- In 2019, USDA APHIS and state cooperators conducted *P. ramorum* nursery surveys in 14 states (AL, KY, LA, MI, NC, NV, NY, OH, OR, PA, SC, TN, VA, WV). The survey funds, totaling $352,945, were awarded to states as part of the Plant Protection Act, Section 7721, formerly called "The Farm Bill".

- The USDA APHIS posted "*Phytophthora ramorum* Domestic Regulatory Program Manual" First Edition, Issued 2020. The manual consists of 12 chapters explaining APHIS's *P. ramorum* protocols for inspection and sampling for nurseries, trace forwards and trace backs, confirmed nurseries, as well as background information and photos.

- The Oregon Sudden Oak Death Task Force, representing over 40 organizations working to protect Oregon against *P. ramorum*, published a website for SOD in Oregon at https://www.oregonsod.org/. The site contains a map, management recommendations, photos and reports.

11/19

- The 2019 SOD Blitz survey reports an increase in *P. ramorum* infection rate in coastal California, from 3.5% in 2018 to 5.9% in 2019. The estimate reflects higher rates of infection on susceptible tree hosts, mostly California bay laurel and tanoak in the 15 known infested California counties. All isolates of the pathogen belong to the NA1 lineage.

- During the "*P. ramorum* in Commerce" trace investigations that were conducted in Oregon in summer 2019, one nursery in Multnomah County was confirmed positive with a single *Rhododendron* 'Holden' plant. The ODA has since monitored this property, finding no additional suspect plant material. However, this nursery has a sister location in the same county and at this second location, another *Rhododendron* 'Holden' plant was confirmed positive for *P. ramorum*. The retail USDA Confirmed Nursery Protocol is underway. Previously, it was verified that material is not moving between these two locations. The Multnomah County nursery purchased the plants from a local nursery in Marion County. The trace-back investigation is in progress. Additionally, after nine years, one nursery in Marion County was released from the nursery compliance program in November upon successfully fulfilling the program requirements. This is the third nursery in Oregon to have completed the program.

- In Washington state, a retail nursery found positive for *P. ramorum* during a trace-forward investigation in June was released from the Confirmed Nursery Protocol.

10/19

- In Washington state, a Critical Control Points assessment was conducted and a Federal compliance agreement signed at a wholesale shipping nursery found positive in May. Under the new compliance agreement, a certification survey was also conducted with a single detection on a *Kalmia latifolia* 'Firecracker'. The delimitation survey was negative.

9/19

- First detection of *P. ramorum* in Del Norte County from two tanoaks in Jedediah Smith Redwoods State Park. The infected trees are about five miles east of Crescent City, and distant from known *P. ramorum* infestations--to the north, more than 20 miles from Curry County, Oregon and to the south, approximately 50 miles from infested sites in northern Humboldt County.

- CDFA offered a voluntary inspection program specifically for *P. ramorum* to nurseries in counties not currently regulated for *P. ramorum*. The Voluntary *Phytophthora ramorum* Pre-Quarantine Program (PQP) requires the same inspection and sampling requirements as the Federal Domestic Quarantine 7 CFR 301.92. Participating nurseries with negative inspection results will avoid interruption of inter/intrastate shipping privileges of host and associated host plants if the partial state quarantine for *P. ramorum* expands to include their county.

- All of Oregon's results for "*P. ramorum* in Commerce" trace investigations were finalized, with one positive *P. ramorum* find from the 48 samples taken. The single positive *Rhododendron* 'Holden' was from a retail nursery in Multnomah County, in a discounted sale area on a concrete floor, so no environmental water or soil samples were taken. The nursery agreed to destroy it immediately.

- CFIA's 2019 national *P. ramorum* survey of will conclude this fall and to date has detected *P. ramorum* at three nurseries. Post-eradication surveys for 2019 are complete and resulted in the detection of *P. ramorum* at three nurseries. The CFIA "Regulatory Response Protocol for Nurseries Confirmed with *P. ramorum"* was implemented at all sites where the pathogen was detected. Trace investigations revealed that no trace-forward activities were required to the U.S. or to the rest of Canada. Additionally, trace-back investigations were conducted from detections of *P. ramorum* at U.S. nurseries. Based on information provided by USDA-APHIS, CFIA conducted trace-back investigations at two Canadian nurseries. *P. ramorum* was not detected. Last year, *P. ramorum* was detected at one nursery during the 2018 Canada *P. ramorum* national survey. Five nurseries are undergoing post-eradication monitoring. Eradication activities were implemented at each of the five sites. See more information on CFIA's *P. ramorum* program HERE.

8/19

- A Washington retail nursery had four Rhododendron samples confirmed positive for *P. ramorum.* The nursery was placed under the Confirmed Nursery Protocol and delimitation sampling found two additional positive Rhododendrons. All Rhododendrons on site were destroyed. All of the positive Rhododendrons were traced to an out-of-state nursery.

7/19

- USDA-APHIS reported a large shipment of potentially *P. ramorum* infected plants, originating from nurseries in Washington State and Canada, was delivered to several Eastern and Midwestern states. Lab analyses indicate that many of the shipped plants were infected with the NA2 *P. ramorum* lineage. This is the first report of the NA2 clonal lineage outside of British Columbia, Washington, and California. The threat these shipments with the NA2 lineage pose to Midwestern and Eastern oaks is not fully understood. The incident, called "*P. ramorum* in Commerce", is still being investigated with trace-backs and trace-forwards being conducted by APHIS in cooperation with state agriculture departments.

- USDA APHIS confirmed that more than 50 rhododendron plants found in Indiana nurseries tested positive for *P. ramorum*. The infected rhododendron plants were part of a larger shipment that originated from nurseries in Washington State and Canada, with plants shipped sent to 18 states, including Alabama, Arkansas, Iowa, Illinois, Indiana, Kansas, Kentucky, Michigan, Missouri, Nebraska, North Carolina, Ohio, Oklahoma, Pennsylvania, Tennessee, Texas, Virginia, and West Virginia. *P. ramorum*-positive nursery stock was detected in nurseries in eight states (Iowa,

Illinois, Indiana, Kansas, Missouri, Nebraska, Oklahoma, and Washington). Several major retailers have agreed to voluntarily recall plants from their stores. Further investigations resulted in 28 states receiving notices of shipment of potentially infected plants to their state.

- Five shipping nurseries positive for *P. ramorum* in 2019 are now under compliance in California and have completed or are undergoing the Confirmed Nursery Protocol per 7 CFR 301.92. One of the positive nurseries also had a positive soil sample and coordinated with the NORS-DUC to mitigate the pathogen by steaming the positive soil, with soil samples collected after steaming testing negative for *P. ramorum* at the CDFA Plant Pest Diagnostics Center.

- WSDA conducted a trace-back investigation at an interstate shipping nursery in Washington, finding a positive sample collected from a 3-gallon rhododendron in late May. Extensive delimitation surveys were conducted in June and July, wherein 852 samples were collected and 15 additional positive plants were discovered. The last delimitation survey, conducted on July 10 was negative for *P. ramorum*. All positive plants have been destroyed by steam treatment and the nursery has voluntarily destroyed many of the nursery blocks where the positives were detected.

6/19

- APHIS confirmed 15 rhododendron plants in an Indiana nurseries tested positive for *P. ramorum*. The plants were part of a larger shipment that originated from one nursery in Washington and two in Canada that was sent to Oklahoma for distribution to 18 other states. Agriculture officials in the 18 states are visiting nursery locations to sample the plants received from the three originating nurseries. A plant recall campaign has been issued in Indiana.

- APHIS updated U.S. domestic regulations for *Phytophthora ramorum* on May 20, 2019. The current quarantine revision codifies Federal Orders issued from 2004-2013 and commented on in 2018 with a final rule. APHIS has determined that updating the domestic regulations to include all Federal Orders issued in recent years will make it easier to find and comply with current restrictions which are necessary to protect the U.S. from the artificial spread of *P. ramorum*.

- The Canadian Food Inspection Agency (CFIA) stated that *P. ramorum* "response activities will be more targeted and will decrease the impact of a detection on an affected nursery. These changes align more closely with current U.S. survey and eradication methods." The revised response protocol, "PI-010: Regulatory response protocol for nurseries confirmed with *Phytophthora ramorum*" (replacing PI-010 and PI-011) is being issued for immediate implementation, at the start of the 2019 plant health survey season.

- HB 2365, "Relating to Sudden Oak Death; and declaring an emergency" has been introduced in the Oregon State Legislature. The bill would declare a sudden oak death emergency and appropriate $1.7 million to the Oregon Forestry Department for the 2019-2021 biennium to carry out a pest management program to combat sudden oak death.

5/19

- ODA compliance inspections were completed in May, with no *P. ramorum* detected at 10 of the 11 nurseries surveyed. ODA tested 1,344 foliar samples, two water, and two soil samples during this time. One nursery in Marion County was confirmed

positive and has since completed the Confirmed Nursery Protocol and signed a new compliance agreement.

- CDFA completed Federal *P. ramorum* regulation compliance inspections with two positive plants detected at interstate shipping nurseries. The detections arose during April inspections of six California nurseries that were previously positive for *P. ramorum* and ship host material interstate. One additional interstate shipping nursery was found positive for *P. ramorum* during an April 2019 traceback inspection. The addition of this nursery brings the 2019 total to 10 interstate shippers positive for *P. ramorum*, including two in non-quarantine counties. Six retail nurseries also tested positive for *P. ramorum* since April.

- ODA currently has eleven nurseries enlisted in their program: six are interstate shippers, regulated at the federal level and five intrastate shippers are regulated under State rules. So far, nine nurseries have been surveyed with two plants confirmed as *P. ramorum* positive. In April 2019, one nursery in Washington County successfully fulfilled the Certification Program requirements and has since been released. To date, this is the second nursery to have completed the program.

- A two-day survey at the botanical garden in Kitsap County where *P. ramorum* was first detected in 2015 found all 292 plant samples were negative for *P. ramorum* though a water-bait from a pond in the botanical garden was confirmed positive.

3/19

- In 2018, California tanoak mortality attributed to *Phytophthora ramorum* increased by over 1.6 million dead trees across 106,000 acres. Mortality generally increased in extent and severity in the known infested coastal areas from Monterey County to Humboldt Co. In northwestern California, acres with tanoak mortality attributed to sudden oak death increased from 15,455 in 2017 to 86,812 acres.

- In 2018, 47 streams in seven states (AL, GA, MS, NC, PA, SC, and TX) were surveyed in the USDA-Forest Service, Cooperative Sudden Oak Death Early Detection Stream Survey. Of 520 baited stream samples, *Phytophthora ramorum* was detected from six streams—four in Alabama, one in Mississippi, and one in North Carolina. All positive streams were associated with previously *P. ramorum*-positive nurseries.

- A water bait sample from the Kitsap County Botanical Garden was confirmed positive for *P. ramorum*; this is the third confirmed positive water bait from the pond since June 2018.

- HB 2365, "Relating to Sudden Oak Death; and declaring an emergency" has been introduced in the Oregon State Legislature. The bill would declare a sudden oak death emergency and appropriate $1.7 million to the Oregon Forestry Department for the 2019-2021 biennium to carry out a pest management program to combat sudden oak death.

- More than 15 *P. ramorum* projects totaling over $1 million have been awarded by the Farm Bill. Twelve states will receive funding for *P. ramorum* nursery-related surveys, and four research projects will improve diagnostic tools and knowledge about *P. ramorum* population structure.

2/19

- In 2018, 52 streams were monitored for *Phytophthora ramorum* across northern and central coastal California. In Humboldt Co., two rivers were detected positive: Upper Yager Creek, a tributary of the Van Duzen River, and Chadd Creek, a tributary of the Eel River (previously positive in 2015). In Del Norte County, *P. ramorum* was isolated from the main stem of the Smith River, making it the first recovery of a *P. ramorum* isolate in Del Norte County. In Monterey County, Salmon Creek was detected as *P. ramorum* positive for the first time. Two sites were monitored within San Luis Obispo County, but the pathogen was not recovered.

- In 2018, 43 new *P. ramorum* infestations were detected at or beyond the Oregon Generally Infested Area (GIA), including new EU1 infestations and an intensification of two EU1 sites from 2017; all were within the quarantine boundary. Eradication treatments for EU1 infestations totaled 203 acres for 2018. The GIA was expanded in the beginning of 2018 to encompass 89 square miles in and around the City of Brookings (Curry County).

- In 2018, Oregon's SOD Program monitored 47 streams for *P. ramorum*, detecting the pathogen in 15 of the streams. These included four streams within the GIA (two were positive controls), seven streams within active EU1 treatment areas, one stream near an infestation on the Winchuck River, and three streams that were positive for the first time in 2018. Overall, 668 samples were collected, of which 260 were positive for *P. ramorum*.

- The Oregon SOD Task Force introduced a House Bill in the Oregon State Legislature to appropriate $1.7 million to ODF to combat SOD.

- In 2018, 11 CA nurseries were confirmed positive for *P. ramorum*, down from sixteen positive nurseries in 2017. Three nurseries shipping *P. ramorum* host material interstate from California were found to be positive for *P. ramorum*; two were already under Federal Order DA-2014-02 compliance inspections, and the newly positive nursery will begin biannual DA-2014-02 compliance inspections. This brings the total number of California nurseries under DA-2014-02 compliance to six. Approximately 6,100 *P. ramorum* program regulatory samples were submitted to the CDFA Plant Pest Diagnostics Laboratory for processing in 2018. A total of 210 samples were determined to be positive for *P. ramorum:* 183 from foliage, 26 from soil, and one from water. Positive plant species consisted of *Camellia, Rhododendron* (azalea)*, Cinnamomum camphora* (camphor tree)*, Quercus agrifolia* (coast live oak)*, Laurus nobilis* (sweet bay)*,* and *Viburnum tinus* (laurustinus).

- In 2018, 14 nurseries participated in the Oregon Department of Agriculture (ODA) *Phytophthora ramorum* Nursery Certification Program. Of these, eight are interstate shippers and are regulated at the federal level (DA-2014-02); the other six nurseries are regulated by Oregon state quarantine requirements (7 CFR 301.92 and OAR 603-052-1230). A total of 1,779 foliar, one water, and no soil samples were collected and tested. Of this total, 1,601 were collected from eight interstate nurseries and 178 were collected from four intrastate nurseries. There were 27 confirmed positive plants from ten nurseries across six counties (Clackamas, Marion, Columbia, Polk, Washington, and Lincoln). The pathogen was detected in *Mahonia repens* (6), *Choisya ternate* (2), *Pieris japonica* (1), *Viburnum davidii* (1), *Rhododendron* spp*.* (16), and *Mahonia x media* (1)*.* One *Mahonia aquifolium* was confirmed as inconclusive by both the ODA and USDA. The plant was re-sampled and tested negative.

- The USDA Confirmed Nursery Protocol (CNP) was enacted at ten positive nurseries in OR. Through delimitation surveys, 26 plants, one soil sample, and one water sample were confirmed as positive. Twenty-four plants came from a nursery in Marion County (*Mahonia repens* and *Mahonia aquifolium*). The CNP was enacted at this property several times and ODA staff sampled ~1,359 plants as a result. Traceback investigations revealed that all plants in the blocks surveyed were part of a single shipment received from a nursery in Washington State. In response, Washington State Department of Agriculture staff conducted a traceback survey at the nursery, finding that most of the plants in the original beds had been pulled. They sampled four plants of those that remained and found no additional positive plants.

- The WA State Department of Agriculture Plant Pathology lab processed 1,197 regulatory samples in 2018. This includes nursery, botanical garden and other locations sampled for *P. ramorum*. Two water baits were determined to be positive in 2018; all other plant and water bait samples were negative. WSDA inspected eight of eleven 'opt-out' nurseries (nurseries that 'opted-out' of the Federal DA-2014-2 regulations and can no longer ship interstate). Host material appeared free of symptoms, and no samples were collected. One unofficial investigation was conducted when *Mahonia repens* from a Washington state nursery shipped to an Oregon landscape nursery were found positive after being in Oregon for six months. An investigation revealed that all of the *Mahonia repens* at the Washington nursery had been dug and sold, but a cohort bed of *Mahonia repens* grown from the same seed source was tested and found negative for *P. ramorum*.

- All plant samples from a botanical garden in Kitsap County found positive for *P. ramorum* in 2015 were negative for *P. ramorum* in 2018. In July 2018, a water bait from a small pond below the mitigated areas of the garden was confirmed positive. A second water bait at the same pond location was found positive through PCR by the WSDA Plant Path laboratory in December 2018 but is currently awaiting confirmation by the USDA.

11/18

- After more than 15 years, the California Oak Mortality Task Force (COMTF) bids farewell to Katie Harrell, public information officer. Katie now works for the California Board of Forestry in Sacramento but plans to keep in touch with the California Forest Pest Council and COMTF.

- William (Bill) Wesela has replaced Karen Maguylo as *P. ramorum* program, National Policy Manager, for the USDA APHIS, Plant Protection and Quarantine in Riverdale, Maryland.

9/18

- A two-day survey was conducted at the Kitsap County Botanical Garden in Washington state where *P. ramorum* was first detected in 2015. A total of 251 samples were collected, with all samples negative for *P. ramorum*, save for one inconclusive *Gaultheria* sample. The inconclusive sample was forwarded to the USDA for a final determination; results are still pending.

- Six California nurseries that were previously positive for *P. ramorum* and that ship *P. ramorum* host material interstate will participate in bi-annual sampling to be compliant with Federal Order DA-2014-02. The DA-2014-02 compliance inspections take place during times of the year when climatic conditions are most conducive to *P. ramorum* symptom expression, in October, November, and December 2018.

- Seven Eastern states participated in the 2018 Spring National *P. ramorum* Early Detection Survey of Forests: AL, GA, MS, NC, PA, SC, and TX. Of the 292 samples collected from 48 sites, *P. ramorum* was detected from three samples from two locations in AL (first detection in 2008 and 2009), two samples from one location in MS (first detection in 2008), and one sample from NC (first detection in 2010). All of the positive samples were collected from streams associated with previously positive nurseries.

- Forestry Commission Scotland released an updated map of "Statutory Plant Health Notices (SPHNs) served for *Phytophthora ramorum* on Larch sites in woodland settings" (August 16, 2018). The map shows statutory notices for larch removal have been issued throughout much of Scotland with many detections in 2018 concentrated near Dumfriesshire and Ayrshire, northeast of the heavily infested "*P. ramorum* management zone" designated in 2014. The large number of outbreaks are attributed to favorable, wet conditions in summer and fall 2017 and are so numerous that it will be impossible to fell all of the infected trees this year. Priority for eradication is being given to those occurring farthest from the '*P. ramorum* Management zone' in SW Scotland.

7/18

- A water bait from a small pond downstream from the mitigated areas at a previously positive botanical garden in Kitsap County was confirmed positive on July 12, 2018. The pond is less than a mile from Puget Sound. The pathogen had not been detected in this managed landscape for approximately 2.5 years. Quarterly surveys of the Botanical Garden will continue in 2018.

- USDA-APHIS is proposing a revision to the domestic regulations for *P. ramorum* (7 CFR 301) which will codify the changes made in Federal Orders in 2013-2016 and deregulate low-risk areas and nurseries. The notice may be viewed in the Federal Register at http://www.regulations.gov/#!docketDetail;D=APHIS-2015-0101.

- CDFA issued Nursery Advisory No. 02-2018, which states: plants that are infested with *P. ramorum* do not meet the California Nursery Stock Standards of Cleanliness (FAC 6902 and 3 CCR 3060.2) and may not be offered for sale.

- *P. ramorum* has been found in 11 California nurseries in the first half of 2018. Six of the nurseries will be required to participate in bi-annual sampling to be compliant with Federal Order DA-2014-02; the remaining nurseries are retail facilities detected with infested trace-forward plants. One nursery in a quarantined county was positive for the first time.

- To date in 2018, 13 new infestations have been detected at or beyond the Generally Infested Area (GIA) in Oregon, including three new EU1 infestations and an intensification of two EU1 sites from 2017; all are well within the quarantine boundary. Treatment areas total approximately 311 acres of private land and 10 USFS acres.

6/18

- In France, a 24-ha stand of 50-year-old pure Japanese larch was removed due to widespread *P. ramorum*-caused symptoms and mortality. *P. ramorum* symptoms were first observed on the trees in the Saint-Cadou forest (Brittany), in the northwestern corner of France, in 2015, but the trees were not sampled. A 2016

survey detected many symptomatic trees, but the pathogen was not recovered. In May 2017, the pathogen was isolated from needles, stems and the litter layer. By May 2018, approximately 80% of the trees were symptomatic or dead in the more infected plots.

5/18

- WA State Department of Agriculture conducted the required certification sampling for Washington's only nursery operating under the DA-2014-2 regulations. Sampling results were negative for *P. ramorum* at this 'opt-in' nursery. The nursery completed six consecutive surveys (bi-annually for 3 years since 2015) and was released from its required USDA compliance agreement.

- UK Forest Research reported that a survey in the Fansipan/Sapa area (Lào Cai Province) in Northwest Vietnam in March 2017 found samples that contained *P. ramorum* from natural vegetation and that the *P. ramorum* found in the area is not likely to be from a currently known lineage. Further analysis is needed to determine if they are genetically identical to the known clonal lineages of *P. ramorum* detected in Europe and North America.

- New waves of *P. ramorum*-caused mortality are being reported in near-coastal locations from Big Sur to northern Sonoma Co. High levels of mortality are being seen in: the Vaciente Creek watershed in UC's Big Creek Preserve in Big Sur (Monterey Co.); tanoak and manzantias on Mt. Tamalpais (Marin Co.); on California black oak, madrone, and Douglas-fir near Ft Ross State Park, Salt Point State Park south to Cazadero, and inland along the Russian River to Guerneville and Occidental (Sonoma Co.).

- A Sacramento County nursery undergoing the Confirmed Nursery Protocol (since May 10, 2017) continues to have foliar and soil samples test positive for *P. ramorum*. Twenty-one soil samples tested positive for *P. ramorum* at the nursery in April. Trace-forward inspections from this nursery are underway in 40 counties and 3 states, with 7 retail nurseries confirmed positive as a result of these inspections.

- Under the USDA Farm Bill, Section 10007, $1,772,429 is being awarded in 2018 for *P. ramorum* and related species projects in 16 states. In California, $740,000 will be provided to develop best management practices for pest and disease mitigation at ornamental nurseries.

- In Oregon to date, six new *P. ramorum* infestations have been detected at or beyond the Generally Infested Area (GIA), including one new EU1 infestation; all are well within the quarantine boundary.

3/18

- Two WA waterways were found positive during the 2017 National *Phytophthora ramorum* Early Detection Survey of Forests. The pathogen was detected for the first time in Issaquah Creek (King County) at a site downstream from a now-closed previously positive nursery; and also at the Sammamish Slough (King County), where it has been recovered since 2007.

- *Diplodia corticola* was recovered from symptomatic CA bay laurel and tanoak samples collected near the Stover Ridge area in the Redwood Creek drainage (one of the northernmost known *P. ramorum* infestations in California) in August 2017. This is the first time this fungal pathogen has been reported causing symptoms on bay

that are indistinguishable in the field from *P. ramorum*. *D. corticola* is a known pathogen of several species of oaks as well as grapevines in California, and has also been isolated by several surveyors from tanoak, on which it can cause symptoms very similar to those caused by *P. ramorum,* including bleeding cankers, branch dieback, and in some cases tree mortality.

- The Phytophthoras in Native Habitats Work Group (www.calphyto.org) has joined the California Oak Mortality Task Force as an official committee. This "Other Phytophthoras" committee will focus on addressing threats to CA wildlands from Phytophthoras other than *P. ramorum.*

2/18

- A Sacramento County nursery undergoing the Confirmed Nursery Protocol (since May 10, 2017) had 5 samples test *P. ramorum* positive during their 90-day quarantine release inspection in early February. Since May 2017 there have been 159 positive plants in 8 locations at the nursery. All positive plants are Camellias.

1/18

- Additional detections from Oregon's 2017 *P. ramorum* survey have been confirmed since early January 2018: Stream baiting identified a total of 10 positive waterways in 2017, of which six were the EU1 lineage. Additionally, 39 new infestations were ultimately detected at or beyond the generally infested area (GIA); all were well within the quarantine boundary. 2017 treatment areas totaled approximately 172 NA1 acres of private property, 124 NA1 acres of US Forest Service property, 25 NA1 acres of Bureau of Land Management property, and 371 EU1 lineage acres (up from "over 330 acres" reported in January) of private and state-owned properties. Five EU1 infestations were identified (down from seven reported in January due to some infestations becoming large enough in size to merge) in 2017, with 119 (up from 107) EU1-positive trees confirmed.

- In 2017, Oregon detected 36 new *P. ramorum* infestations at or beyond the Generally Infested Area (GIA) boundary, but well within the 2015 established quarantine area. The Oregon Department of Forestry began eradication treatments on the seven sites (over 330 acres) identified as having the EU1 strain.

- *P. ramorum* was not recovered from the 324 samples taken during the fall 2017 quarterly survey of the Kitsap County Botanical Garden in Washington (first found positive in 2015). Water baiting at nine locations throughout the garden was also negative for the pathogen.

11/17

- *Phytophthora ramorum* was recovered for the first time from seven *Arctostaphylos* species. Most of the samples tested were collected from field restoration plantings or native stands; some were collected from nurseries. Many of the new potential hosts are considered endangered or threatened, making material difficult to acquire. Prior to these detections, four *Arctostaphylos* species were federally regulated for *P. ramorum*. These recent findings suggest that *Arctostaphylos* susceptibility and infection levels may be greater than previously thought.

- *P. ramorum* was recovered from Brisbane box (*Lophostemon confertus,* syn. = *Tristania conferta*) for the first time from street trees in Sausalito (Marin Co.) in an area with *P. ramorum*-infected bay laurel trees. Symptoms included foliar spotting and necrosis, stem cankers, and overall canopy blight.

- The 2017 SOD Blitz documented a three-fold increase in overall infection rates in those areas sampled since the drought ended in 2015, with 13% of samples found positive (the highest to date since the blitzes began in 2008). This was the largest SOD Blitz to date in terms of area covered and was the first to include three tribal land surveys. An estimated 300 volunteers surveyed nearly 15,000 trees and submitted leaf samples from approximately 2,000 symptomatic trees to the Garbelotto lab for pathogen testing. Highlights include:
  - Urban areas of the San Francisco Peninsula and East Bay have significant increases in pathogen levels on California bay laurels from previous years, putting oaks at high risk for infection for the first time.
  - The pathogen is now established in the Carmel Valley, with multiple confirmations in valley floor urban areas and sporadic locations on the drier northern side of the valley.
  - Sonoma County has an increase in urban and rural outbreaks, with the pathogen reemerging near Cloverdale and found to be at epidemic levels east of Healdsburg, near Santa Rosa and Glen Ellen. In southern Sonoma County, the pathogen has become established for the first time in the more rural areas west and east of Petaluma.
  - In the Presidio (San Francisco Co.), 10 positive sites were found in two distinct areas of the park - the southeastern corner and the northern boundary.
  - At the UCSC Arboretum, four manzanita (*Arctostaphylos*) species, including two rare species, were severely affected by SOD and had extensive dieback.
  - San Luis Obispo County is still uninfested. The determination was made after laboratory analysis of 2017 survey samples revealed no infection after using two different DNA assay tests, DNA sequencing, and culturing for the pathogen.

- The Kitsap County Botanical Garden, WA (first found positive in 2015) September *P. ramorum* survey was negative for the pathogen. In October, Washington's only *P. ramorum*-regulated interstate shipping nursery fall certification survey was conducted; all samples were negative for the pathogen.

- One *P. ramorum* detection was made in Richmond, British Columbia (near the Vancouver airport) during the Canadian Food Inspection Agency (CFIA) 2016-2017 Survey for Horticultural Pests.

09/17

- So far in 2017, California has had 17 *P. ramorum* positive nursery finds. Twelve are retail nurseries that do not ship out of the quarantined area; the remaining 5 are undergoing the Confirmed Nursery Protocol. In all, 122 positive plants were discovered.

- Two new streams in Humboldt County – Eubank Creek (tributary to the Mattole River) and Yager Creek (tributary to the Van Duzen River) were found positive for *P. ramorum*. No signs of tree mortality were visible (from Google Earth).

- Oregon has had 28 new *P. ramorum* infestations detected to date in 2017 that were at or beyond the Generally Infested Area (GIA) boundary, but well within the 2015 established quarantine area. The Chetco Bar Fire has burned through 22 infestation sites that were detected within the last 3 years, many of which had already been treated for the pathogen.

- Nine eastern states are participating in the 2017 National *P. ramorum* Early Detection Survey of Forests (AL, FL, GA, MS, NC, PA, SC, TN, and TX). Of the 385 samples collected from 57 sites this spring, one sample from AL (first detection in 2008), two samples from one location in MS (first detection in 2008), and two samples from one location in NC (first detection in 2010) have been *P. ramorum* positive. The positive samples were all collected from streams associated with previously positive nurseries.

- The Oregon Department of Forestry (ODF) received $450,000 for EU1 *P. ramorum* lineage eradication treatments through the state's biannual budget process. ODF SOD program funding was also restored, bringing the total to combat the pathogen in Oregon to approximately $715,000 over the next 2 years.

- The Oregon Sudden Oak Death Task Force Strategic Action Plan was finalized (http://bit.ly/sod2017-strategicplan). Areas of focus include scientific research, SOD treatment, all lands coordination, adaptation within the quarantine area, communications and civic engagement, economic impact, workforce development, and funding.

06/17

- Six new *P. ramorum*-positive nurseries were identified in California during spring surveys. Eight nurseries are currently known to be positive for the pathogen in the state. Two of the nurseries do not meet the federal *P. ramorum* program criteria and therefore will not default to federal regulation. The two previously positive interstate shipping nurseries in Sacramento and Santa Clara Counties that were under the biannual increased sampling protocol were found positive in April and May and will once again have to undergo the confirmed nursery protocol (CNP). Seven of the positive nurseries are in *P. ramorum* quarantine counties and one is in Sacramento County (non-quarantine county).

05/17

- The *P. ramorum* spring certification survey of Washington's one regulated interstate shipping nursery in Lewis County was conducted in May; all samples were negative for the pathogen.

- Japanese larch (*Larix kaempferi*) was found *P. ramorum* positive for the first time in France in the forest of Saint-Cadou, Finistère in May, in a 50-year-old pure larch plantation (located between Quimper and Morlaix). Previously *P. ramorum* had only been detected in understory vegetation in the natural environment, primarily on rhododendron in Brittany, Normandy, and Pays de la Loire.

- Tanoak and CA bay laurel trees have been found *P. ramorum* positive along Lacks Creek, adjacent to the Redwood Valley infestation (found positive in 2011) and approximately 3 miles from the western boundary of the Hoopa Valley Reservation.

- Oregon has had 12 new *P. ramorum* infestations detected to date in 2017 that were at or beyond the Generally Infested Area boundary but well within the 2015 established quarantine area.

- A new *Phytophthora* Research Centre (PRC) has been established at Mendel University in Brno, Czech Republic.

04/17

- A quarterly *P. ramorum* survey of the Washington Kitsap County Botanical Garden (first found positive in 2015) was conducted in April; all samples were negative for the pathogen.

03/17

- The Oregon Sudden Oak Death Task Force convened for the first time, under the leadership of Oregon State Representative David Brock Smith and US Senator Merkley. The Task Force is developing a collaborative action plan to secure adequate funding to contain the Oregon NA1 infestations and eradicate the EU1 lineage.

02/17

- The 2016 National *P. ramorum* Early Detection Survey of Forests collected a total of 611 samples from the nine participating eastern states (AL, FL, GA, MS, NC, PA, SC, TN, and TX). In total, 10 samples were *P. ramorum* positive – seven from three AL streams and three from one MS stream. No new positive locations were found as all positive samples were collected from streams associated with previously positive nurseries.

- *Phytophthora ramorum* monitoring in the East Bay Regional Parks found the highest percentage of infection in Diablo Foothills Regional Park (near Walnut Creek) in stands with relatively low bay laurel density. For more information, contact Brice McPherson at mailto:mbmcpherson@berkeley.edu.

01/17

- Nine eastern states (AL, FL, GA, MS, NC, PA, SC, TN, and TX) participated in the 2016 National *P. ramorum* Early Detection Survey of Forests. Of the 288 fall samples collected, 45 have been analyzed and are negative for *P. ramorum*. In the spring, 308 samples were collected, with 9 samples from 4 locations found positive – 3 locations in AL (site A - 3 positives and site B - 2 positives, sites were first detected in 2009; site C - 1 positive, was first detected in 2007) and 1 location with 3 positives in MS (site first positive in 2008). All positive samples were collected from streams associated with previously positive nurseries.

- USDA APHIS certification surveys for Washington's two "opt-in" *P. ramorum* host plant interstate shipping nurseries were negative for the pathogen in 2016. Additionally, all 1,338 samples taken in 2016 from the Kitsap County botanical garden were negative for the pathogen.

- In 2016, 65 new *P. ramorum* infestations were detected within Oregon's 515 mi^2 quarantine area. Compared to 2015, disease and tanoak mortality continued to intensify within the quarantine area and inside the Generally Infested Area. The EU1 infestation has continued to be a top priority and is currently undergoing eradication treatments.

- California's 2016 fall federal *P. ramorum* compliance surveys of 7 previously positive nurseries were all negative for the pathogen. With the conclusion of the third year of negative results, four of these nurseries are pending release from the increased sampling protocol portion of the program, leaving three nurseries remaining with the additional oversight.

12/16

- In 2016, four previously positive opt-in CA nurseries were released from the federal *P. ramorum* compliance program confirmed nursery protocol (CNP). Another nursery

found to have four positive samples in 2016 is currently undergoing the Confirmed Nursery Protocol and has decided to opt-out of the federal program, relinquishing interstate shipping rights. The remaining 2 nurseries in the compliance program are currently undergoing spring sampling. Pending successful sampling, one is scheduled to be released in 2017 and another in 2020.

10/16

- The 2016 results of the SOD Blitz survey show an increase in infection levels. The pathogen was identified for the first time on Mount Diablo (Contra Costa County); new outbreaks were also identified near Ukiah and southern coastal Mendocino County, in the city of Piedmont (Alameda County), in several areas east of Highway 280 on the San Francisco Peninsula, and in the San Francisco Botanical Garden at Strybing Arboretum. *P. ramorum* infection rates increased by 27 percent in Big Sur

- The EU1 *P. ramorum* lineage has been found in Oregon wildlands for a second time, ½ mile south of the one EU1-infested tanoak found in 2015. Of the 25 positive trees identified, one grand fir seedling and 12 tanoaks are confirmed positive for EU1, with lineage results still pending for another grand fir and 11 tanoaks. Two separate infestations of tanoak were discovered: one was determined to be the NA1 lineage and the other the EU1 lineage.

- *P. ramorum*-positive western larch (*Larix occidentalis*) were identified in a western Scotland arboretum during the biannual Forestry Commission Scotland aerial survey. This is the first confirmation of the pathogen in the wider environment on western larch and the first confirmation of the pathogen at this site. The nearest known *P. ramorum* infestations occurred between 2008 and 2011 on several rhododendron bushes (subsequently destroyed) approximately 5 km away.

09/16

- The California Forest Practice Act was updated, clarifying that oak woodland restoration activities do not constitute a "conversion" of conifer stands, allowing oak trees to remain the dominant tree type in woodlands. Assembly Bill 1958 (Wood), signed by Governor Brown in September, creates a 7-year pilot "exemption" to the timber harvest plan (THP) permitting process for smaller diameter conifer removal to maintain or restore oak woodlands. These updates will provide much needed relief to Oregon white oak and California black oak woodlands suffering from conifer encroachment in northern California.

- Water and soil samples at a Sacramento County nursery were found negative for *P. ramorum* following confirmation of infested camphor (*Cinnamomum camphora*) trees at the facility in August 2016.

- *Phytophthora quercina* was recently isolated from valley oaks (*Quercus lobata*) as part of an evaluation of restoration sites managed by the Santa Clara Valley Water District. It has been rated the #1 *Phytophthora* species of concern for introduction into the US in a USDA Plant Epidemiology and Risk Analysis Laboratory (PERAL) report.

- A new stream in Humboldt County - Gilham Creek, a tributary of the Mattole River, has tested *P. ramorum* positive. Of the 20 Humboldt County sampling locations in 2016, Gilham Creek was the only waterway to test positive, compared to 4 new positive waterways in 2015.

- Nine samples from 4 locations were *P. ramorum* positive so far in the 2016 National *P. ramorum* Early Detection Survey of Forests. Three locations are in AL; one location with 3 positives is in MS. All positive samples were collected from streams associated with previously positive nurseries.

08/16

- The SANC Program had its first pilot facilities sign agreements with their respective state regulatory agencies, allowing them to ship interstate nursery stock certified under the SANC Pilot Program. There are currently eight facilities participating in the SANC Pilot Phase 1, three of which have signed SANC Agreements.

- Limited, low-level pathogen symptoms on Japanese larch (*Larix kaempferi*) were the main result of United Kingdom (UK) aerial surveys in spring/summer 2016. Research is continuing into crown deterioration, dieback, and death of European sweet chestnut (*Castanea sativa*) which suggests there may be a new epidemiology on this plant.

- A Sacramento County nursery had 2 camphor (*Cinnamomum camphora*) trees with branch cankers and foliar symptoms found to be *P. ramorum* positive in August. The nursery ships interstate and has been undergoing the confirmed nursery protocol (CNP) since June, 2016. A Santa Clara County nursery, currently part of the USDA *P. ramorum* program, was also found *P. ramorum* positive in May when one *Loropetalum* plant was identified as positive. The nursery completed the Alternative Quarantine Release Strategy

- A July survey of the Washington Kitsap County botanical garden (*P. ramorum* positive in 2015) was negative for the pathogen. Surveys have been conducted throughout 2016 near previously positive sites or in outlying areas of the garden, with all results negative since January.

07/16

- So far this year, six samples from two locations have been positive for *P. ramorum* in the 2016 National *Phytophthora ramorum* Early Detection Survey of Forests. The positive samples are from AL (3) and MS (3) and are from streams associated with previously positive nurseries. Nine eastern states (AL, FL, GA, MS, NC, PA, SC, TN, and TX) are participating in the survey.

- Oregon has had 20 new infestations detected that are at or beyond the boundary of the Generally Infested Area yet well within the quarantine boundary established in 2015.

- Ten western Washington waterways baited for *P. ramorum* this spring were all negative for the pathogen.

- Two CA interstate shipping nurseries (Santa Clara and Sacramento Counties) were found *P. ramorum* positive during spring inspections.

- A retail nursery in Humboldt County was found with a *P. ramorum*-positive Leucothoe plant during a routine annual nursery inspection. This facility has previously been positive for the pathogen.

- Monthly surveys of the Kitsap County, WA botanical garden were negative for the pathogen throughout spring (April, May, June) sampling.

- Samples collected at WA's two nurseries participating in the USDA APHIS *P. ramorum* interstate shipping certification program (opt-in nurseries) were negative for the pathogen during their spring certification surveys. A previously positive King County nursery also completed its 2-year follow-up inspection with all samples were negative for the pathogen.

06/16

- As of June 1st, USDA APHIS revised conditions for the interstate movement of regulated soil from *P. ramorum* quarantined areas when the soil is moving to an APHIS-approved soil laboratory for physical or chemical analysis. This action removes the certification requirement and authorizes movement under a compliance agreement. The movement of bulk soil for other purposes (e.g., disposal, landscaping, use in potting media) is not included in this action and will continue to require certificates per the Code of Federal Regulations (7 CFR 301.92). This action does not include soil to be moved for the isolation of plant pests, which is regulated in accordance with 7 CFR, Part 330.

- The *P. ramorum* Safeguarding Working Group and the *P. ramorum* Regulated Plant Working Group met at NORS-DUC and formed a working group that will review plants currently on the regulated list.

- A patent (US 9,320,283 B2) has been approved for the use of *Trichoderma asperellum* to remediate *P. ramorum*-infested soil. Information is being assembled for EPA registration to license its commercial and public use as a biological control agent against *P. ramorum*.

05/16

- After a positive find in 2015, monthly surveys of the Kitsap County botanical garden were negative for *P. ramorum* in February and March; results from perimeter and riparian area surveys are pending.

- Eight eastern states (AL, FL, GA, MS, NC, PA, SC, and TX) participated in the 2015 National *P. ramorum* Early Detection Survey of Forests; 3 of the 566 samples taken were *P. ramorum* positive - two from AL (first detection in 2009) and one from NC (first detection in 2010). All samples were collected from streams associated with previously positive nurseries.

- Fifteen Oregon nurseries are participating in the 2016 annual *P. ramorum* re-certification process - 11 are a part of the federal (interstate) certification program and four are part of the state (intrastate) program.

- The Midpeninsula Regional Open Space District Board of Directors approved $524,000 for SOD and nursery-related Phytophthoras research and management over the next 10 years. Areas of focus will include SOD-related preventative treatments, tanoak resistance, and oak forest restoration, as well as further development of clean nursery practices.

02/16

- The 2016 Farm Bill, Plant Pest and Disease Management and Disaster Prevention Program (Section 10007) awarded $1,284,528 in *Phytophthora ramorum*-related

program funding to 17 states with California receiving $692,308 of the available funds.

- The Systems Approach to Nursery Certification (SANC) initiative aims to improve the process for certifying nursery stock and reducing pest risk movement at the interstate shipping level. A pilot project to test the feasibility of the risk-based certification program was implemented 15 months ago at eight nursery and greenhouse facilities, all of which completed risk assessments. SANC program representatives are considering a Phase 2 Pilot Project which would include a second group of nurseries and greenhouses.

- The Karuk Tribe will begin implementing a *P. ramorum* stream monitoring program in 2016, on two tributaries of the Klamath River in the downriver portion of traditional tribal territory.

- Recent findings in southwest England suggest that European sweet chestnut trees (*Castanea sativa*) are being infected by long-distance spread of *P. ramorum* spores. There is also evidence suggesting that the disease might be 'cycling' among sweet chestnut trees. Until 2015, sweet chestnut had only been found infected in close proximity to other infected sporulating hosts, such as larch and rhododendron, putting them under heavy inoculum pressure.

- The U.S. Department of the Interior released "Safeguarding America's Lands and Waters from Invasive Species: A National Framework for Early Detection and Rapid Response" urging the National Invasive Species Council (NISC) to provide leadership in early detection and rapid response for invasive species to help limit their spread as well as economic and environmental impacts. The report is a first step towards building U.S. capacity to forecast which non-native species pose the greatest risk to the country, bolster current monitoring and response actions underway, and position public and private partners to be prepared to take immediate action when the next invasive species arrives.

12/15

- Two new *P. ramorum*-positive plants were confirmed at the Kitsap County, WA botanical garden. Both plants were in close proximity to one another and to a previously positive site.

- In 2015, the CDFA Plant Pest Diagnostic Center tested 7,613 plant, water, and soil samples for *P. ramorum*. Two of the samples were positive and the result of a trace-forward investigation from a positive Washington nursery. Ninety-one nurseries in the quarantine area received monthly inspections to retain their *P. ramorum* clean nursery stock certification, allowing them to ship host material outside of the quarantine zone. The seven nurseries participating in the USDA's *P. ramorum* compliance program for previously positive nurseries were all negative for the pathogen.

- In 2015, *P. ramorum* was recovered from 18 nurseries (AL 1, CA 1, NY 1, OR 12, WA 1, VA 2), one commercial landscape (LA), two residences (OH, OR), and a botanic garden (WA) in non-quarantine areas. The pathogen was detected in *Arctostaphylos* (1); *Camellia* (3); *Gaultheria* (1); *Kalmia* (1); *Mahonia* (1); *Osmanthus* (1); *Pieris* (6); *Rhododendron* (57); soil samples (17); *Vaccinium* (6); *Viburnum* (9); *Vinca* (1); and water samples (3). Eight of the nurseries ship interstate and are in the USDA APHIS federal compliance program (Federal Order DA-2014-02). Six of the eight

actually shipped interstate. The Confirmed Nursery Protocol has been completed in 16 of the 18 nurseries and resulted in two site detections (1 CA nursery, 1 OH residence) from one of the positive interstate shippers.

- The 2015 United Kingdom *P. ramorum* aerial survey covered 146,000 acres of Japanese larch plantations and 2.5 million wooded acres. The pathogen remained generally consistent on larch, with low-level symptoms found on individuals or small groups of trees in close proximity to previously confirmed larch and rhododendron infestations. *P. ramorum*-positive larch was found for the first time in North Yorkshire, northeast England, 53 miles from the nearest known larch infestation. Follow-up surveys revealed previously undetected infected rhododendron, which is believed to be the inoculum source.

- The seven California nurseries that opted into the USDA Animal and Plant Health Inspection Service *P. ramorum* Compliance Program completed their fall inspections, collecting a total of 3,073 plant, water, and soil samples, which all tested negative for the pathogen.

- Extensive surveys at the Kitsap County, WA botanical garden found no pathogen in the perimeter of the property or in the neighboring native woodland. Four new detections were found in the managed garden proper, on *Rhododendron* (2), *Camellia* (1), and *Vaccinium* (1), with a fifth positive on a *Gaultheria* was found during a delimitation survey. All detections were in close proximity to previously positive sites, and all infected plants were destroyed in November.

- So for in 2015, *P. ramorum* was reported in 13 nurseries (CA 1, NY 1, OR 9, WA 1, VA 1), one commercial landscape (LA), two residences (OH, OR), and a botanic garden (WA) in non-quarantine areas on plants (*Arctostaphylos* (1); *Camellia* (3); *Gaultheria* (1); *Kalmia* (1); *Mahonia* (1); *Osmanthus* (1); *Pieris* (5); *Rhododendron* (43); *Vaccinium* (5); *Viburnum (9); Vinca* (1)), soil samples (13), and water samples (2).

- Redwood National Park completed its treatment of 131 acres of *P. ramorum*-positive trees and the surrounding buffer zone in the park that began in August 2015. Since October 2014, the park has treated 283 acres of mixed old-growth and second-growth redwood forests in an effort to slow the spread of SOD.

- The *P. ramorum* quarantine expansion in Oregon reduced the allowable harvest area for Christmas trees on the Rogue River-Siskiyou National Forest (Curry Co., OR.). Harvesting Douglas-fir and other *P. ramorum* host plants for firewood, boughs, or Christmas trees is now prohibited on 185,809 acres of the forest, three-times the area quarantined in 2014 (55,890 acres).

10/15

- The 2015 SOD Blitz found coastal mountain infestation levels in areas such as Big Sur, the Santa Cruz Mountains, and western Sonoma County remain high despite an overall decline in infection rates from 4.4 to 3.7% across California's 15 infested counties. New SOD outbreaks of note include bay laurel trees near UC Berkeley's West Gate, a California lilac shrub in the Presidio in San Francisco, an infected bay laurel tree in a previously unreported area of Danville (Contra Costa County), and an urban park in Saratoga (Santa Clara County) found positive for the first time.

- Washington State University volunteers did intensive sampling of the Dungeness River (near Sequim, WA; Clallam County), which had been positive for *P. ramorum* in 2013. Sampling in 2014 did not yield information about the source of inoculum, and the 2015 sampling found no *P. ramorum*, suggesting the pathogen may no longer be present in the watershed.

09/15

- Of the 275 samples collected so far this year from 9 states participating in the 2015 USDA FS National *P. ramorum* Early Detection Survey of Forests (AL, GA, MS, NC, PA, SC, CA, OR, and WA), two *P. ramorum*-positive samples were recovered from a previously positive AL watershed (first positive in 2009) and two samples from one MS site (previously positive) were inconclusive.

- The Scottish Government published a Strategy for *Phytophthora ramorum*, 2015-2017, that aims to manage and control the rate of *P. ramorum* spread in Scotland to protect the health of trees, shrubs, and heathland.

08/15

- The EU1 lineage has been recovered from a tanoak in Oregon, for the first time on US forest vegetation (previously only found in nurseries, streams, and European forests). The pathogen was first isolated by OSU in February 2015; in May 2015, USDA ARS completed their periodic genotyping and identified the EU1 clonal lineage. The lone EU1-infected tree was located on non-industrial private land, approximately 1 mile north of a small private (now closed) nursery near the Pistol River (Curry Co.) that had previous *P. ramorum* confirmations (August 2012). Comparison of the genotypes of the tanoak and nursery isolates suggests the nursery as the probable source for the forest infestation.

- Five new watersheds in Humboldt (3) and Mendocino (2) Counties tested *P. ramorum* positive. All previous detections were also found positive (Humboldt-12, Mendocino-7). In Monterey County, the pathogen was recovered from two of the five known infested waterways. From February to June, 139 sites in five counties (Del Norte-19, Humboldt-72, Mendocino-32, Monterey-7, and San Luis Obispo-9) were monitored throughout northern and central coastal California. Monitoring was not conducted in the Sierra Nevada region, Sonoma, or San Benito Counties this year.

- Redwood National Park has treated 152 acres over two sites (94 acres; 58 acres) since discovering SOD in 2014. Treatments have included using herbicides, or removing all infected tanoak and bay trees within each infestation as well as within a 100-meter buffer zone. Follow-up surveys of the treated area this spring revealed *P. ramorum*-positive tanoak and bay trees adjacent to both treatment sites, resulting in an additional 131 acres (70 acres and 61 acres) needing to be treated in the next few months.

- From January 1 to August 6, 2015, *P. ramorum* has been reported in 13 nurseries (CA 1, NY 1, OR 9, WA 1, VA 1), one commercial landscape (LA), two residences (OH, OR), and a botanic garden (WA) in non-quarantine areas on *Arctostaphylos* (1); *Camellia* (2); *Kalmia* (1); *Mahonia* (1); *Osmanthus* (1); *Pieris* (5); *Rhododendron* (41); soil samples (8); *Vaccinium* (4); *Viburnum (9); Vinca* (1); and a water sample (1). The OH and OR residential confirmations were the result of trace-forward investigations from a positive WA nursery.

07/15

- The Oregon Department of Agriculture expanded the Curry County *Phytophthora ramorum* quarantine area from 264 sq. mi. to 519 sq. mi., providing an 8-mile buffer from infested to non-infested sites to the north/northeast and 6-mile buffer to the east, and extending south to the California border.

- The Kitsap County, WA botanical garden had a new *P. ramorum*-positive *Rhododendron* confirmation, from the same vicinity of the garden as all of the other hosts that have been found positive since March. The rhododendron and surrounding plants have been destroyed and steam treatment of the soil is underway.

- Trace-forward investigations from a WA nursery identified 8 *P. ramorum* positive plants at a Humboldt County nursery. All infested plants were destroyed and follow-up inspections were negative.

- A Critical Control Points (CCP) Assessment of the *P. ramorum*-positive Kitsap County botanical garden was performed. After the detection of *P. ramorum* on a *Pieris* plant at the garden in April 2015, a delimitation survey found 10 other plants in the same general area that were *P. ramorum* positive: rhododendron (3), viburnum (3), pieris (1) camellia (1), mahonia (1), and vinca (1). All positive plants and nearby host plants have been destroyed.

- The Los Padres National Forest will be implementing a Sudden Oak Death mitigation and management plan for the Botchers Gap, Nacimiento, and Ponderosa campgrounds. All dead and hazardous oak and tanoak trees will be removed and chipped; all California bay laurel and live tanoak trees will be removed, and the stumps will be treated with herbicide to prevent resprouting. Work is planned to begin in Fall 2015, with over 200 trees (most less than 2 ½ m tall) slated for removal. In all, 24 acres will be treated.

- The British Forestry Commission's 2015 Japanese larch *P. ramorum* aerial survey continued, finding suspect trees along the southwest edge of the *P. ramorum* management zone. Within the management zone, spread appeared to be limited, even in areas that have had high infection levels over the past 2 years.

06/15

- Five new *Phytophthora ramorum* hosts were detected in February on Marin County Municipal Water District property: *Arctostaphylos virgata*, *Arctostaphylos glandulosa*, chinquapin (*Chrysolepsis chrysophylla*), blackberry (*Rubus ursinus*), and chaparral pea (*Pickeringia montana*).

- A Kitsap County botanical garden had additional *P. ramorum* positive plants found in May during a delimitation survey. All infected plants were destroyed and trace-back investigations are underway.

- *Vaccinium parvifolium* (red huckleberry) was found *P. ramorum* positive for the first time from two samples taken at a Lewis County, WA interstate shipping nursery during their 2015 spring Federal *P. ramorum* Certification Program survey.

- From January 1 to June 3, 2015, *P. ramorum* was reported in 10 nurseries (OR 8, WA 1, VA 1), one commercial landscape (LA), and a botanical garden (WA) in non-quarantine areas. *P. ramorum* was detected in *Camellia* (2), *Kalmia* (1), *Mahonia* (1), *Osmanthus* (1), *Pieris* (10), *Rhododendron* (40), *Viburnum* (4), *Vinca* (2), and soil samples (8).

- All seven California nurseries participating in the 2015 Federal *P. ramorum* Certification Program were negative for *P. ramorum*. Forty-seven nurseries in the quarantined counties also completed their annual inspection and all were negative for the pathogen.

- Fourteen native plant nurseries have joined the CDFA BMP for Ornamental and Native Plant Nurseries, joining 14 ornamental nurseries already participating.

- The Oak Phosphonate Application Recommendations for Sudden Oak Death were revised.

05/15

- Fifty-one dead tanoaks were identified during a helicopter survey of the Curry County, Oregon quarantine area on May 6. Thus far in 2015, 11 new infestations have been confirmed outside of the Generally Infested Area. The GIA was expanded slightly to 58 sq. mi. in 2014 because of the large infestations along its northern edge. There has been no further expansion thus far in 2015; however, the Oregon Department of Agriculture is considering expanding the Curry County P. ramorum quarantine area. With the proposed expansion, the quarantine area would increase from 264 sq. mi. to 519 sq. mi. and would provide a buffer from infested sites approximately 8 mi to the north/northeast and 6 mi to the east. The new quarantine area would also extend south to the California border.

- *Phytophthora ramorum* has been detected in 4 of 10 Oregon nursery locations participating in the Federal *P. ramorum* Certification Program. In addition, 3 of 5 nurseries that opted out of the Federal Certification Program in 2014 have been surveyed, with pathogen detections in 2 of these nurseries.

- Two Puget Sound, WA residential landscapes were sampled as part of a *P. ramorum* trace-forward investigation from an out-of-state nursery; all samples were negative.

- A mature *Pieris* plant at a Kitsap County, WA botanical garden was found *P. ramorum* positive.

- California has completed inspecting 6 of the 7 nurseries participating in the Federal *P. ramorum* Certification Program, with all sampled nurseries negative for the pathogen. Forty-seven nurseries in the quarantined counties have also completed their annual inspection, with all negative for the pathogen (to date). A total of 2,464 plant, water, and soil samples have been analyzed from CA nurseries so far.

- Two Washington waterways in Kitsap and Thurston Counties have been found positive for *P. ramorum*. Both waterways have been positive in previous years and are downstream from previously positive nurseries.

04/15

- APHIS issued a Federal Order on 4/3/15, expanding the area federally quarantined for *P. ramorum* in California to include Trinity County. Consequently, all interstate movement of *P. ramorum* regulated articles from Trinity County must be done in accordance with any applicable provisions of the Federal Order and the regulations promulgated pursuant to the Plant Protection Act found at 7 CFR 301.92 *et seq*.

- From January 1-March 25, 2015, *P. ramorum* was reported in six nurseries (OR) and one commercial business site (not a nursery; LA) throughout the US in non-quarantine areas.

03/15

- Washington received *P. ramorum* positive-plant shipments from three out of state nurseries in March.

- The 2014 Farm Bill awarded roughly $796,717 in *Phytophthora ramorum*-related program funding to 19 states for the 2015 federal fiscal year. California received $109,000 for survey efforts, confirming the pathogenicity and host range of the pathogen, and assessing disinfectants for *P. ramorum* control. The NORS-DUC site received separate funding of $474,303.

- Sudden oak death has been confirmed for the first time in Montgomery Woods State Park, Mendocino County, on California bay laurel and tanoak in a 1-acre area infestation. The nearest known infestation is approximately 1.3 miles east near Orr Hot Springs.

- Australia has issued a "Draft review of policy: importation of *Phytophthora ramorum* host propagative material into Australia." Proposed changes include updating the *P. ramorum* host list and adding additional hosts of *P. kernoviae*, *P. nemorosa*, and *P. pseudosyringae*; reducing the post-entry quarantine (PEQ) growth period for dormant cuttings and budwood; and allowing the importation of 1-year-old, bare-rooted plants without foliage.

- The 2014 National *P. ramorum* Early Detection Survey of Forests conducted stream surveys in CA, OR, WA, and 9 Eastern states. Positive samples were collected in CA (19), OR (6) WA (2), AL (4), FL (1), MS (2), and NC (2). Two of the positive streams (AL-1; FL-1) have not been previously positive and are each associated with a positive nursery; another Alabama positive stream has not been previously positive but is not associated with a positive nursery.

- In 2014, England, Scotland, and Wales had a significant reduction in the number of new larch infestations. Aerial surveys detected approximately 123.5 acres of newly infected larch outside of Scotland's southwest management zone, compared to 12,350 acres in 2013. The decline in new infection is attributed to drier conditions and landowner cooperation with early detection and rapid felling of infested trees.

- Shrub tanoak (*Notholithocarpus densiflorus* var. *echinoides*) was confirmed as a *P. ramorum* host by the UC Davis Rizzo lab in collaboration with UC Cooperative Extension-Humboldt/Del Norte.

01/15

- In 2014, 146 California waterways were monitored for *P. ramorum*. The pathogen was detected for the first time in six watersheds (Beaver, Butte, and Cooper Creeks in Humboldt County; and North Fork of the Big River, Chamberlain and Hare Creeks in Mendocino County). Overall, recovery from known positive watersheds was only 13 (54%) of 24 previously positive sites, likely because of low spring rainfall.

- Twenty-four Oregon nurseries participated in the USDA APHIS certification program in 2014, resulting in a total of 8 pathogen detections from plants, used pots, potting media, and water sources. Of the eight positive nurseries identified, 4 opted out of,

or were removed from, the federal program and are now subject to Oregon's state quarantine requirements for *P. ramorum*, which includes mandatory testing to ensure there is no intrastate movement of the pathogen from these locations. The other 4 are currently operating under modified compliance agreements that include mandatory BMPs to address specific hazards at their nurseries. Seven nurseries tested pathogen free and continue to participate in the federal program.

- Native plant and restoration nurseries are joining the California Department of Food and Agriculture (CDFA) Best Management Practices (BMP) Program in response to detection of *Phytophthora tentaculata*.

12/14

- So far in 2014, *P. ramorum* was reported in 19 nurseries in 3 regulated states (CA, OR and WA) and 4 non-regulated states (ME, NY, TX, and VA). Of the 19 positive nurseries, 8 were interstate shippers and 11 were non-interstate shippers.

- Twenty-three nurseries in CA, OR, and WA underwent the enhanced USDA APHIS compliance program to continue shipping host nursery stock interstate. Four of the 23 facilities no longer ship interstate; however, two nurseries were added to the compliance program due to *P. ramorum* confirmations, bringing the total number of participating nurseries to 21. A total of 8 nurseries in the program had *P. ramorum* detections this year.

- So far in 2014, California has had one *P. ramorum*-positive nursery identified in Sacramento County. A total of 13,839 samples were taken from nurseries statewide but many of those were prior to the USDA Animal and Plant Health Inspection Service (APHIS) March 2014 rule change that only previously positive nurseries and interstate shipping nurseries within the quarantined area need to be inspected. Since the March rule, 3,360 samples have been taken from 7 previously positive nurseries.

10/14

- SOD was confirmed in three new areas of Humboldt County: (1) approximately 13 miles northwest of Garberville (and 2 ¼ miles from the nearest known infestation in Mattole Canyon Creek watershed) along Grindstone Creek on private property that appears to have been a previous marijuana grow site; (2) along the Mad River, approximately 1.75 miles south of vegetation positives previously confirmed in December 2013; and (3) approximately 18 miles southeast of Eureka on private property along the N. Fork of the Yager Creek watershed (just over 2 miles southwest of a known infestation along the Mad River and at least 10 miles north of considerable pathogen activity along portions of Larabee Creek).

- Due to drier weather, 2014 had limited new confirmations of *P. ramorum* on larch in the UK. New areas, especially in England, seem to be associated with infected *Rhododendron ponticum* and bilberry (*Vaccinium myrtillus*) with most confirmations on individual or small groups of trees in close proximity to previously established outbreaks. Findings indicate quick and complete treatments reduce new outbreaks but completing treatments over large areas remains challenging.

- Thus far in 2014, *P. ramorum* has been reported in 18 U.S. nurseries. Ten facilities are in regulated states (CA-1, OR-7, and WA-2) and eight are in non-regulated states (ME-1, NY-2, TX-1, and VA-4). Eight of the 18 positive nurseries were interstate shippers (CA1; OR-4; WA-1; TX-1; VA-1) and 10 did not ship interstate. The Confirmed Nursery Protocol was conducted in all nurseries.

- Eight nurseries and greenhouses have agreed to participate in a pilot project to test the processes and procedures developed by the Systems Approach to Nursery Certification (SANC) program to implement a systems approach to nursery stock certification. The grower facilities and state regulatory staffs from Pennsylvania, New Jersey, Georgia, Oklahoma, Wisconsin, Missouri, Washington, and Oregon will be participating along with support staff from Extension, AmericanHort, and the Society of American Florists.

- The 2014 SOD Blitz found unexpectedly high levels of *P. ramorum* in north Berkeley and Tilden Regional Park (Alameda County), Novato (Marin County), and Petaluma and Sonoma (Sonoma County). In eastern Santa Cruz County, a canyon on the San Benito County border was found positive, the easternmost report of SOD in California to date. A *P. ramorum*-positive redwood was also found in The Presidio (San Francisco County; National Park Service). Otherwise, drought conditions led to a reduction in the number of infected trees in southern Mendocino, northern Sonoma, and southern Alameda Counties, and the eastern S.F. Peninsula and Carmel Valley Village (Monterey County).

- In Oregon, 5 of 45 baited streams tested positive for *P. ramorum*, all from within the quarantine area. Ground surveys confirmed 34 newly infected trees, some of which are very close to or just beyond the quarantine boundary. As the pathogen has spread closer to the perimeter of generally infested area (GIA) and treatment funds are limited, the quarantine area will be expanded.

- Thirteen Oregon nurseries (one with two locations) opted into the Federal *P. ramorum* Certification Program, while three nurseries opted out; all 17 nursery locations were surveyed, with *P. ramorum* detected in five opt-in nurseries. The positive nurseries were located in Washington (2), Clackamas (2), and Lane Counties. After the sampling, two of the positive nurseries decided to opt out of the federal program. In addition to the opt-in nurseries, *P. ramorum* was detected in an opt-out nursery on plants and in soil substrate beneath positive plants. The USDA CNP was enacted and the delimitation survey identified additional positive plants. After treatment, a positive *Rhododendron* sp. was identified at the nursery during the 90-day quarantine hold period, requiring the CNP to be completed a second time. Two *P. ramorum*-positive plants were also identified at a non-regulated Columbia County nursery during an annual inspection; the nursery ships interstate and will be considered an opt-in nursery for future regulatory activities. *P. ramorum* was detected in a Coos County residential landscape infecting a plant that had been purchased and imported from a positive Washington nursery.

09/14

- A second site in Redwood National Park was found positive for *P. ramorum*. The 5-acre site along the banks of Redwood Creek is approximately 2 miles downstream from the Bridge Creek infestation but it is not clear whether the outbreaks are connected.

08/14

- SOD has been confirmed in a remote location of Redwood National Park (RNP) in northern Humboldt County. This new infestation is located approximately 11 miles north of the Redwood Valley SOD site, which is also located along Redwood Creek.

- The USDA-Forest Service aerial survey identified approximately 50,000 newly dead overstory tanoak along the northeast front of the southern Humboldt infestation, roughly doubling the number of dead trees found in the same area a year ago. Individual dead tanoak were also seen near Redwood Creek and Mad River though mortality is down by roughly 15% in the rest of Humboldt and Mendocino Counties. Mortality in the rest of the state is similar to or less than 2013 levels.

- Of the 360 samples from 11 states (AL, CA, FL, GA, MS, NC, NY, OR, PA, TX, and WA) participating in the 2014 National *P. ramorum* Early Detection Survey of Forests, seven were found *P. ramorum* positive (AL-3; FL-1; MS-2; NC-1). Six of the positives were from streams and associated nurseries that had previous positives. One AL waterway had not been previously positive and was not associated with a stream or nursery that had previously been found positive.

- New Zealand has implemented emergency regulations as of August 14th regarding importation requirements for cut flowers and foliage of *Gaultheria* spp. from Canada and the US to mitigate risks of *P. ramorum*.

07/14

- One hundred forty-six sites in five counties were monitored throughout northern and central coastal California (monitoring was not conducted in the Sierra Nevada region, Sonoma, or San Benito Counties). Recovery was lowest in Monterey County, while confirmations in Humboldt and Mendocino Counties remained relatively high. *P. ramorum* was detected for the first time in six watersheds in Humboldt (Beaver Creek, Butte Creek, Cooper Creek) and Mendocino (North Fork of the Big River, Hare Creek) Counties.

- From 1/1/14-6/30/14, *P. ramorum* was reported in 13 nurseries in 3 regulated states (CA, OR and WA) and 3 non-regulated states (NY, TX, and VA). Of the 13 positive nurseries, 7 were interstate shippers (CA-1; OR-4; WA-1; TX-1) and 6 were non-interstate shippers. The TX interstate shipping nursery was positive due to plants received from a positive CA nursery; measures were adopted to mitigate the risk. Three of the interstate shippers had shipped in the previous 6 months. *P. ramorum* was detected in *Camellia* (17), *Pieris* (8), *Rhododendron* (15), *Viburnum* (31), *Gaultheria* (14), *Prunus* (1), *Syringa* (2), and *Vaccinium* (1) as well as potting media (1), standing water on soil (6), and water (10).

- Of the 23 nurseries participating in inspections under the newly revised *P. ramorum* regulatory framework, 4 in the regulated states (CA, OR, and WA) were found *P. ramorum* positive. Until June 2014, *P. ramorum* has been detected in only one interstate shipper located in TX (noted above). Since the positive plant was received by the nursery within 2 months of shipping and was detected during a trace-forward investigation, APHIS determined this to be a regulatory incident and fully mitigated during the Confirmed Nursery Protocol and quarantine period.

06/14

- A new waterway in Kitsap County, Washington was found *P. ramorum*-positive twice from samples collected in March and May. The site is downstream from a previously positive nursery. Sixteen waterways in six counties were monitored in all for the pathogen from March to June (2014), with no other confirmations made.
- Since the revision of federal regulations in April 2014, *P. ramorum* has been detected at six interstate shipping facilities (CA-1, OR-4, and WA-1) and four retail nurseries (OR-1, WA-1, and VA-2). *P. ramorum* positives were detected on: *Viburnum* (29);

Gaultheria (14); *Rhododendron* (14); *Pieris* (7); *Camellia* (5); water baiting (4); soil (3); *Syringa* (2); potting media (1); *Prunus* (1); and *Vaccinium* (1).

- Oregon has so far identified five *P. ramorum*-positive nurseries. One Marion County nursery is an intrastate (opt-out) shipper with infected *Pieris*, *Rhododendron*, *Leucothoe*, and *Viburnum*. The other four nurseries are interstate (opt-in) shippers in Tillamook (positive *Gaultheria* and *Rhododendron*), Washington (positive *Rhododendron* and used potting media), Clackamas (positive *Pieris* and retention pond water), and Lane Counties (positive *Rhododendron*).

- Two adaptive management projects in Big Sur coast live oak-dominated forests will use data from SOD Blizt sampling to test the efficacy of bay laurel removal. One project is in a small neighborhood, the other is along 500 meters of a trail at Pfeiffer Big Sur State Park. Bay trees will be mapped and tested for the pathogen, which will then allow managers to remove only *P. ramorum* positive trees acting as "hot spots" for dispersal.

05/14

- California had one *P. ramorum*-positive interstate (opt-in) shipping nursery, at a Sacramento County facility during a compliance agreement inspection. The facility was also found positive in 2009, 2010, and 2011. Infections were found on *Camellia japonica, Syringa vulgaris*, and *Viburnum tinus*.

- The US Forest Service aerial SOD survey flew approximately 460,000 acres in San Luis Obispo County and portions of Monterey, San Benito, Fresno, and Merced Counties. Most mortality is likely due to drought but discrete areas within 10 miles of the coast will be ground checked for SOD. The Salmon Creek drainage in Monterey County, just over a mile from the San Luis Obispo County line, showed heavy mortality and will also be ground checked.

04/14

- *P. ramorum* was detected in the Mad River watershed (Humboldt County) by the USDA Forest Service Aerial Survey in late summer, 2013 and confirmed via a follow-up ground survey by UC Cooperative Extension Humboldt personnel in December, 2013.

02/14

- CDFA confirmed SOD has been found in Trinity County, less than 600 yards over the Humboldt County line, in an 80-acre BLM parcel adjacent to the Six Rivers National Forest. Trinity County is now the 15th California county known to have SOD. CDFA has submitted and finalized an emergency regulation change adding Trinity County to California Code of Regulations 3700, Oak Mortality Disease Control. As a regulated county, Trinity will be required to follow state and federal quarantine guidelines for the disease.

- In 2013, 11 *P. ramorum* stream baiting sites were established in western Washington waterways, of which two were identified as positive - one in Clallam County and one in Thurston County. Eleven additional sites were repeatedly sampled in Clallam County as the source of the inoculum there is unknown; however, results to date have been negative or inconclusive.

- Five new positive waterways were identified during the 2013 National *P. ramorum* Early Detection Survey of Forests conducted by US Forest Service, Forest Health

Monitoring and cooperating states. Assays were conducted at 104 stream sites in 12 states nationwide. *P. ramorum* was confirmed at two new sites in CA, two new sites in WA, and one new site in TX. Sites previously positive for *P. ramorum* were confirmed in AL, MS, NC, and TX.

01/14

- USDA APHIS issued Federal Order DA-2014-02 on January 10, 2014 (implementation date of March 31, 2014). This Order requires an enhanced compliance program for high-risk nurseries while allowing nurseries without any positive pathogen detections in the last three years to be relieved of annual inspections and certifications.

- In 2013, the California Department of Food and Agriculture inspected 1,575 nurseries and processed 18,013 *P. ramorum* compliance samples. The pathogen was detected only once, on a *Loropetalum chinense* (5 gal) plant at one nursery (Gilroy, Santa Clara Co.) which was also positive in 2004 and 2005.

- The Oregon Department of Agriculture tested 22,550 samples from 552 grower sites for *P. ramorum* in 2013. *Phytophthora* species were detected at 238 of the sites surveyed with *P. ramorum* detected in 10 facilities. Two of the positive facilities that still have *P. ramorum* present in the native soil beneath infected plants have agreed to trial steam treatments of the infested soil to eradicate the pathogen.

- No new infested wildland sites were found outside of Oregon's 264 mi2 expanded quarantine area though disease and mortality continue to intensify and spread within the Generally Infested Area (GIA).

12/13

- In 2013, 136 California waterway sites distributed throughout Del Norte, Humboldt, Mendocino, Sonoma, Monterey, San Luis Obispo, and San Benito Cos. were monitored for *Phytophthora ramorum*. In Humboldt Co., *P. ramorum* was detected in three new sites (Roaring Gulch, an upper tributary of Redwood Creek located in Redwood Valley; Widow White Creek near McKinleyville; and North Dobbyn Creek along the southwestern border of the Six Rivers National Forest); all monitored sites in Redwood National Park (save an exception on Redwood Creek) and Hoopa Valley and Yurok Tribal lands were negative. In Mendocino Co., positives were found in Hollow Tree Creek (a tributary of the South Fork of the Eel River); the North Fork of the South Fork of the Noyo River (SFNR); Peterson Gulch (a small tributary of the South Fork of the SFNR); and the Little North Fork of the Big River (LNFB). In Sonoma Co., multiple watersheds in the Kruse Rhododendron State Natural Reserve and Salt Point State Park were positive for *P. ramorum*, indicating extensive pathogen spread along this portion of the Sonoma coast. There were no new positive watersheds in Monterey Co., and all watersheds monitored in San Luis Obispo Co. were *P. ramorum* negative this year.

- The Washington Department of Natural Resources found *P. ramorum* in the Dungeness River (near Sequim on the Olympic Peninsula, Clallam Co.) and Woodard Creek (Thurston Co.) during water course monitoring in 2013.

- Washington identified six *P. ramorum*-positive nurseries in 2013. Of the 22 previously positive nurseries surveyed, four were found positive again for the pathogen. A retail garden center in Kitsap County with positive plants was also found to have infested runoff water and soil. A King County re-wholesaler was found to have positive soil as well as infected plants.

11/13

- Effective November 27, 2013, USDA APHIS added *Gaultheria procumbens* to the list of host plants regulated for *P. ramorum*.

- The Republic of Korea issued a Notification of Emergency Measures Addendum to their *P. ramorum* Phytosanitary measures, adding *Gaultheria procumbens* to their list of regulated associated host plants. As of November 22, 2013, all imported *Gaultheria procumbens* from prohibited and regulated areas must have a phytosanitary certificate verifying the shipment was inspected and found free of *P. ramorum*.

- The USDA Forest Service sudden oak death aerial survey for 2013 identified more than 294,000 dead trees in California on approximately 47,500 acres, slightly less than 2012 totals.

- The Scottish government recently allocated nearly $1.5 million to help tackle the outbreak of *P. ramorum* on Japanese larch in Scotland, following a major expansion of the disease in 2013.Up to 14,800 acres of larch are now likely infected and most trees in the Galloway area will likely need to be felled over the next 2-3 years. Eradication in Scotland is no longer considered achievable and focus has turned to containment efforts.

09/13

- Oregon's "Generally Infested Area" (GIA), currently at 48 mi^2, has had a large increase in the number of dead tanoak over the past year, creating hazardous conditions for wildfire and tree failure. As of September 2013, approximately 14 new infested sites were found outside of the GIA, but none were outside of the quarantine area.

- *P. ramorum* continues to spread on Japanese larch in Wales with nearly 4,450 acres of new infection identified in 2013.

- *P. ramorum* detected infecting a *Parrotia persica* (Persian ironwood) plant in a Multnomah County, Oregon nursery during an annual compliance survey. This nursery was previously positive in 2010.

08/13

- Tanoak and California bay laurel trees were found *P. ramorum* positive on Jackson Demonstration State Forest (JDSF), confirming the pathogen's presence following positive stream sampling and a June 2013 USDA Forest Service Aerial Survey that identified suspicious tanoak mortality. The positive trees were identified in the North Fork of the South Fork (NFSF) of the Noyo River, adjacent to the remote Trestle Trail. The nearest known infestations are 10 miles northwest at MacKerricher State Park and Ingelnook.

07/13

- USDA APHIS issued Federal Order DA-2013-27 on 7/3/13 so that nurseries located in the regulated areas of California, Oregon, and Washington that do not contain nor ship host or associated plant nursery stock are no longer required to comply with 7CFR 301.92. This Federal Order does not change the requirements for P. ramorum host nurseries in the regulated areas and all interstate shipping nurseries located in quarantine areas, including those that contain only non-host nursery stock.

- To date this year, 17 nurseries in four states have been found P. ramorum positive: CA(1), OR(9), WA(6), and NY(1). Twelve are interstate shippers and 5 are retail establishments.

- USDA-FS PSW aerial surveys from 2013 show severe tanoak mortality in the Santa Cruz Mountains and along the coast in Sonoma, Marin and Monterey Counties, with the worst impacted areas in Jenner/Guerneville (Sonoma County) and Big Sur and Mill Creek (Monterey County). Less severe areas of tanoak mortality were seen in coastal Mendocino County; however, new pockets of mortality were seen in and near Fort Bragg. Intense coast live oak mortality was mapped in the Oakland hills (Alameda County) and east of Watsonville (Santa Cruz County), about 9 miles from the closest SOD confirmation. No tanoak mortality was observed in Del Norte County this year. The total number of acres and trees killed due to SOD in the surveyed area to date this year appear to be similar to 2012 levels, with approximately 257,000 trees killed across 39,600 acres.

- New *P. ramorum* confirmations on tanoak and California bay laurel trees are as close as 1.1 miles from the Six Rivers National Forest boundary and 1.7 miles from the Trinity County line.

- Early results from United Kingdom aerial surveys reveal significant new areas of *P. ramorum*-infected Japanese larch, particularly in Wales and southwest Scotland. Initial estimates include approximately 6,178 acres in Wales and 4,942 acres in Scotland, with approximately 988 new acres of infection in England.

06/13

- *P. ramorum*-positive water samples were identified at two new waterways in Washington, a river in Clallam County and a creek in Thurston County. The water positive in Thurston County was downstream from a previously *P. ramorum* positive nursery, while the Clallam County water positive was not.

- A Snohomish County, WA production nursery was found to have *P. ramorum*-positive *Viburnum tinus* and *Pieris japonica* on 6/20/13. The nursery was previously positive in 2011.

05/13

- *Rhododendron* plants found positive at a Lane County, OR retail nursery. This is a repeat find.

- *P. ramorum* was found at two Washington state nurseries (Thurston and King Counties) that sell to the landscape trade.

04/13

- The first *P. ramorum* culture-positive water sample was confirmed from Jackson Demonstration State Forest in April 2013 in the North Fork of the South Fork of the Noyo River and Peterson Gulch drainages. Parlin Creek, which tested PCR positive in 2012, remained negative for the pathogen via culturing techniques during the 2013 monitoring season. To date, no terrestrial vegetation samples collected in JSDF have tested *P. ramorum* positive.

- A Gilroy nursery (Santa Clara County) was confirmed positive for *P. ramorum* on a *Loropetalum chinense* (5 g) plant. This facility was previously positive in 2004 and 2005.

- Oregon had three *P. ramorum*-positive nurseries identified: a Clackamas County facility was found to have infected *Camellia, Gaultheria, Pieris, Rhododendron, Trachelospermum*, and *Viburnum*; and two Washington County nurseries were also found with *P. ramorum*-positive *Rhododendron* sp., *Magnolia grandiflora*, and *Viburnum* 'Pink Dawn.'

- The Kitsap County, Washington retail garden center found positive in March 2013 had a positive soil sample confirmed at the nursery in April 2013.

03/13

- Expansion and intensification of disease in late 2012 triggered a revision of Oregon's quarantine rule and increased the quarantine area to 264 mi^2. The revised rule establishes a "Generally Infested Area" (GIA) within the quarantine boundary where *P. ramorum* treatment is no longer required. It also defines high-priority sites where eradication treatments are required and increases utilization of tanoak within the quarantine area, permitting it and other host plants to be transported out of the quarantine zone if they are from a disease-free area.

02/13

- A new positive waterway outside a Houston nursery was detected in February. This was the first new positive site of the 2013 survey year and the second new site in the Houston area in the past three months. A second, separate positive was also obtained in February from a site first identified positive in December 2012.

- *P. ramorum* was found on Japanese larch (*Larix kaempferi*) in Glen Dye, east Scotland, for the first time in January. The outbreak is far from the nearest known infected larch, and is of concern because the pathogen had previously been confined to the west coast. In Scotland there are now 137 positive larch sites impacting approximately 1,038 acres.

01/13

- The 2012 National *P. ramorum* Early Detection Survey of Forests identified three new positive waterways in Georgia, Texas, and Washington, bringing to 15 the total number of known positive sites outside of the established disease range in CA and OR.

- Washington's 2012 *P. ramorum* early detection survey of forests resulted in four positive water confirmations, including a new location in a watershed sub-basin adjoining the Sammamish River, King County (which has been *P. ramorum* positive since 2007). The other three other locations were repeat positives.

- Thirty-three nurseries in eight states (CA, OR, WA, NC, ME, NY, PA. and IN) had *P. ramorum* confirmations in 2012 (up from 23 nurseries in 5 states in 2011), including 17 interstate shippers (16 in regulated states and 1 in NY) and 16 non-interstate shippers. Sixteen of the finds (48.5%) were first time detections (CA-3, OR-7, WA-2, NY-1, IN-1) and 17 (51.5%) were repeat nurseries. High-risk host plants comprised 85% of confirmations.

- California had seven *P. ramorum*-positive nurseries in 2012, of which four were previously positive. Five confirmations came from production facilities, two were retail, two were in the quarantine area, and five were in the regulated area.

- Oregon detected 11 positive nurseries as part of the 2012 Federal *P. ramorum* Certification Program. The pathogen was detected on plants, as well as in potting media, soil, and a cull pile. This was the first time *Gaultheria procumbens* had ever been found positive for the pathogen.

12/12

- As of 12/10/12, the USDA Animal and Plant Health Inspection Service (APHIS) amended the federal order (FO) regarding advance notification for interstate shipments of P. ramorum high-risk host nursery stock.

11/12

- SOD Blitz results from 2012 surveys show a spike in infection and establishment of *P. ramorum* in Bay Area urban residential areas, including Santa Cruz County, Carmel Valley Village (Monterey Co.), and in Golden Gate Park (San Francisco Co.) in a southwestern sector near Middle Lake, several miles from the previously infected site in the AIDS Memorial Grove. The East Bay infestation transitioned from a "newly arrived" status (in 2011) to epidemic levels on bay (in 2012), suggesting oak and tanoak infection in those areas are likely to increase. In total, the 2012 SOD Blitz surveyed over 10,000 trees throughout coastal Northern California via the help of more than 500 volunteers.

- To date this year, *P. ramorum* has been reported in 8 (CA, OR, WA, NC, ME, NY, PA. and IN) states and 33 nurseries, including 17 interstate shipping facilities (CA-2, OR-7, WA-7, NY-1; 10 nurseries did ship material out of state) and 16 non-interstate shipping nurseries (CA-4, OR-4, WA-3, NC-1, ME-1, NY-1, PA-1, IN-1). Forty-seven percent (15) of the finds were first time detections (CA-3, OR-7, WA-2, NY-1, IN-1) and 48 percent (16) were repeat nurseries. In total, 10 trace investigations have been implemented. Host plants from *P. ramorum*-positive nurseries were shipped to 33 states, with positive finds in 2 (ME, PA traced-back to OR) non-interstate shipping nurseries and four residential locations. Of the four (ME, OR, WA, CA) residential confirmations, two (ME, CA) were traced back to a nursery in OR and two (OR, WA) were traced back to a WA nursery.

09/12

- Japanese larch (*Larix kaempferi*) trees were found infected with *Phytophthora ramorum* in Southeast England for the first time. The Forestry Commission has issued statutory "plant health notices" to the affected owners, requiring them to fell the infected larch trees and others nearby.

- In May and June 2012, *P. ramorum* was again recovered from the Mattole River, east and west forks of the Canyone Creek, Gridnstone Creek, and an upper tributary of Grizzly Creek (Humboldt County).

- The USDA Forest Service annual California aerial detection survey mapped 376,000 dead oak and tanoak over 54,000 acres in areas impacted by SOD in California in 2012. In comparison, 38,000 trees across 8,000 acres were mapped in the same area last year.

- A residential site in Placer County, California (regulated county) was found to have a *P. ramorum*-positive *Rhododendron* sp. plant on August 28th. The positive plant was traced back to a retail nursery in Auburn (Placer County), which was confirmed *P. ramorum* positive in 2006 and 2009.

- To date in 2012, the US has had 32 *P. ramorum*-positive nurseries in seven states (CA-6; OR-11; WA-10; NC-1; ME-1; NY-2; PA-1) as well as 4 positive residential/ landscape detections (CA, OR, WA, ME). Positive plants included: *Rhododendron* (51%); *Camellia* (13%); *Viburnum* (11%); *Pieris* (7%); *Kalmia* (3%); *Gaultheria* (4%); *Loropetalum* (3%); *Magnolia* (3%); *Hamamelis* (2%); *Cornus* (1%); *Prunus* (1%); and *Trachelospermum* (1%). Seventeen of the positive nurseries are interstate shippers (CA-2; OR-7; WA-7; NY-1) and 15 are retail facilities (CA-4; OR-4; WA-3; NC-1; ME-1; NY-1; PA-1). Collection ponds were positive at 2 retail nurseries (WA, NY) and 3 that ship interstate (2-WA, 1-NY). Soil was positive at 1 retail nursery (CA), 2 interstate shipping nurseries (CA, OR), and 1 landscape site (WA). Ten interstate trace-forward investigations were conducted this year: three with potentially infected plants shipped to 24-30 states and seven with potentially infected plants shipped to 1 to 3 states. As a result, *P. ramorum* was detected at retail nurseries in ME and PA that were shipped from OR, and from three residential/landscape sites in OR, WA, and ME that originated in WA.

08/12

- A *Phytophthora ramorum* outbreak has been identified on the Rogue River-Siskiyou National Forest 10 miles east of Brookings, OR. The site is ½ mile east of the current quarantine boundary; therefore, an emergency quarantine was put into effect, bringing Oregon's Sudden Oak Death (SOD) quarantine area to 229 square miles. Approximately 50 acres are being treated.

- California's 2012 USDA Forest Service annual aerial detection survey has flown 20.1 million acres, finding over 318,000 dead oak and tanoak trees across 56,200 acres, mainly in areas impacted by SOD and Goldspotted Oak Borer. SOD-related mortalityhas increased dramatically from 2011 with more than 315,000 dead tanoak mappedover 45,000 acres.

- To date this year, the Oregon Department of Agriculture (ODA) has confirmed 11 *P. ramorum*-positive nurseries in Clackamas, Curry, Lane, Lincoln, Marion, Multnomah, Polk, Tillamook, and Washington Counties. The positive plants found in the Curry County nursery (now closed for business) were infected with the EU1 lineage. No infected plants were found at the nursery during inspection last year; however, 13 infected plants were found this year. This is the first report of the EU1 lineage in Curry County. *P. ramorum* was also detected at a private residence in Lane County (Oregon) based on trace-forward information received from USDA APHIS. The pathogen was detected infecting *Gaultheria shallon* and *G. procumbens* plants that had been imported from Washington and were still in their containers.

- A "National Framework for Managing Sudden Oak Death (SOD) caused by *Phytophthora ramorum* in Forests and Wildlands" has been developed by the USDA Forest Service, Animal Plant Health Inspection Service, National Association of State Foresters, and the National Plant Board. The framework links various levels of government, non-governmental groups, and private stakeholders to address the potential impact of SOD in forested landscapes should it be detected outside the current quarantine area.

07/12

- A fourth, genetically distinct lineage of *Phytophthora ramorum* has been discovered in the United Kingdom on Japanese larch. Based on genetic analysis, it is believed that the previously unknown European type 2 (EU2) lineage has been newly introduced into southwest Scotland and Northern Ireland. The pathway by which the new lineage arrived into the UK is unknown, and researchers are assessing the extent of its distribution. Genetic analysis of the four lineages (EU2, EU1, NA2, NA1) indicates that the pathogen emanates from some unknown center of origin.

06/12

- Four California nurseries were found *P. ramorum* positive – two within the quarantine area (both Mendocino County) and two within the regulated area (both Sacramento County). The first confirmation was a Mendocino County retail nursery that was found to have a positive *Camellia* during a general nursery inspection. The nursery was also positive in 2008, 2010, and 2011; is not under compliance; and does not ship interstate. The second confirmation was made on a positive Camellia during a compliance agreement inspection at a Mendocino County production nursery. The nursery has not previously been positive and does not ship interstate. Following the confirmation, the facility chose to no longer participate in the *P. ramorum* host interstate shipping program. A *Viburnum tinus* 'Spring Bouquet' at a Sacramento County production facility during a compliance agreement inspection. The nursery was also found positive in 2005, 2006, 2007, and 2011, and does ship interstate (to Nevada). The fourth confirmation was at a Sacramento County retail nursery during a compliance agreement inspection. Positive plants included a *Rhododendron* sp. 'Boule de Neige' and a *Camellia japonica* 'Pink Parade.' The Nursery does not ship interstate and has not previously been positive.

- The Oregon Department of Agriculture 2112 Federal Order survey of nurseries shipping interstate is about 50 percent complete. To date, 7,841 samples have been analyzed, with nine nurseries (5 grower and 4 retail) in Clackamas, Lane, Lincoln, Marion, Polk, Tillamook, and Washington Counties found positive. Four of the nurseries ship interstate and four are repeat positives. Nursery stock found infected includes *Camellia, Cornus, Hamamelis, Kalmia, Magnolia, Pieris, Rhododendron*, and *Viburnum*.

- Washington has had 10 confirmed positive nurseries to date in 2012, the most in a single year since 2006. Counties with detections include King, Pierce, Thurston, Lewis, Clark, Clallam, and Skagit. Eight of the nurseries are repeat positives and six are certified interstate host shippers, three of which have shipped host and associated host plant material in the past six months. Positive plants have included *Rhododendron, Viburnum, Camellia, Magnolia*, two *Pieris*, and one *Gaultheria*.

- As of June 8, 2012, the Republic of Korea's Animal, Plant, and Fisheries Quarantine and Inspection Agency, Ministry for Food, Agriculture, Forestry, and Fisheries added six countries (Croatia, Czech Republic, Greece, Finland, Lithuania, and Serbia) to their "Phytosanitary measures to prevent the introduction of Sudden Oak Death Disease." These countries now must abide by the Republic of Korea's rule applying to any propagated host or associated host material such as nursery stock (including root stock), cuttings, and scions (except seeds and fruits) and wood (including logs) with bark. All shipments will be required to have phytosanitary certificates

accompany *P. ramorum* host and associated host importation, with an additional declaration that, "The shipment was inspected and found free of *Phytophthora ramorum*."

- A new *Phytophthora ramorum* wildland infection has been identified on the Rogue River in the Siskiyou National Forest. It is the first infection site in the Winchuck River drainage, approximately 6 miles southeast of previously identified infection sites and about one half-mile outside the current Oregon Sudden Oak Death quarantine boundary.

- In Galloway, southwest Scotland, a cluster of suspected new *P. ramorum*-positive larch sites totaling more than 247 acres has been found. The site is distant from the nearest previously infected site. Only three confirmed sites have been previously recorded in Scotland.

- The Oregon Department of Agriculture 2012 Federal Order survey has identified six *P. ramorum*-positive nurseries so far this year in Lincoln, Marion, Washington, Tillamook, Polk, and Lane Counties. Three of the positive nurseries are wholesalers and three are retailers. Two of the six ship nursery stock out of state and four are repeat positives.

- Of the $15.5 million allocated to California in 2012 via the 2008 Farm Bill - Section 10201, $978,745 has been awarded for *P. ramorum* projects related to safeguarding nursery production and enhancing mitigation capabilities.

05/12

- Three Washington nurseries were confirmed positive for *P. ramorum* in May during interstate shipper annual compliance inspections. One was a wholesale producer with an attached retail yard in King County; the second was a Clallam County retail nursery with a separate production site; and the third confirmation was from a mail-order retail nursery in Lewis County which had a positive potentially actionable suspect sample in 2010 and tested negative in 2011.

- In Washington, holding pond water was found positive at two wholesale landscape nurseries – one in Clark County and the other in Thurston County. Both ponds have been positive in past years; clean-up has been difficult. Neither site uses the ponds for irrigation. Positive rhododendrons were also found in a commercial landscape in Pierce County. These plants were traced forward from the *P. ramorum*-positive wholesale landscape nursery in Thurston County (found positive 3/30/12).

- On May 3, 2012, a 5-gallon *Loropetalum chinense* 'Rubrum' was confirmed *P. ramorum* positive at a retail nursery in Sacramento County as a result of a follow-up inspection for a 2011 confirmation. The nursery is not under compliance and does not ship interstate.

- USDA APHIS issued a Federal Order on April 18, 2012, placing restrictions on the importation of *P. ramorum* host plants for planting into the U.S. The new order requires specific countries to have in place an annual pest exclusion program that incorporates monitoring, sampling, testing, and a validation process to verify the absence of *P. ramorum* in places of production.

- California's first *P. ramorum*- positive nursery for 2012 was identified on April 13th. The Orange County production nursery was found to have infected *Loropetalum chinense*, *Rhododendron*, and star jasmine (*Trachelospermum jasminoides*) during a compliance agreement inspection. The nursery ships interstate and had not been previously positive for the pathogen.

04/12

- On April 27, 2012, a San Joaquin County production nursery was found to have 5-gallon *P. ramorum*-positive *Camellia sasanqua* 'Cleopatra,' *Camellia japonica* 'Mathotiana Supreme,' and *Camellia japonica* 'Bella Rose' during a compliance agreement inspection. The nursery was previously positive in 2011 and has not made any interstate shipments since.

- *Phytophthora ramorum* was recovered from three native California plant species: *Cornus nuttallii* (western dogwood), *Trillium ovatum* (western wake robin), and *Garrya elliptica* (wavyleaf silk tassel). Koch's postulates still need to be performed to demonstrate that *P. ramorum* is causing disease in these three plant species, but the recoveries in 2011 are the first findings of the pathogen in members of the *Trillium* and *Garrya* genera. Several ornamental species of *Cornus* (*C. kousa* and the hybrid *C. kousa x C. capitata*) are already on the list of associated *P. ramorum* hosts, but the recovery of the pathogen from *C. nuttallii* marks the first instance of recovery from a North American dogwood species.

03/12

- Effective March 1, 2012, the USDA Animal and Plant Health Inspection Service will add eight plants to the list of *P. ramorum* associated hosts: *Ilex cornuta* (Buford holly, Chinese holly, horned holly); *Illicium parviflorum* (yellow anise); *Larix kaempferi* (Japanese larch); *Magnolia denudate* (lily tree); *Mahonia nervosa* (creeping Oregon grape); *Molinadendron sinaloense*; *Trachelospermum jasminoides* (star jasmine, Confederate jasmine); and *Veronica spicata* Syn. *Pseudolysimachion spicatum* (spiked speedwell). In addition, APHIS is moving *Cinnamomum camphora* from the associated host list to the proven and restricted host list. These changes bring the official U.S. *P. ramorum* host list to 137 plants. As of March 1, 2012 any nurseries within the regulated and quarantined areas containing these newly listed plants must be properly inspected, sampled, and tested in order to be able to move any plants interstate.

01/12

- Stream monitoring in Humboldt County resulted in several new *P. ramorum* detections in 2011. Larabee Creek, a tributary to the main stem of the Eel River, and Grizzly Creek, a tributary to the Van Duzen River, both tested positive for P. ramorum in the spring of 2011. Four sites within the Mattole River watershed of southern Humboldt County (Mattole Canyon Creek, Crooked Prairie Creek, and Mattole River at Ettersburg Bridge and at Whitethorn) were also found *P. ramorum* positive. The pathogen was also isolated from California bay laurel along Fire Creek (further up the Blue Slide Creek watershed from Crooked Prairie Creek) in spring 2011.

- Three new *P. ramorum*-positive locations were identified in Washington via the 2011 *P. ramorum* early detection survey of forests: a stream that feeds into the

Sammamish River (which has been *P. ramorum* positive since 2007); a watershed sub-basin adjoining the Sammamish River; and a Lewis County stream in a forested area. None of the finds were in association with streamside plant infections.

- In 2011, the California Department of Food and Agriculture detected *P. ramorum* in 12 nurseries as a result of compliance, trace-back, and nursery stock cleanliness inspections.

- The Oregon Department of Agriculture detected *P. ramorum* in six nurseries in 2011, infecting *Rhododendron, Viburnum, Camellia*, and *Pieris* plants. The pathogen was also detected in the soil substrate at one nursery, the soil substrate and potting media associated with an infected plant at another nursery, and in potting media associated with infected plants at two other nurseries. Four of these six nurseries were positive for *P. ramorum* in previous years.

- A *P. ramorum*-positive site was confirmed in Mendocino County a few miles north of MacKerricher State Park near Inglenook. This location is now the most northern coastal infestation in the county.

- *Molinadendron sinaloense* was found to have *P. ramorum* symptoms in August by a county inspector. It was confirmed to be *P. ramorum* positive by USDA and classified as an associated host on January 25, 2012.

09/11

- *P. ramorum*-positive Camphor (*Cinnamomum camphora*) trees were confirmed in Mill Valley, Marin County for the first time in a neighborhood setting, though it has been listed as an associate host since being identified in nurseries in 2006. Appearing to be more susceptible than previously thought, symptoms include leaf lesions, branch tip dieback, and stem cankers. It is believed that the pathogen moved from the forest into the urban setting.

- A new *P. ramorum*-positive site six miles north of the quarantine boundary was found in Curry County, OR. The infested two tanoak trees are in Cape Sebastian State Park, over 12 miles from the nearest known infected tree.

- SOD increased dramatically in areas surveyed during the spring 2011 fourth annual SOD Blitz, with up to a three-fold increase in infection levels compared to 2010 data. The citizen science project found higher than expected infection levels in the San Francisco Peninsula and East Bay, as well as confirming for the first time that the pathogen is present in Carmel Valley Village and the valley floor of Napa Valley.

- The USDA APHIS P. ramorum Program 2011, 3rd Quarter Summary reported 25 nursery-related P. ramorum confirmations from January to September 30, 2011 in the following states: CA(12), OR (6), WA (5); SC (1); and CT (1 residential). Fourteen of the nurseries were interstate shippers and nine were retail. Positive plant detections were from the following plant species: Camellia (31%); Rhododendron (34%); Pieris (5%); Viburnum (5%); Magnolia (5%); Osmanthus (3%); Gaultheria (3%); Cinnamonum (3%); and 7 other species (11%).

08/11

- *Molinadendron sinaloense* was found *P. ramorum* positive for the first time on 6/30/11 during a routine light brown apple moth (LBAM) inspection at a research garden in Alameda County, CA. The sample was confirmed positive by the USDA Animal and Plant Health Inspection Service (APHIS) on 8/1/11.

07/11

- Great Britain had three new P. ramorum-infested Japanese larch tree outbreaks, in Lancashire County, Cumbria County, and Mull Island (Scotland).

- A Sacramento County, CA production nursery was found positive for P. ramorum. To date in 2011, P. ramorum has been confirmed in 21 US nursery locations: CA (11), OR (6), WA (3), and SC (1) ans well as one residential location in CT.

06/11

- The Forest Service detected almost 4,000 acres of tree mortality in Northern California during their annual aerial survey. Mortality was primarily due to Sudden Oak Death and was focused mostly in Sonoma County.

- Washington State had two new and one repeat P. ramorum-positive waterway detections, all near the Sammamish River.

- The UK confirmed a new P. ramorum-infected Japanese larch site in the previously uninfested region of Derbyshire County, central England.

- California had two P. ramorum-positive in production nurseries, one in Mendocino County and another in San Joaquin County.

- The USDA Animal and Plant Health Inspection Service (APHIS) updated regulations governing international trade in plants used in gardening and landscape design (effective June 27, 2011). The rule change creates a new category, "Not Authorized for Importation Pending Pest Risk Assessment (NAPPRA)," which allows APHIS to quickly restrict the importation of plants suspected of being invasive or carrying pests until possible risks are understood and protective measures are put in place.

05/11

- Washington had two repeat *P. ramorum*-positive waterway detections; each stream feeds into the Sammamish River and the inoculum source for each is unknown.

- The British Forestry Commission completed seven *P. ramorum*-infected larch woodland survey flights this year in Wales and England's southwest, South Coast, and Peak District with flyovers detecting fewer suspected infected larch than the previous two years.

- California had four *P. ramorum*-positive nurseries confirmed, in San Joaquin (1 production nursery), Santa Cruz (1 production nursery), and Sacramento (1 retail and 1 production nursery).

- A wholesale/production nursery in Snohomish County, Washington was confirmed *P. ramorum* positive on May 27th during an Annual Compliance Inspection.

- The Oregon Department of Agriculture completed testing for the 2011 *P. ramorum* Federal Order Survey on 7,574 samples collected from 182 nursery grower locations. Four Oregon nurseries were found positive for the pathogen in May (2 wholesale nurseries in Clackamas County, a retail nursery in Lincoln County, and a wholesale nursery in Lane County).

- The Washington *P. ramorum*-positive soil confirmation in a Gig Harbor, Pierce County landscape (confirmed December 2010) has been identified as the NA2 lineage. This is the first time this strain has been found outside of a nursery in soil.

4/11

- A South Carolina retail nursery was found to have *P. ramorum*-positive soil on April 6th. Clemson University and the nursery owner are working to clean up the site and will soon be installing a sand filtration system in an effort to keep pathogen spores from entering the environment.

- A Sitka spruce (*Picea sitchensis*) tree has been found *P. ramorum* positive in the Republic of Ireland. This is the first field record worldwide of *P. ramorum* infection in Sitka spruce; however, it had previously been found susceptible in laboratory tests. Noble fir (*Abies procera*), beech, and Spanish chestnut (*Castanea sativa)* growing in close proximity to infected Japanese larch have also been found *P. ramorum* positive at a number of the sites. This is also the first report of *P. ramorum* infection on Noble fir.

- European larch (*Larix decidua*) has been found *P. ramorum* positive in a woodland near Lostwithiel, Cornwall, in southwest England in an area with infected Japanese larch trees. This is the first time European larch has been found naturally infectedwith the pathogen.

- To date, approximately 2 million Japanese larch (*Larix kaempferi*) trees have been felled in the UK in response to the *P. ramorum* outbreak. Since first identified as a host in August 2009, larch has been found infested in southwest England, Wales, Scotland, and the Isle of Man, and at nine sites in Northern Ireland.

- *P. ramorum* has been confirmed in a Lawson's cypress (*Chamaecyparis lawsoniana,* called Port Orford-cedar in its native range) and on rhododendron at Balloch Castle Country Park on Loch Lomondside in West Dunbartonshire, Scotland where *P. lateralis* was confirmed in Lawson's cypress late in 2010 (the first time *P. lateralis* had been identified in Britain). The park is only the second site in Scotland where *P. ramorum* has been found in trees. Researchers now believe that the cause of the cypress and yew (*Taxus brevifolia*) decline at the park is *P. cinnamomi*. While *P. lateralis* and *P. ramorum* are genetically closely related, this is the first time they have been found in such close proximity.

3/11

- The NA2 *P. ramorum* genotype has been detected in retail nurseries in five California counties. Originally only confirmed in Sacramento County in 2005, it has since been found there in 2008 and 2009. It has also been found in San Mateo (2008), Contra Costa (2009), Placer (2010), and Sonoma (2010) Counties.

- The USDA Animal and Plant Health Inspection Service (APHIS) will implement a Federal Order on 3/1/11 requiring interstate shipping nurseries in *P. ramorum* quarantine areas or in regulated counties that have previously tested positive for the pathogen to provide advance notification to destination states in non-regulated areas for certain high-risk plant species. Advanced notification is intended to enhance the traceability of potentially infected nursery stock. Under the new requirements, all nurseries located in a quarantine area that ship any species of *Camellia, Kalmia, Pieris, Rhododendro*n (including Azalea), and *Viburnum* interstate to non-regulated areas must provide advance notification. In addition, nurseries shipping any of these species interstate to non-regulated areas must provide advance notification if they are located in regulated counties with one or more interstate shippers that have tested positive for *P. ramorum* since 2003.

- **An amendment has been made to the January 28, 2011 Federal Order (DA-2011-04)** requiring advance notification for certain shipments of *P. ramorum*- host nursery stock. The counties of Santa Barbara (CA), Ventura (CA), Lincoln (OR), and Kitsap (WA) have been removed from the list of affected counties. This action was taken because Santa Barbara and Ventura Counties only detected *P. ramorum* on trace-forward plants and not on host plants grown within the interstate shipping nursery premises; Lincoln County has no *P. ramorum*-positive interstate shippers; and Kitsap County does not have an interstate shipping nursery that has previously tested positive for the pathogen. The amended Federal Order is immediately effective and supersedes the Federal Order dated January 28, 2011 (DA-2011-04). All other counties listed in the January 28 Federal Order (DA-2011-04) as an affected quarantined and regulated county in California, Oregon, and Washington remain the same.

2/11

- The California Board of Forestry and Fire Protection passed an interim emergency regulation for Sudden Oak Death at their January 2011 meeting. The rule defines an Emergency Condition (under 14 CCR §1052.1) and specifies the location, treatments, and environmental protection measures related to the removal of live and dead hardwood trees or vegetation infected by or susceptible to Sudden Oak Death.

1/11

- Fifteen *P. ramorum*-positive water samples were confirmed in Washington state in January 2011. A nursery in Cowlitz County, Washington that has had *P. ramorum*-positive water onsite since 2008 has been found to have a new positive water location on the southeast corner of the nursery along a county road right of way. The new location drains into two separate small streams.

12/10

- A Gig Harbor, Pierce County, WA landscape site adjacent to a previously positive repeat nursery has been found to have *P. ramorum*-positive soil. The confirmed site is along a drainage that had been found positive with infected salal plants in the summer of 2009.

- *P. ramorum*-infected Japanese larch trees were confirmed in Scotland for the first time in December 2010. The finding was made in a forestry plantation on the west coast of Scotland (Craignish Peninsula, Argyll).

- Northern Ireland's Glenariff Forest Park was found to be *P. ramorum* positive after an aerial survey, bringing the total number of infested sites in Northern Ireland woodlands to eight. The find is the first in a forest park situation for Northern Ireland.

- California had 874 establishments under compliance for *P. ramorum* in 2010, including 634 host nurseries. A total of 18,418 samples were taken in California nurseries, with 2,090 nursery sites found to be negative for the pathogen and eight sites found positive. Five of the confirmed locations were production facilities, two were retail sites (both in quarantined counties), and one was a residential location (regulated county).

- Nurseries identified as *P. ramorum* positive throughout the US in 2010 included: CA (7); OR (9); WA (6); IA (1-Trace Forward); IL (1-Trace Forward); AL (1); NC (1); SC (1); VA (1-hoop house leaf debris); NY (1-Collection Pond), MS (3); GA (1-irrigation pond); PA (1-greenhouse seeding flats). Confirmations by plant genera included: *Rhododendron/Azalea* (41); *Camellia* (18); *Viburnum* (7); *Pieris* (6); *Kalmia* (2); *Laurus noblis* (3); *Loropetalum chinensis* (1); *Magnolia* (2); *Tracheolospermum jasminoides* (2); *Osmanthus fragrans* (1); *Mahonia nervosa* (1); *Sequoia sempevirens* (1); and *Veronica spicata* (1). There were two positive residential landscape detections and one water-pond positive. Eighteen of the infested nurseries were interstate shippers and 13 were retail facilities. Subsequent plant and soil samples taken in each of the nurseries were all negative for *P. ramorum.*

11/10

- Northern Ireland has confirmed seven *P. ramorum*-infected Japanese larch sites in woodlands on the southern half of the Antrim plateau and one in Mid Down. Approximately 268 hectares of public land and six hectares of private land are affected. Aerial and ground surveys (completed this fall) have confirmed that the infected larch is confined to a cluster of sites in south Antrim and an isolated site in County Down. To date, 79 hectares of Japanese larch woodland have been felled.

10/10

- The northern Humboldt County Redwood Creek watershed *P. ramorum* infestation appears to be restricted to one discrete location centered near the community of Redwood Valley. The pathogen has been detected on symptomatic tanoak, California bay laurel, huckleberry, and Douglas-fir. While its effects on the latter three appear to be negligible, it is killing tanoaks in all size classes, including very large ones that are undetectable from the air because of the density of the Douglas-fir and redwood canopy in that location. Genetic work confirmed that the pathogen is of the North American (NA1) lineage.

- *P. ramorum*-infested Japanese larch (*Larix kaempferi*) has been confirmed at 68 southwest England plantations. Larch plantations with similar symptoms were also discovered in south Wales where *P. ramorum* was also isolated at multiple sites. Overall an estimated 600,000 mature larch over 2400 ha have been affected to date in the United Kingdom, with a large area of juvenile larch also affected. This is the first widespread and lethal damage caused by *P. ramorum* to a conifer and the first to a commercial plantation tree. Adjacent to some affected larch sites in southwest England, secondary infection of European beech (*Fagus sylvatica*), roble beech

(*Nothofagus obliqua*), European chestnut (*Castanea sativa)*, European white birch (*Betula pendula*), *Rhododendron ponticum*, western hemlock (*Tsuga heterophylla*), and Douglas-fir (*Pseudotsuga menziesii*) is also occurring, apparently a result of the high levels of *P. ramorum* inoculum produced from larch foliage.

9/10

- *P. ramorum*-infected Japanese larch has been confirmed for the first time in northern Wales and Ireland, while ground surveys in England continue to identify more suspect *P. ramorum* sites.

- Washington has identified a Kitsap Peninsula creek *P. ramorum* water positive further downstream than previous detections. This creek is associated with a Peninsula nursery that has been free from the pathogen for several years following implementation of the Confirmed Nursery Protocol; however, the brackish creek water continues to be *P. ramorum* positive.

- Nurseries in California (Stanislaus County) and Washington (Pierce County) were found positive for *P. ramorum*.

- Florida has implemented a new rule regulating firewood. The intent of the rules is to prevent the introduction of wood boring pests, wood inhabiting pests, and plant pathogens (including *P. ramorum*) into the state, and to prevent the spread of pests within the state by regulating the movement of firewood and unprocessed wood products that can harbor wood boring and wood inhabiting pests and pathogens.

- The new fungicide Adorn™ has been registered for use in California (EPA Reg. No. 59639-141) against *P. ramorum*. The product is intended for ornamental use only and can be applied to foliage or as a soil drench. The active ingredient fluopicolide has been proven to be effective on other *Phytophthoras*, and must be tank-mixed with another product (such as a mefenoxam) for fungicide resistance management.

- *P. ramorum* has recently been isolated from a bole canker on a mature canyon live oak (*Quercus chrysolepis)*. This first culture isolation complements previously reported PCR detections, lab inoculations, and epidemiological data showing that canyon live oak is susceptible to lethal bole cankers.

- Three new areas of *P. ramorum*-infected Japanese larch trees in Northern Ireland's Antrim and Down Counties were confirmed.

8/10

- Retail nurseries in California (Mendocino County and Humboldt County), Washington (King County), and Oregon (Washington County) were confirmed positive for *P. ramorum*.

- The USDA Forest Service, Pacific Southwest Research Station Sudden Oak Death/*P. ramorum* research program funded 13 new projects as well as 14 continuing projects, for a total of $1,401,441.

- The implementation of the Federal Order requiring pre-notification for shipping *P. ramorum* host nursery stock from regulated and quarantine areas has been delayed until further notice.

7/10

- Water draining an infested nursery in Mecklenburg County (Charlotte), NC has been found to have *Phytophthora ramorum* as a result of the 2010 National *P. ramorum* Early Detection Survey of Forests. This brings the total number of positive waterways to 10 in six states outside areas where *P. ramorum* is found in California and Oregon forest areas (WA [2], AL [4], MS [1], GA [1], FL [1], and NC [1]).

- *P. ramorum* has been found in South Wales infecting Japanese larch trees in woodlands managed by Forestry Commission Wales. This is the first time the pathogen has been found in larch outside southwest England. Widespread infection is occurring on larch trees of all ages.

- The *P. ramorum* watercourse detection in Redwood Creek in northern Humboldt County has been followed with the discovery of an infected bay laurel along the stream. The infected tree is located approximately 20 miles southwest of the stream leaf baits that were used for initial detection.

- USDA APHIS has delayed the effective date for implementation of the Federal Order requiring pre-notification for shipping *P. ramorum* host nursery stock from regulated and quarantine areas from June 21, 2010 to July 19, 2010.

6/10

- As of June 21, 2010, USDA APHIS will require written pre-notification to destination states of all interstate shipments that include *Phytophthora ramorum* host plants from quarantine or regulated areas. The new rule, under *Phytophthora ramorum* 7 CFR 301.92, is intended to allow states receiving *P. ramorum* host nursery stock to assign and prioritize resources, assure rapid response, and provide direct traceability for any nursery stock known to be positive for *P. ramorum*.

- The Oregon Department of Agriculture has completed testing for the 2010 *P. ramorum* Federal Order Survey on 12,101 samples collected from 299 nursery grower locations, and has detected six positive nurseries. During delimitation surveys at one of the Washington County nurseries, foliar samples were collected from a *Trachelospermum jasminoides* (star jasmine) plant exhibiting suspicious symptoms. The foliage was officially confirmed *P. ramorum* positive on 6/10/2010. Star jasmine was also found positive in June 2010 at a Sacramento County, CA production nursery. As there have been two independent confirmations of infected star jasmine, it is anticipated that APHIS will be adding this newly identified host to the *P. ramorum* list of regulated species.

- A Johnson County, Iowa retail nursery was confirmed *P. ramorum* positive on 6/22/10 as a result of a trace-forward inspection of plants shipped from a positive production nursery in Washington County, Oregon.

5/10

- Australia has adopted emergency measures prohibiting the importation of *P. ramorum* host species (other than tissue cultures) from Canada in an effort to minimize the risk of pathogen introduction into the country.

- California has had five *P. ramorum*-positive nurseries identified since April 30, 2010, and found *Trachelospermum jasminoides* (star jasmine) as *P. ramorum* positive for the first time.

- Two nurseries in Oregon (Marion County and Washington County) and two in Washington (Thurston County and Snohomish County) were found *P. ramorum* positive in May 2010.

4/10

- *P. ramorum* positives were found in a variety of nurseries, from Lancaster County, Pennsylvania (production); Mecklenburg County, North Carolina (retail); Greenville County, South Carolina (retail); Clackamas County, Oregon (wholesale); and Clark County, Washington (production).

- South Carolina rescinded its *P. ramorum* rule that required California and Oregon growers importing plants to the state to comply with additional guidelines which were more restrictive than the federal regulations. The repeal effectively ends the lawsuit filed on 3/8/10 by the California Association of Nurseries and Garden Centers (CANGC) and the Oregon Association of Nurseries (OAN) and restores the right of all nurseries in California, Oregon, and Washington to ship *P. ramorum* host and associated host plants to SC, provided they follow the federal rule.

- Korea updated its list of *P. ramorum*-regulated hosts to include: *Choisya ternate*, *Cornus kousa*, *Daphniphyllum glaucescens*, *Lithocarpus glaber*, *Magnolia cavalieri*, *Magnolia foveolata*, *Ribes laurifolium*, *Vaccinium myrtillus*, and *Vaccinium vitis-idaea*.

3/10

- Tests conducted by UK Forest Research show that Japanese larch foliage strongly supports *P. ramorum* sporulation. This inoculum load in the crowns of affected larch has likely led to widespread local infection on the foliage and boles of nearby susceptible tree and understory species, as well as caused bole infections on the larch. Affected understory species include beech, sweet chestnut, oak species, and birch, all of which are known to suffer from bole cankers. Over the past six months a number of conifer species have also emerged as bole hosts, including western hemlock, Port Orford cedar, and Douglas-fir. Western hemlock is also confirmed as a foliar host.

- A lawsuit is filed in Columbia, SC by the CANGC and OAN, seeking to overturn a new SC regulation that requires CA and OR growers shipping plants to SC to comply with additional inspection, documentation and advance notice requirements which are more restrictive than the federal *P. ramorum* rules.

2/10

- The EU1 strain is now the most common *P. ramorum* lineage detected in WA state nurseries and non-nursery sites, with a concurrent rise in NA2 and decrease in NA1.

- Of the 46 WA nurseries found positive since 2003, twenty have been confirmed positive at least two years. Genotype analysis has been performed on samples from

31 nurseries since 2005. Of the nurseries with multiple confirmed years, six had various combinations of two lineages for one or two years and one had a year with all three lineages followed by two other years with two lineages present each year.

- Nine WA non-nursery sites (landscapes, water, soil or trace-forward landscape plants) have been identified *P. ramorum* positive since 2005. Of the sites, the Sammamish River has been confirmed positive for three years with several lineages, and four residential trace-forwards from an EU1-positive nursery have been found in the past two years, all of which have been identified with the EU1 strain.

- Ten species are added to the list of federally regulated *P. ramorum* associated host plants: Mexican-orange (*Choisya ternate*), kousa dogwood (*Cornus kousa*), *Daphniphyllum glaucescens*, European holly (*Ilex aquifolium*), Japanese-oak (*Lithocarpus glaber*), *Magnolia cavalieri*, *Magnolia foveolata*, bayleaf currant (*Ribes laurifolium*), bilberry (*Vaccinium myrtillus*), and lingonberry (*Vaccinium vitis-idaea*).

1/10

- Follow-up sampling findings of the Pierce County, WA perimeter survey reported in the 9/09 COMTF newsletter determine that the infested salal plants in the natural landscape are of the NA2 lineage. This is the first detection of the NA2 lineage on native forest vegetation.

- Findings from the 2009 National *P. ramorum* Early Detection Survey of Forests have resulted in more stream detections outside of nurseries and to the east of the regulated states than in any other year. To date for the 2009 season, five new streams have been found positive – three in AL, one in OR, and one in GA. Since the inception of the survey in 2006, 15 positive streams have been identified, nine of which have been outside of the regulated areas in CA and OR. No established infection has been detected in streamside plants.

11/09

- Japanese larch, western hemlock, and birch are reported as new *P. ramorum* hosts by the UK. Japanese larch symptoms include wilted, withered shoot tips and blackened needles; branch dieback; and branch and upper trunk cankers. Birch (*Betula pendula*) and western hemlock (*Tsuga heterophylla*) are found with bole cankers.

10/09

- *P. ramorum* is detected in a new watershed in Humboldt County. The pathogen was confirmed from leaf baits in Blue Slide Creek, a tributary to the Mattole River with headwaters approximately 5.6 miles northwest of the community of Redway. Blue Slide Creek is located at the southeastern boundary of the watershed. No infected vegetation has been found to date.

9/09

- A Montgomery County, Maryland residence is found to have a *P. ramorum*-positive witch hazel (*Hamamelis intermedia* 'Jelena') plant as a result of a trace-forward investigation from a Lane County, Oregon nursery found positive for the pathogen in April 2009.

8/09

- A new Mendocino County watershed is confirmed *P. ramorum* positive. At the far eastern reaches of Big River, a hillside above the Orr Hot Springs resort has been found to have infected CA bay laurel and tanoak. This find is 11 miles north from one of the earliest confirmed Mendocino County infestations in the Indian Creek drainage in 2002.

- A Montgomery County, Pennsylvania residential site is found to have *P. ramorum*-positive *Rhododendron bathyphyllum* on 8/17/09. The detection is the result of a trace-forward inspection of rhododendrons shipped from an infested nursery in Lane County, Oregon.

7/09

- *P. ramorum* is confirmed in a campground at MacKerricher State Park, 3 miles north of Fort Bragg in Mendocino County, and approximately 40 miles south of the nearest known positive site in Humboldt County. The MacKerricher site is now the northernmost location within Mendocino County from which the pathogen has been isolated.

- A *P. ramorum*-positive Pierce County, Washington retail nursery perimeter survey finds several salal (*Gaultheria shallon*) plants in one colony to be *P. ramorum*-positive on a bank outside the nursery on county land. Water from the infested nursery area drains into the native salal stand. This is a documented incident of *P. ramorum* moving out of an infested nursery and causing disease outside the nursery.

- On 7/31/09, a second *P. ramorum* detection is made on salal outside of the retail nursery in Gig Harbor (Pierce County), Washington. This second find is along the same drainage ditch as the first and across the road from the retail nursery. These salal plants are about 100 meters south of the previously reported salal detection.

6/09

- South Carolina implements state regulations regarding the importation of *P. ramorum* host plants into SC from CA, OR, and WA nurseries. As of 6/26, any *P. ramorum* regulated article moving into SC from a regulated area must be accompanied by a state phytosanitary certificate. Prior notification of host movement is also required at least 24 hours in advance of a scheduled shipment arrival.

- A Kitsap County, WA residential landscape site is found to have *P. ramorum*-positive *Rhododendron* Sp. 'Roseum Elegans' as part of a trace-forward investigation from an infested wholesale/production nursery in Thurston County, WA. The plant is removed and destroyed.

- A Greenville County, SC residential landscape site is confirmed to have a *P. ramorum*-positive *Rhododendron* Sp. 'Catawbiense Boursault'. The detection is made as a result of a trace-forward inspection of plants received from an infested nursery in Snohomish County, WA. The plant is removed and destroyed.

5/09

- Follow-up surveys conducted from 12/08 to 3/09 of a Forsyth County, GA nursery (originally found positive in 12/08) have detected the pathogen inside the nursery as well as off-site where water is draining from the nursery. As part of the National *P. ramorum* Early Detection Survey of Forests, *P. ramorum*-positive findings were obtained in 2/09 from a nearby lake. The lake is used to irrigate the positive nursery as well as an adjacent woody ornamental nursery (not known to be *P. ramorum*-positive) and an adjacent subdivision (not known to be *P. ramorum*-positive). A stream draining the lake, nurseries, and subdivision was also found positive just downstream from the nurseries in March, April, and May. Additional positives were obtained in April from one of two streams feeding the lake.

- To date, the 2009 National Survey has identified six stream baiting positives in water outside of nurseries in five states: WA (1), MS (1), AL (2), GA (1), and FL (1). All confirmed locations have had more than one positive survey this year. All vegetation samples collected so far in 2009 from a local environs survey outside the MS nursery have been negative for the pathogen after multiple positives in 2008.

3/09

- A rhododendron leaf bait deployed in 12/08 in a Gadsden County, FL stream (outside a previously confirmed positive retail nursery) is found culture positive. The nursery had most recently been confirmed positive in 2/08 from soil and water samples.

2/09

- *P. ramorum* is once again confirmed in McKinleyville's Mill Creek (Humboldt County). The pathogen is recovered from leaf baits deployed and recovered. This is the fourth year that *P. ramorum* has been recovered from McKinleyville streams with no obvious symptomatic hosts.

- The UK confirms the first case of *P. ramorum* on European blueberry (*Vaccinium myrtillus*). The infected blueberry is found in a mixed deciduous woodland with *P. ramorum*-infected *Rhododendron*. USDA APHIS is reviewing the findings and anticipates adding this newly identified host to the federally regulated list of *P. ramorum* hosts.

- USDA APHIS announces that it will be adding *Daphniphyllum glaucescens* to the federally regulated list of *P. ramorum* associated hosts. The pathogen was detected in a British Columbia nursery in 5/08 by the CFIA. Symptoms include leaf spots and necrosis as well as stem dieback.

- Follow-up survey efforts regarding the *P. ramorum*-positive Mississippi nursery and ditch finds last year are still underway. The latest survey efforts resulted in the recovery of *P. ramorum*-positive stream bait samples monthly from 11/08 – 2/09. The positive samples were taken from the ditch (outside the nursery), Hog Creek

(about 100 feet downstream from the confluence of the ditch and Hog Creek), or both.

- It is announced that *P. ramorum* is confirmed in Serbia for the first time. In 6/08, *P. ramorum* symptoms were observed on 12 *Rhododendrons* in an open garden. Symptomatic leaves and petioles were sampled and confirmed positive. The infected plants were destroyed and measures taken to eradicate the pathogen according to European Union standards.

1/09

- Washington State confirms two *P. ramorum*-positive residential landscape finds. Both are the result of trace-forward inspections. The positive plants found at both locations are *Rhododendrons*.

- *Choisya ternate* (Mexican orange) and *Ribes laurifolium* are found *P. ramorum* positive after sampling plants with foliar dieback symptoms at a UK nursery. APHIS will add these species to the federally regulated list of *P. ramorum* associated hosts.

10/08

- China's General Administration of Quality Supervision, Inspection, and Quarantine implements "Phytosanitary Requirements for the Import of Host Plants of *Phytophthora ramorum* from Regulated Areas." Regulatory agencies for the exporting countries must provide China with a list of approved registered nurseries. The new requirements include assuring all *P. ramorum* host plants are from nurseries free of the pathogen, and also call for laboratory testing by regulatory agencies prior to host exportation to ensure absence of the pathogen. The host plant growing media will also be subject to disinfection treatment measures such as heat treatment prior to exportation to China.

8/08

- Kousa dogwood (*Cornus kousa*) is added to the federal list of hosts regulated for *P. ramorum*.

7/08

- *P. ramorum* is confirmed in the Little River at Van Damme State Park in Mendocino County near the town of Mendocino. Taken from March water baiting samples, the positive cultures represent the northern most detection of the pathogen in the County.

6/08

- The Big Sur Basin Complex fire is burning in areas with elevated fuels due to SOD mortality. To date, most of the burn area has contained older dead trees; however, the fire is moving north toward Palo Colorado and vicinity where more recent SOD mortality has occurred. The fine fuels from attached leaves on these recently killed

trees can increase the difficulty of fire suppression.

- The US Fish and Wildlife Service pre-approves SOD eradication (up to 250 acres per agency per year for the next 5 years) on USFS and BLM northern spotted owl and marbled murrelet lands in SW Oregon. This will allow agencies to respond to infested sites more quickly.

5/08

- WSDA confirms *P. ramorum* in the Sammamish River. This site was also positive in 2/08 as well as 2007.

- An 80-acre fire along Saint Helena Road in Napa County ignites when the green stem of a coast live oak with Sudden Oak Death fell onto a power line. Approximately $100,000 is spent for suppression.
- An OR landscape site is found with *P. ramorum*-positive *Rhododendron*. Delimitation surveys are underway. The infected plant was purchased from a positive OR nursery earlier this year.

- *Cercis chinensis* (Chinese redbud) and *Magnolia* (*Michelia*) *figo* (banana shrub) are added to the USDA APHIS *P. ramorum* list of federally regulated plants. *Cercis chinensis* was found positive at a previously positive British Columbia nursery on November 16, 2007. The *Magnolia figo* was found during a compliance agreement inspection at a Contra Costa County, CA nursery.

4/08

- WSDA reconfirms *P. ramorum* in the Rosedale Stream (found positive in 2007) at a new confluence in a field below a previously *P. ramorum*-positive nursery.

- USDA APHIS adds *Magnolia denudata x salicifolia* (Magnolia), *Magnolia kobus* (Kobus magnolia), *Magnolia salicifolia* (Anise magnolia), *Magnolia x thompsoniana* (Magnolia), and *Magnolia liliiflora* (Purple magnolia) to the list of *P. ramorum* federally regulated plants.

- Additional foliage samples are taken for analysis from native trees and shrubs along the ditch outside of the MS nursery on 4/29. Results from both isolation attempts and molecular tests are negative for *P. ramorum*. Follow-up water samples inside and outside the nursery perimeter are also negative. Additional sampling will be conducted in the fall and following spring.

- A MS survey is conducted on 4/1 of the nursery-ditch site previously found positive. All vegetation samples collected outside of the nursery (samples were taken from higher ground than previous samples due to flooding) are negative. Water samples collected from the ditch on nursery property are positive.

3/08

- A PCR *P. ramorum*-positive stream bait sample is obtained from the MS ditch (previously found with PCR-positive willow); however, isolations are negative. Follow-up monitoring efforts continue.

- *P. ramorum* is confirmed in a Harris County, Texas landscape setting. The confirmation is made during trace-forward investigations resulting from a *P. ramorum*-positive Southern California nursery. The positive *Camellia* sp. planted in the Texas yard was removed and destroyed. To date, follow-up landscape soil sampling results have been negative.

2/08

- WSDA reconfirms *P. ramorum* in the Sammamish River at the original 2007 positive site.

1/08

- Oregon's Curry County quarantine area is officially expanded to 162 square miles, following the State's amendment to their *P. ramorum* quarantine. For the first time, nurseries and a lumber mill are located within the quarantine area. ODA is working with affected businesses to set up the compliance agreements and inspection schedules necessary to meet federal interstate shipping requirements.

12/07

- Water baiting efforts from a ditch (that drains into a creek) outside of a nursery in Jackson, MS result in nested and real-time PCR positives. A supplemental vegetation survey of the ditch vicinity leads to nested and real-time PCR positives of willow. Due to possible surface contamination of the samples by silt from flooding prior to collection, further regulatory action is not yet being taken. Follow-up sampling is being conducted.

- *Corylopsis spicata* (spike witch hazel - Hamamelidaceae) and *Physocarpus opulifolius* (ninebark - Rosaceae) are added to the list of federally regulated associated host plants. The CFIA found both plants naturally infected in a BC, Canada nursery. Spike witch hazel symptoms were identified as leaf necrosis and ninebark symptoms included leaf necrosis and dieback.

11/07

- ODA publishes a notice to amend the state quarantine for *P. ramorum* and the regulated area for nursery stock. The proposed amendments include increasing the Curry County *P. ramorum* quarantine area to 166 square miles (including five newly detected sites outside of the existing quarantine area) and it would harmonize the state's *P. ramorum* rules with current federal regulations and protocols.

10/07

- *P. ramorum* inoculum was baited from Norton Creek (a small coastal stream in northern Humboldt County in the town of McKinleyville) early in the summer of 2006, with a repeat detection in the spring of 2007. The recovered isolates have been

genotyped, revealing that two lineages are present: the Northern American (NA1) and European (EU1). This is the first find in North America of the EU1 lineage in a wildland environment. Efforts are being made to determine the spore source location, including exhaustive streamside surveys. A small retail nursery in downtown McKinleyville has been found to have *P. ramorum*-positive plants, including three plants confirmed with the EU1 strain, but the nursery is located in a different watershed than the infested stream. No definitive linkages between the nursery and stream have been established.

9/07

- *Garrya elliptica* and *Mahonia aquifolium* are now regulated by the USDA APHIS for *P. ramorum*. Nurseries operating under a compliance agreement may continue to ship hosts and associated plants, including the newly listed plants. However, all other nurseries containing these newly listed plants must be properly inspected, sampled, tested, and placed under a Compliance Agreement by September 7, 2007 in order to be able to move regulated plants interstate.

8/07

- The EU implements changes to their *P. ramorum* regulations. The decision amends the list of plants, wood, and bark susceptible to *P. ramorum*; increases from one to two the number of official inspections of specific species of susceptible plants in places of production and extends eradication measures to cover growing media and plant debris as well as sanitizing the surface upon which infected plants have been standing.

7/07

- Rhododendrons planted along a residential roadway are found *P. ramorum* positive in Thurston County, WA. WSDA has implemented the landscape protocol; all rhododendrons along the roadway have been destroyed. The positive plants were provided to the landscaper from an out of state West Coast nursery.

6/07

- Following the April *P. ramorum*-positive stream baiting sample taken from the Sammamish River in King County, WA, WSU and WSDA collaborated with USDA ARS to genotype 40 isolates sampled from 12 nurseries both within and outside the Sammamish watershed in an attempt to trace the origin of the river isolate. Upon analysis, the Sammamish River isolate has a unique fingerprint that matches an isolate from a landscape supplier located outside of the watershed. While not a conclusive study, the finding does suggest the Sammamish River isolate may have been introduced from nursery stock originating from this wholesaler.

- Oregon Grape (*Mahonia aquifolium* [Pursh] *Nutt*. - Berberidaceae Family) is found *P. ramorum*-positive for the first time at a Canadian nursery. Symptoms are primarily foliar, and include leaf spots and discoloration. This host species is native to the West Coast of the US. APHIS is reviewing the findings and anticipates adding Oregon Grape to the list of *P. ramorum*-regulated hosts soon.

5/07

- The MS Forestry Commission, MS Department of Agriculture, USDA FS, and USDA APHIS develop a follow-up survey plan in response to the *P. ramorum* water baiting confirmation made in MS last month. The plan includes immediately implementing stream baiting, soil baiting around the edge of the waterway where the positives were obtained, and vegetation surveys. These same survey activities will be repeated in the fall.

4/07

- The 2007 National *P. ramorum* Early Detection Stream Baiting Survey for Forests has recovered two *P. ramorum*-positive samples. One of the positive recoveries is from WA state and one from MS. The positive western WA river sample was recovered downstream from several confirmed nurseries. The source of the inoculum has not been determined. The MS confirmation was made from a ditch draining a *P. ramorum*-positive nursery. The pathogen has not been detected in vegetation outside the nursery.

- OR has removed all tanoak and evergreen huckleberry within the treatment boundary established as a result of the new outbreak identified in March 2007. Piles will be burned as soon as conditions are appropriate.

3/07

- OR has identified a new *P. ramorum* outbreak that is approximately 1.5 miles north of their current quarantine area. The site was detected during ground-based surveys being conducted as a follow-up to a *P. ramorum*-positive water baiting sample.

- The European *P. ramorum* lineage has been reported for the first time in CA. It was recovered from three Humboldt County nursery isolates taken in spring of 2006 and analyzed as part of a genetic study of *P. ramorum* isolates from CDFA. Current samples have been taken at the nursery; results are pending. Trace-back investigations are underway for the 2006 confirmations.

- ODA increases the size of OR's quarantine area to 24.25 sq. mi. following recent discoveries of new *P. ramorum* infection centers in Curry County. There are now three areas under quarantine: two small satellite infection areas that are 1 sq. mi. each in size and the original area that has increased to 22.25 sq. mi. Eradication efforts are ongoing in all three quarantine areas.

2/07

- Sixteen silk tassel bush (*Garrya elliptica*) plants are found *P. ramorum*-positive for the first time in the UK. This host species is a West Coast US native. APHIS is reviewing the findings and anticipates adding silk tassel bush to the *P. ramorum*-regulated host list soon.

- The new USDA APHIS *P. ramorum* regulation "*Phytophthora ramorum*; Quarantine and Regulations" is published February 27, 2007 in the Federal Register. This rule primarily codifies the Federal Order issued in December 2004 that established restrictions on the interstate movement of nursery stock from nurseries in nonquarantined areas in CA, OR, and WA. The rule also incorporates all updates (SPROs) issued since the original APHIS regulation was published in 2002, most of which are updates to the host list.

1/07

- The Tiffany Creek Preserve in Nassau County, NY is officially confirmed *P. ramorum*-free. One PCR *P. ramorum*-positive red oak forest find was made at the Preserve in 2005. With all findings remaining negative, the area is now officially considered *P. ramorum*-free and will no longer fall under regulatory scrutiny.

- The UK finds *Schima wallichii* (Chinese guger tree) to be a new *P. ramorum* host. The symptomatic foliar samples were taken outdoors from a historic garden near Cornwall in 2006. USDA APHIS is reviewing the findings and anticipates adding Chinese guger tree to either the host or associated host list soon.

- *P. ramorum* continues to spread in Mendocino County with new detections north of Elk. Sudden Oak Death is now present in patches along the Highway 128 corridor from Highway 101 west, to within 4 miles of the Pacific Ocean.

- The USDA FS, Forest Health Protection, Pacific Southwest Region has published their "2006 Accomplishment Report: Aerial and Targeted Ground-Based Monitoring for Sudden Oak Death." In 2006, crews confirmed 10 new *P. ramorum* detections - 9 in southern Mendocino County and 1 in southern Monterey County. There were no detections in Del Norte, San Benito, San Luis Obispo, or Santa Barbara Counties, nor were there detections in the northern parts of Mendocino and Humboldt Counties.

- Two new *P. ramorum* A2 isolates from the EU lineage are identified in Belgium. Both new isolates originated from nurseries in northern Belgium from two separate sites and from different hosts *(Rhododendron* and *Viburnum*). One isolate was from a 2002 survey, and the other from a 2003 survey. The isolates were found during a screening of 257 isolates collected between 2002 and the end of 2005.

12/06

- In 2006, 35 new *P. ramorum*-infested sites (139 infected tanoak trees) were discovered in Curry County, OR. This is the highest number of detections since the eradication effort began in 2001. Two of the new sites occurred outside of the quarantine zone, with each site more than 2 miles from a known infestation. The largest new site covered 10 acres and contained more than 40 infected trees. In addition to the new sites, six existing eradication sites have been expanded to include infected trees that were found near their perimeters. All sites will be treated and the quarantine area will be expanded.

- In 2006, USDA APHIS reported 62 sites in 11 states as having had nursery-related *P. ramorum* detections. Positive findings by state are: AL(1), CA(28), CT(1), FL(2), GA(1), IN(1), ME(1), MS(1), OR(13), PA(1), and WA(12).

- The USDA Forest Service "2006 National *P. ramorum* Early Detection Survey for Forests" was conducted in 36 states. Of the 1,044 locations surveyed nationwide, 607 were nursery perimeter locations and 437 were general forest locations. All of the 4,016 samples processed were negative for *P. ramorum*.

- USDA FS national water monitoring survey protocols were pilot tested during 2006 in 93 watersheds in 11 states. WA became the first state using national survey protocols to detect *P. ramorum* in a stream not known to be infested. The intermittent stream flowed through a woody ornamental nursery that had previously been confirmed *P. ramorum*-positive. Follow-up terrestrial surveys up- and downstream found no infection of forest vegetation.

11/06

- UC Cooperative Extension (Valachovic and others), CDF, and CSP finish burning 45 acres of public and private land, closing out the 2006 experimental silvicultural treatment for managing the spread and persistence of *P. ramorum* in southern Humboldt County.

9/06

- Researchers report that sequencing the *Phytophthora sojae* and *P. ramorum* genomes has revealed that these *Phytophthoras* have an unprecedented number of genes and genetic flexibility compared to fungal pathogens. Results also indicate that these pathogens have a large arsenal of recently acquired proteins, such as toxins, protein inhibitors, and enzymes that likely enable them to debilitate a host plant's immune system during infection and then kill and destroy plant tissue later on in the infection process. Studies disclosed that nearly half of the genes are undergoing rapid adaptation, likely as a result of pressure from the host plants' defense systems.

- Koch's postulates are completed for: *Acer pseudoplatanus, Aesculus hippocastanum, Laurus nobilis,* and *Michelia doltsopa*. Consequently, these hosts will be reclassified from the APHIS "Plants Associated with *P. ramorum"* list to the list of "Proven Hosts Regulated for *P. ramorum*.

- The FS and states are conducting nursery perimeter and general forest detection surveys. To date, 567 nursery perimeter surveys have been conducted in 29 states, with 1,498 samples collected. Additionally, 320 general forest surveys have been conducted in 29 states, with 765 samples collected. To date, all samples tested have been found negative for the pathogen.

8/06

- *Ceanothus thyrsiflorus*, *Cinnamomum camphora*, *Kalmia angustifolia*, *Nerium oleander*, *Osmanthus fragrans*, *Osmanthus heterophyllus*, and *Quercus acuta* are officially added to the APHIS list of regulated "Plants Associated with *Phytophthora ramorum."*

- *Fagus sylvatica*, *Kalmia latifolia*, *Quercus cerris*, *Salix caprea*, and *Viburnum* spp. are transferred from the APHIS "Plants Associated with *P. ramorum"* list to the "Proven Hosts Regulated for *P. ramorum*" list, based on the completion of Koch's postulates.

- *Eucalyptus haemastoma* Sm. (Myrtle family), *Cornus kousa* x *Cornus capitata* (Dogwood family), and *Castanopsis orthacantha* Franchet (Beech family) are added to the UK DEFRA list of Plants Reported as Natural Hosts of *P. ramorum.* All three hosts were found *P. ramorum*-positive in the United Kingdom. APHIS is researching the findings and anticipates adding these plants to APHIS "Plants Associated with *P. ramorum*" list soon.

- Canada adds five new genera to the CFIA *P. ramorum* host list: *Loropetalum*, *Distylium*, *Manglietia*, *Parakmeria*, and *Ilex*. These additions are the result of positive confirmations from the species: *Loropetalum chinese, Distylium myricoides*, *Manglietia insignis*, *Parakmeria lotungensis*, and *Ilex purpurea*. APHIS is reviewing the findings and anticipates adding the new hosts to the APHIS "Plants Associated with *P. ramorum*" list in the near future.

- Researchers report findings of *P. ramorum* infecting Camellia flower buds. This is the first report of camellia flower bud infection in the field with the North American genotype of *P. ramorum*.

7/06

- Researchers report *P. ramorum* reduces xylem sapflow and specific conductivity of sapwood in mature tanoak. This is the first report that *P. ramorum* interferes with water conductance.

- Summer aerial surveys mapping oak and tanoak mortality in Mendocino, Humboldt, Del Norte, San Luis Obispo, western San Benito, and Santa Barbara Counties, as well as western Monterey County, are complete. In total, approximately 20,000 acres of mortality were mapped, 9,000,000 acres surveyed, and 6,667 miles flown. Follow-up ground-check surveys, are under way.

6/06

- Researchers report findings in Humboldt County of natural infection of tanoak seedling roots by *P. ramorum*. This is the first report that *P. ramorum* can be recovered from roots of naturally occurring forest vegetation.

- *Osmanthus fragrans* (sweet olive) and *Osmanthus heterophyllus* (false holly), are found *P. ramorum*-positive in a Humboldt County nursery. APHIS is reviewing the findings and anticipates adding these new species to the APHIS *P. ramorum* associated host list in the near future.

- APHIS confirms *Nerium oleander* (Oleander) to be a new *P. ramorum*-associated host when delimitation survey samples from the Humboldt County facility are confirmed positive.

- The first *P. ramorum*-positive beech in the Netherlands is reported. Symptoms include stem bleeding. This is the first time a plant species native to the Netherlands

has been identified with the pathogen. At both locations the affected beech are surrounded by heavily infected rhododendrons.

5/06

- *P. ramorum* is detected on dead tanoaks a few miles outside the OR quarantine area on OR State Parks and Rogue River-Siskiyou National Forest-administered lands near Brookings, OR. This is the first find of *P. ramorum* on USDA FS land in OR.

4/06

- The Government Accountability Office's report, "Invasive Forest Pests: Lessons Learned from Three Recent Infestations May Aid in Managing Future Efforts," (GAO-06-353, April 2006) is published. The report evaluates the federal response to three invasive forest pests: Asian longhorned beetle, emerald ash borer, and *P. ramorum*. The report can be accessed at: http://searching.gao.gov/query.html?col=+&qt=+sudden+oak+death&charset=iso-8859-1&ql.

- "Sudden Oak Death and *Phytophthora ramorum*: A Guide for Forest Managers, Christmas Tree Growers, and Forest Tree Nursery Operators in Oregon and Washington" is published and can be found online at: at: http://extension.oregonstate.edu/catalog/pdf/em/em8877.pdf.

- The USDA FS, PSW Research Station 2006 *P. ramorum* RFP process is complete. In total, 46 proposals seeking over $5 million in research funds were received. However, due to limited funding, only nine projects were awarded, totaling approximately $665,000.

3/06

- The first finding of *P. ramorum*-infected *Ceanothus thyrsiflorus* (blue blossom) is confirmed from southern Humboldt County, growing along the road within a *P. ramorum* treatment area in the lower Salmon Creek watershed. Symptomatic tissue includes leaves, stems, and shoot tips. USDA APHIS is reviewing the findings and anticipates adding *Ceanothus thyrsiflorus* to the federal *P. ramorum* host list soon.

- New Zealand issues a public notice addressing nursery stock importation concerns, including risk mitigation measures and the host list for *P. ramorum*. With the exception of high-value plants for which the risk of *P. ramorum* is mitigated, hosts of *P. ramorum* are only permitted to be imported from countries recognized by New Zealand as Pest-Free Areas, which currently include: Australia, Canada, Israel, and South Africa. The proposed date of adoption and enforcement is May 29, 2006.

- Taiwan, Penghu, Kinmen, and Matsu issue a public notice proposing a draft amendment of the "Quarantine Requirements for the importation of plants or plant products." Among the changes is the designation of *P. ramorum* as a quarantine pest, whereby: "The importation of living plants (excluding flowers, fruits and seeds) of its hosts will be prohibited. Regions or countries affected include: Belgium, British Channel Islands, Denmark, France, Germany, Ireland, Italy, Netherlands, Norway, Poland, Slovenia, Spain, Sweden, Switzerland, UK, BC, CA, FL, GA, OR, and WA.

2/06

- A water sample taken from a seasonal stream in Pierce County, WA is confirmed *P. ramorum*-positive. Plants from the adjacent nursery tested positive in 2004 and 2005. Agencies are monitoring the water upstream and downstream from the positive site to determine the extent of water contamination. Monitoring for signs of infestation throughout the immediate watershed area outside of the nursery will also be conducted.

- APHIS issues a SPRO Letter, adding 13 new plant species to the federal *P. ramorum* associated host list. The SPRO can be found on the APHIS website under "Revision of Listed and Regulated Articles" dated 2/10/06 at: http://www.aphis.usda.gov/ppq/ispm/pramorum/regulations.html.

- Koch's postulates are completed for *Frangula purshiana* (formerly listed as *Rhamnus purshiana*), *Adiantum aleuticum*, and *Adiantum jordanii*. Consequently, APHIS reclassifies these associated hosts as hosts.

- *Acer circinatum* and *Arctostaphylos columbiana* samples from Humboldt County are confirmed *P. ramorum*-positive via culturing. APHIS is reviewing the findings and anticipates adding these two species to the host list in the near future.

1/06

- California's southern Humboldt County *P. ramorum* experimental treatment and suppression project begins on CA State Parks property along the Avenue of the Giants. The project includes the removal of infected tanoak, CA bay laurel, and madrone trees, as well as the pruning of coast redwood trees in a 50-acre area.

- Canada notified the US of 5 new genera of nursery plants found in BC to be infected with *P. ramorum*. The new host genera under Canadian regulation since December include: *Ardisia*, *Euonymus*, *Gaultheria*, *Osmanthus*, and *Prunus*.

- The Canadian nursery industry intensifies their *P. ramorum* Nursery Certification Program, which includes annual sampling and testing, training, and independent audits, as well as more rigorous BMPs to be implemented by August 2006.

- The first 2006 *P. ramorum*-positive California nursery is identified during a compliance agreement inspection. The find was made on a *Camellia japonica* in a Los Angeles County production nursery that only sells plants to local landscapers and does not ship plant material. CNP is underway at the facility. This nursery was also found *P. ramorum*-positive during last year's compliance agreement inspection, and had completed CNP in May 2005.

12/05

- In 2005, USDA APHIS reported 99 sites in seven states have had nursery-related *P. ramorum* detections. Positive findings by state are: CA(55), GA(4), LA(2), OR(20), TN(1), SC(1), and WA(16).

11/05

- The 2006 Agriculture appropriations bill is passed by the Senate, and includes $3,076,000 for *P. ramorum* detection, monitoring, control, and eradication, as well as $98,000 for disease research being conducted at UC Davis. The bill now goes to the President for final approval. (These appropriations only include USDA APHIS, ARS, and CSREES funding allotments.).

- *P. ramorum* is first detected from California red fir (*Abies magnifica*) symptomatic shoots at a Christmas tree farm near Los Gatos, CA.

- The state-funded CA SOD Hazardous Tree Removal Program comes to a close. In all, approximately 4,020 trees were removed under the contract for a cost of $1,503,645, averaging $374 per removal.

10/05

- A new *P. ramorum*-infested site in Humboldt County has been confirmed 6 miles north of the Garberville/Redway area on Humboldt Redwoods State Park property along the Avenue of the Giants.

- Results of the 2005 western North Carolina pilot stream sampling project found fifteen different *Phytophthora* species in monthly samplings between 4/05 and 8/05. *P. ramorum* was not detected, although sampling will continue through November. A 2005 monthly stream baiting pilot project in 10 Washington state streams also detected no *P. ramorum.*

- In spring of 2005, ODA surveyed 103 Christmas tree plantations planted in *Abies* spp. and *Pseudotsuga menziesii* for *P. ramorum*. Christmas tree plantations in 22 Oregon counties were surveyed; *P. ramorum* was not detected in any of the samples.

- To date, the United Kingdom has found *P. ramorum* in rivers and streams near some outbreak sites, as well as at 475 sites in England and 34 sites in Wales, in addition to a number of sites in Scotland, Northern Ireland, and the Channel Isles. England's totals include 380 retail and nursery confirmations, in addition to 95 established gardens, woods, and other wild planting areas. Wales' totals include 26 retail and nursery confirmations along with eight established gardens, woods, and other wild planting areas.

- The 2005 National *P. ramorum* Survey of Forest Environments results to date include surveys at 519 nursery perimeter locations and 472 forest locations with 2,038 submitted samples. As of 10/31, all samples have been negative for *P. ramorum*.

- *Viburnum opulus* (=*V. trilobum*) - (American cranberry viburnum) was found to be *P. ramorum*-positive at a nursery in Clackamas County, Oregon on 6/6/05. USDA APHIS has reviewed the findings and expects to add American cranberry viburnum to the *P. ramorum* associated host list soon.

- Real-time PCR is validated by USDA APHIS PPQ CPHST for providing diagnostic determinations for the *P. ramorum* federal emergency program.

9/05

- CDFA confirms the detection of *P. ramorum* on *Abies concolor* (white fir) at a Christmas tree farm in the quarantined county of Santa Clara, CA. This is the first report of the pathogen on this species of *Abies*. Koch's postulates have not been completed. USDA APHIS has reviewed the CDFA data and expects to add *A. concolor* to the official list of associated host plants soon.

- The California Sudden Oak Death/*P. ramorum* National Wildland Survey is complete. Detection surveys in areas identified as moderate to high-risk for infection in eastern Butte and Yuba Counties were conducted. *P. ramorum* was not detected.

- USDA issues a strategic plan for *P. ramorum*, titled: "Plant Diseases Caused by *Phytophthora ramorum*: A National Strategic Plan for USDA." The report addresses Department goals for *P. ramorum* detection, control, management, research, and restoration programs.

- USDA APHIS issues an updated State Plant Regulatory Official Letter, adding *Acer laevigatum* (Evergreen maple), *Michelia doltsopa* (Michelia), and *Quercus petraea* (Sessile oak), *Adiantum aleuticum* (Maidenhair fern), *Fraxinus latifolia* (Oregon ash), *Osmorhiza chilensis* (Sweet Cicely), *Torreya californica* (California nutmeg), and *Vancouveria planipetala* (Redwood ivy) to the list of associated host plants regulated for *P. ramorum*. The addition of these eight plants brings the list of regulated *P. ramorum* host and associated hosts to 83.

8/05

- The 2005 *Phytophthora ramorum* Humboldt County aerial, ground, and stream survey efforts reveal disease intensification and spread in southern Humboldt County, with at least 21 square miles now infested.

- APHIS receives information on three new *P. ramorum*-infected plants from the UK. *Acer laevigatum* (Evergreen maple), *Michelia doltsopa* (Michelia), and *Quercus petraea* (Sessile oak) were found in outdoor, green areas with natural infection. Koch's Postulates have not been completed; these plants will join the APHIS associated host list.

- Five new *P. ramorum* hosts are identified in California's quarantined county forests. The newly confirmed *P. ramorum*-susceptible plants are: *Adiantum aleuticum* (Maidenhair fern), *Fraxinus latifolia* (Oregon ash), *Osmorhiza chilensis* (Sweet Cicely), *Torreya californica* (California nutmeg), and *Vancouveria planipetala* (Redwood ivy). Koch's Postulates have not been completed; these plants will be added to the APHIS associated host list.

- APHIS issues an updated State Plant Regulatory Official (SPRO) Letter, adding eight new associated host plants and two new host plants to the list of plants regulated for *P. ramorum*. The addition of these 10 plants brings the list of regulated *P. ramorum* host and associated hosts to 75. To refer to the SPRO, go to: http://www.aphis.usda.gov/ppq/ispm/pramorum/.

- Six hosts are moved from the associated host list to the host list, with all having Koch's Postulates complete and having been approved by APHIS. The six newly classified hosts are: *Castanea sativa*, *Fraxinus excelsior*, *Quercus falcata*, *Quercus ilex*, *Syringa vulgaris*, and *Taxus baccata.*

- *P. ramorum* federal order compliance agreements, trace-forward/-back investigations, the USDA APHIS National Nursery Survey, and other investigations are ongoing. For 2005, 91 nursery-related sites in seven states have had *P. ramorum* detections. Positive findings by state are: CA(53), GA(4), LA(2), OR(20), TN(1), SC(1), and WA(10).

7/05

- The first *P. ramorum*-infected *Taxus media* is reported from the Netherlands, making it the third type of yew to be identified as *P. ramorum*-susceptible. Koch's postulates have not been completed; this plant has been added to the APHIS list of *P. ramorum* associated host plants.

6/05

- The SODBusters Pilot Project, which organized and implemented two collection yards for *P. ramorum* host material in Marin and Santa Cruz Counties, officially ends June 30, 2005.

- The first *Phytophthora ramorum* caused cankers on *Taxus brevifolia* (Pacific yew) are identified on a tree in Mendocino County.

- *P. ramorum* is recovered from symptomatic tissues of California maidenhair fern (*Adiantum jordanii*) and spice bush (*Calycanthus occidentalis*) collected at Jack London State Park, Sonoma County, CA. Pending the review of laboratory results by CDFA and USDA APHIS, these hosts will be added to the associated host list.

- USDA FS PSW is funding 12 of 40 proposals submitted during the FY'05 USDA PSW *P. ramorum* Request for Proposals, resulting in $800,000 in allocations during this funding cycle.

- USDA APHIS publishes a final rule amending treatment regulations for California bay laurel (*Umbellularia californica*) leaves to include vacuum heat as a treatment option for leaves moving interstate from an area under *P. ramorum* quarantine.

4/05

- APHIS confirms the presence of *P. ramorum* on an OR jasmine plant sample. As a result, ODA, APHIS, and others are working to determine jasmine's status as a host of *P. ramorum*.

- OR reports four trace-forward positives in residential settings. The residential finds originated at a nursery found positive in 2004. Delimitation surveys confirmed the disease has apparently not spread to other plants already in the landscapes. Infected plants have been removed and incinerated.

- The first *P. ramorum*-positive *Acer pseudoplatanus* (Planetree maple) is confirmed at a *P. ramorum* woodland garden site in Cornwall, UK. Pending USDA review and approval, it will be added to the US list of *P. ramorum*-regulated plants.

- The UK completes Koch's postulates on: sweet chestnut (*Castanea sativa*), Holm oak (*Quercus ilex*), and European ash (*Fraxinus excelsior*). Following USDA review and approval, plants will be moved to the US *P. ramorum* host list.

- The CFIA issues an updated *P. ramorum* directive 3/1/05, superseding the 9/25/03 order in response to the USDA APHIS 12/21/04 Emergency Order. USDA APHIS is provided $9.5 million in emergency funds through the USDA CCC to help support *P. ramorum* regulatory activities in 2005.

3/05

- USDA APHIS has changed its *P. ramorum* website address to http://www.aphis.usda.gov/ppq/ispm/pramorum/ in order to refer to the site by the pathogen's name, rather than Sudden Oak Death, which only represents one of the diseases caused by *P. ramorum.*

- Both the APHIS PPQ Beltsville National Plant Germplasm and Biotechnology Laboratory (NPGBL) and the CDFA laboratory in Sacramento have encountered a *Phytophthora* species that inconsistently produces bands similar to that produced by *P. ramorum* when using nested PCR. The new species is being temporarily referred to as *Phytophthora* "azalea." Based on morphology and partial ITS sequence, the newly identified species is not a strain or subspecies of *P. ramorum*.

2/05

- APHIS proposes an amendment to the PPQ Treatment Manual that would allow California bay laurel leaves to be treated with vacuum heat before being moved interstate from any area under *P. ramorum* quarantine, providing an alternative to the currently approved hot water dip.

1/05

- DEFRA identifies six new plants associated with *P. ramorum*: *Griselinia littoralis* (NZ privet), *Hamamelis mollis* (Chinese witch-hazel), *Magnolia stellata* (star magnolia), *Magnolia x loebneri* (Loebner magnolia), *Magnolia x soulangeana* (saucer or Japanese magnolia), and *Parrotia persica* (Persian Parrotia or irontree). It is anticipated that APHIS will soon be adding these species to their official *P. ramorum* associated host list.

- The Second Sudden Oak Death Science Symposium, held in Monterey, CA, is attended by 350 people, and includes 80 formal presentations and 47 posters. While wildland issues and *P. ramorum* epidemiology continue to be areas of interest at the Symposium, increased areas of emphasis from the 2002 symposium include nursery issues, soil considerations, and pathogen and host genetics.

- H.R. 4569 (Burns, GA), calling for a national plan for the control and management of Sudden Oak Death, is signed into law, directing the Secretary of Agriculture, through

USDA APHIS, to develop the plan in consultation with other federal agencies. Funding is not included in the Bill.

- A previously identified *P. ramorum*-positive nursery in Los Angeles County, CA has found new infection on a camellia. Identifying one symptomatic plant, leaf samples were taken and cultured on-site. Following CDFA's review and confirmation of the nursery's sample, the USDA's CNP has been implemented. Trace-forward information has been submitted for follow-up investigations.

12/04

- USDA APHIS issues an emergency federal order for nurseries that takes effect on 1/10/05, superseding the 4/22/04 emergency order. The new order regulates the interstate movement of all plants from all nurseries in CA, OR, and WA to help prevent the spread of *P. ramorum* to uninfested areas of the US.

- With the issuance of the new USDA APHIS emergency *P. ramorum* order, Canada will rescind regulations on cut flowers (including roses) implemented as a result of the *P. ramorum* nursery infestations in March 2004. With the new federal order in place, Canada will accept any material leaving CA, OR, or WA that is in compliance with the US rules.

- False Solomon's seal *(Maianthemum racemosum*, formerly *Smilacina racemosa), Calluna vulgaris* (Scotch heather), and *Photinia fraseri* (Red tip photinia*)* are moved from the APHIS associated host list to the host list, due to the completion of Koch's postulates for each species.

- USDA APHIS adds *Fraxinus excelsior* (European ash) and *Nothofagus oblique* (Roble beech) to the federal *P. ramorum* regulation, based on detection and confirmation in the UK, where *P. ramorum* was found infecting the boles of these species.

- In 2004, there have been 177 USDA APHIS confirmed positive *P. ramorum* sites in 22 states from trace-forward, national, and other surveys. The breakdown per state is: AL(3), AR(1), AZ(1), CA(55), CO(1), CT(3), FL(6), GA(16), LA(5), MD(3), NC(9), NJ(1), NM(1), NY(1), OK(1), OR(24), PA(2), SC(4), TN(2), TX(11), VA(2), and WA(25).

11/04

- Omnibus appropriations for federal *P. ramorum* funding in 2005 total $9.89 million. The Agricultural Appropriations Bill earmarked $1.45 million for ARS; $94,000 for CSREES; and $3 million to APHIS. The Interior Appropriations Bill earmarked $2 million to USDA FS Cooperative Lands Forest Health Management and $2.5 million to USDA FS Forest and Range Land Research.

- ODA receives and approves a revised federal label for the use of Agrichem's Agri-Fos® (11/22/04, EPA Registration #71962-1) on landscape, golf course, nursery, forestry, and park sites for *Phytophthora* and Pythium diseases, including Sudden Oak Death.

- The federal "Confirmed Residential Protocol for *Phytophthora ramorum* Detections in Landscaped Residential or Commercial Settings" is posted to the USDA APHIS PPQ website.

10/04

- To date, the USDA FS *P. ramorum* Nursery Perimeter and General Forest Survey has sampled 620 nursery perimeter locations in 32 states. Of the 2,454 samples submitted, all were *P. ramorum*-negative. 404 general forest locations in 18 states have also been surveyed, with 1,249 samples submitted. Of those submitted, two confirmations from CA's Golden Gate Park in San Francisco County tested *P. ramorum*-positive.

- The USDA APHIS PPQ *P. ramorum* National Nursery Survey activities are complete in 38 states and Puerto Rico. To date, participating states throughout the US have surveyed 3,095 sites and have collected 50,820 samples. Fifteen survey sites have been confirmed positive.

- UK Minister for Plant Health and Forestry Ben Bradshaw announces conditional financial assistance for nurseries suffering hardships related to actions taken to protect the wider UK environment from *P. ramorum*.

- Seven new *P. ramorum* infested areas are detected in Humboldt County a few miles from the Redway suppression area. Suppression projects are planned for these new finds. *P. ramorum* is also recovered from the South Fork of the Eel River, approximately 8 km downstream from the Redway suppression area.

9/04

- CDFA announces the confirmation of two *P. ramorum*-infected coast live oak trees in Golden Gate Park, making San Francisco County the 14th CA county under *P. ramorum* quarantine.

- WSDA begins testing symptomatic and asymptomatic plants coming into the state before unloading shipments in an effort to prevent new *P. ramorum* introductions on host nursery stock.

- The National Plant Quarantine Service, Ministry of Agriculture and Forestry, Republic of Korea modifies its "Tentative phytosanitary measures to prevent the introduction of Sudden Oak Death Disease." Updates to the regulation include the addition of Nassau County, NY, as well as 22 new plant species. These emergency measures prohibit the importation of any propagative host material, such as nursery stock and cuttings, as well as wood (with bark) and growing media from the prohibited areas.

8/04

- APHIS adds *Calluna vulgaris* (Scotch Heather), *Drimys winteri* (Winter's-bark), *Laurus nobilis* (Sweet bay laurel), and *Salix caprea* (Kilmarnock willow) to the *P. ramorum* associated host plant list.

- APHIS removes *Vaccinium vitis-idaea* (lingonberry) from the *P. ramorum* associated host plant list because the Plant Protection and Seed Service of Poland is unable to validate their original association of lingonberry with *P. ramorum*.

7/04

- Mexico is considering quarantining Douglas-fir (Pseudotsuga) and fir (Abies) Christmas trees from areas of the US with *P. ramorum* to prevent introduction of the pathogen into Mexico. and Markets.

- CAN files a federal suit against KY, charging the state with violating federal law by banning the importation and sale of CA's *P. ramorum* host and associated plants. The lawsuit is based on a provision in the federal Plant Protection Act that gives the USDA authority over interstate plant movement. A federal district judge for the Eastern District of KY signs a consent decree on 7/30 permanently enjoining KY from having *P. ramorum* regulations that are inconsistent with the federal standard.

- The first finding of *P. ramorum* in a Switzerland nursery has been confirmed on viburnum.

6/04

- A PCR-positive *P. ramorum* sample from Nassau County, NY is confirmed by USDA APHIS. Follow-up surveys are being conducted by a team from the USDA's FS and APHIS, as well as the New York Department of Agriculture and Markets.

- US Senators Barbara Boxer (D-CA) and Gordon Smith (R-OR) introduce the Sudden Oak Death Syndrome Control Act of 2004 (S.2575). If passed, the Act would authorize $44.2 million annually, including $25 million for USDA research, regulations, and monitoring; $18.5 million for management, treatment, and fire; and $700,000 for education and outreach.

- *Clintonia andrewsiana* (Andrew's clintonia bead lily), *Dryopteris arguta* (California wood fern), *Smilacina racemosa* (false Solomon's seal), and *Taxus brevifolia* (Pacific yew) are added to the APHIS *P. ramorum* associated host list.

- The US DOE Joint Genome Institute and the Virginia Bioinformatics Institute announce the completion of the DNA sequencing of *Phytophthora ramorum and Phytophthora sojae* (a soybean pathogen). The new information will provide a foundation for future diagnostics, in addition to safe and effective applications for use in disease treatment and/or control. Sequencing information can be found at http://genome.jgi-psf.org/ramorum and at http://genome.jgi-psf.org/sojae/.

- To date, 140 nurseries in 18 states have had *P. ramorum* detections. Positive findings by state are: CA(45), AL(3), AR(1), FL(6), WA(18), OR(9), TX(10), CO(1), GA(13), LA(6), MD(2), NC(9), NM(1), TN(2), PA(1), NJ(1), SC(1), and VA(1). In all, 787,842 plants have been destroyed. Fourteen states are still imposing quarantine regulations on CA beyond those ordered by APHIS PPQ.

- USDA APHIS begins regulating *Camellia spp*. (including all species, hybrids, and cultivars) at the genus level.

5/04

- USDA transfers $15.5 million from the CCC to APHIS PPQ to help halt the spread of *P. ramorum* to non-infested areas of the US. USDA PPQ has now committed at total of $20 million to the program in fiscal year 2004. USDA PPQ will apply the funds to quarantine actions, nursery inspections, sampling and testing, and Sudden Oak Death education and outreach.

- Lake County is confirmed as the 13th CA county to have *P. ramorum* naturally occurring. As an infested county, Lake County will be added to the quarantine area.

- Fifteen states are currently implementing *P. ramorum* regulations beyond those issued by USDA APHIS.

4/04

- USDA APHIS issues an amended emergency order restricting the movement of CA nursery stock by requiring CA nurseries that ship *P. ramorum* hosts or associated plants interstate to be inspected by a regulatory official, sampled, and tested before shipping (see Nursery Chronology).

- CO, FL, GA, LA, MD, NC, NM TN, TX, VA have confirmations of *P. ramorum*-infected nursery stock shipments from the West Coast (see Nursery Chronology).

- AL, OR, and LA update their *P. ramorum* quarantines (see Nursery Chronology).

- Formosa firethorn (*Pyracantha koidzumii*) is added to the *P. ramorum* associated host list following a CFIA find at a Vancouver area nursery (see Nursery Chronology).

- UCB researchers confirm the susceptibility of wood rose (*Rosa gymnocarpa)* to *P. ramorum*; USDA APHIS adds it to the host list.

- San Joaquin and Butte Counties each have a *P. ramorum*-positive nursery confirmed.

3/04

- The federal government earmarks $7.4 million in funding for *P. ramorum* in 2004. Funds are allocated as follows: $1.5 million to the USDA ARS for research on horticultural aspects of *P. ramorum*, including $250,000 for a new genomics research program at the UCD ARS laboratory for analysis of resistance to the pathogen; $2 million to USDA APHIS for *P. ramorum* quarantine, enforcement, inspection, and monitoring; $2 million to USDA Forest Service Research for research; and $1.7 million to the USDA FS, State and Private Forestry, for management, monitoring, and education.

- *P. ramorum* is found at a large Los Angeles County, CA wholesale horticultural nursery. The pathogen was detected on several varieties of camellia plants as part of the National *P. ramorum* Nursery Survey. Trace-forward surveys for the past year's worth of shipments are underway (see Nursery Chronology).

- *P. ramorum* is confirmed via culture and PCR at a San Marcos, CA (San Diego County) mail order nursery. The survey was part of the California's National *P. ramorum* nursery survey. Trace-back surveys indicated infected camellias originated from the large Los Angeles County wholesale nursery found to be infested (see Nursery Chronology).

- The USDA APHIS PPQ program announces a Sudden Oak Death hotline (1-888-703-4457). Specialists are staffing the APHIS Emergency Operations center in Riverdale, MD to handle nationwide calls from the nursery and landscape industry, news organizations, and the general public in response to positive *P. ramorum* confirmations in two Southern CA nurseries.

- WA issues an emergency order requiring nurseries receiving trees and plants from out-of-state to hold them for 24 hours until WDA is notified.

- AL, DE, MS, FL, GA, UT, TN, WV, LA, MT, VA, KY, and IN impose state-specific *P. ramorum* quarantines as a result of the Southern CA nursery confirmations (see Nursery Chronology).

- FL identifies three nurseries as having *P. ramorum*-positive plants (see Nursery Chronology).

2/04

- A *P. ramorum* slow-the-spread project in Humboldt County, CA is initiated with the removal and disposal of 77 infected California bay laurel trees in Redway.

- The Gordon and Betty Moore Foundation awards approximately $2.5 million for *P. ramorum* research to Matteo Garbelotto, Richard Dodd, and Ellen Simms (UCB), and Dave Rizzo (UCD). The three-year grant covers control, resistance, genetics, epidemiology, and other *P. ramorum*-related topics.

- Canadian regulators add the *Hamamelis* and *Fagus* genera to the Canadian *P. ramorum* quarantine. The decision is in response to the UK confirmation of *P. ramorum* on witch hazel and European beech.

- ODA finalizes its interim rule requiring recipients of out-of-state tree and shrub nursery stock deliveries to notify ODA of the shipment within 24 hours for possible inspection of the plants.

1/04

- Six new hosts are added to the APHIS (7 CFR 301.92) and CDFA *P. ramorum* quarantine. The plants and restricted plant parts are: *Camellia sasanqua* (nursery stock and leaves); *Pieris formosa x japonica* (nursery stock, twigs, and leaves); *Pieris floribunda x japonica* (nursery stock, twigs and leaves); *Pieris japonica* (nursery stock, twigs, and leaves); *Viburnum plicatum* var. *tomentosum* (nursery stock and all plant parts); *and Hamamelis virginiana* (nursery stock, twigs, and leaves).

- *P. ramorum* is detected on *Rhododendron* v. Unique at a third WA nursery near Long Beach, Pacific County. The find came as the result of a King County, WA, nursery trace-back survey.

12/03

- *P. ramorum* is found infecting beech, southern and northern red oak, Holm oak, and horse chestnut trees in the Netherlands and UK. In the Netherlands, a single northern red oak (*Quercus rubra)* in a park tests positive for the pathogen. In the UK, a single infected southern red oak (*Quercus falcata*) is detected in Sussex, England. Additionally, at two sites in Cornwall, *P. ramorum* is detected on European beech (*Fagus sylvatica),* Holm oak *(Quercus ilex*) and horse chestnut (*Aesculus hippocastanum).* The beech and horse chestnut show bleeding from the bole, while leaf spots are present on the Holm oak. In all cases, the infected trees are located near *P. ramorum*-infected rhododendrons.

- A retail nursery in Gig Harbor, Pierce County, WA, is found to have *P. ramorum*-positive plants.

11/03

- Witch hazel (*Hamamelis virginiana*) is found to be susceptible to *P. ramorum*. UK DEFRA scientists discover the infected witch hazel in a public garden in Wales, close to *P. ramorum*-infected rhododendron. Koch's postulates have been completed.

- CDFA's revised enforcement guideline policy for CA's *P. ramorum* regulation goes into effect. The revisions allow unrestricted movement of host plants and most nursery stock within the quarantined counties. Nurseries within the quarantined area shipping out of the regulated area continue to be inspected.

- A new *Phytophthora* species (later named *P. kernoviae*) is identified by researchers at the UK Forestry Commission, Forest Research Agency, while looking for *P. ramorum* in natural settings. The positive isolates are from a large bleeding canker of a mature European beech tree in southwest England. It also affects rhododendron (*Rhododendron* spp.).

10/03

- The systemic fungicide AGRI-FOS(R) and Pentra Bark surfactant are approved by the California Department of Pesticide Regulation to treat individual oak and tanoak trees at high-risk of contracting *P. ramorum.*

- *P. ramorum* is found approximately 10 miles north of CA's San Luis Obispo County line near Plaskett Creek, extending the southernmost known infested area by about 15 miles.

- CA, OR, WA, the USDA, and Canada agree to protocols to be used by USDA APHIS and the states to respond to new *P. ramorum* nursery detections (outside of California's 12-county regulated area).

9/03

- *P. ramorum* was detected on two containerized *Camellia sasanqua* plants at a retail nursery in Placer County, CA. The finding is the result of a trace-forward investigation from a Stanislaus County, CA nursery.

- A European A2 *P. ramorum* mating type is found in Europe. European researchers identified the A2 *P. ramorum* mating type isolate from a Belgian nursery.

- Canada releases the 9th revision of its *P. ramorum* regulations.

8/03

- *P. ramorum* is detected on containerized yew (*Taxus baeccata*) saplings at a medium-sized garden center in northwest England.

- The European population, A1 *P. ramorum* mating type isolate is found for the first time in North America. Plants from sister nurseries in OR and WA were found to have both the North American, A2 mating type and the European population A1 mating type. This is also the first time both mating types have been found in close proximity to one another in the US.

- The ODA adopts an emergency rule that requires all recipients of out-of-state tree and shrub nursery stock to notify ODA of the shipment for possible inspection of the plants.

7/03

- ODA recalls camellia plants sold in OR that originated from a *P. ramorum*-positive nursery in Stanislaus County, CA.

- WA holds its first Sudden Oak Death informational meeting at Washington State University, Puyallup Research and Extension Center.

- A new diagnostic guide, "Sudden Oak Death and Associated Diseases Caused by *Phytophthora ramorum*" by Davidson et al., is published by the Plant Management Network, Plant Health Progress.

- CDFA issues a Pest Exclusion Advisory requiring incoming shipments of *P. ramorum* hosts and associated plants from OR, WA, and BC to be visually inspected by CA county inspectors at the destination location before being released for sale.

6/03

- *P. ramorum* is detected on rhododendron container plants at a nursery in King County, WA. This is the first detection of *P. ramorum* in the state.

- *P. ramorum* (European population, A1 mating type) is detected on a rhododendron container plant at a nursery in Greater Vancouver, BC.

- The Czech Republic implements a quarantine for *P. ramorum*-susceptible plants from the US, Germany, and the Netherlands.

- CDF approves the Santa Cruz County Hazard Tree Removal Program, granting the county $224,000 to complete the removal of 650 previously identified hazardous trees this summer.

- *Camellia sasanqua* is found to have *P. ramorum* at a Sacramento County, CA nursery. It is intercepted via a trace-forward investigation.

- *P. ramorum* is detected on *Camellia sasanqua* container plants at two nursery locations in Jackson County, OR, as the result of trace-forward investigation from an infested Stanislaus County, CA nursery.

5/03

- "Sudden Oak Death, endangering California and Oregon forest ecosystems," a review article by Dave Rizzo (UCD) and Matteo Garbelotto (UCB), is published in the May 2003 issue of Frontiers of Ecology and the Environment (Ecological Society of America, issue 4, volume 1, May 2003).

- *P. ramorum* is confirmed on containerized *Viburnum bodanantense, Pieris japonica* and *Pieris japonica x formosa*, *Viburnum plicatum tomentosum,* and *Rhododendron* 'Unique' at a nursery in Clackamas County, OR.

- In a letter to USDA Secretary Anne Venneman, OR formally requests exemption from the interim federal regulations for *P. ramorum*. OR is requesting stricter regulations for *P. ramorum* to prevent pathogen spread into the state.

- *P. ramorum* is detected in four CA nurseries in Stanislaus, Alameda, Santa Cruz, and Marin Counties. The nursery in Stanislaus County is in the Central Valley, approximately 100 miles east of the closest known infested area.

- A Sudden Oak Death collection yard opens at the Marin Resource Recovery Center, San Rafael, CA. The project, dubbed "SODBusters," aims at preventing pathogen spread through proper handling, and disposal when necessary, of infested plant debris.

4/03

- A Sudden Oak Death Tribal Summit is held at Blue Lake Rancheria, Blue Lake, CA. The meeting brings together tribal and agency land managers, tribal members, and Sudden Oak Death researchers to discuss issues of particular concern to tribal members. Tribal research priorities, regulatory issues, and information needs are discussed.

- The on-line symposium "Sudden Oak Death - How Concerned Should You Be?" is hosted by the American Phytopathological Society. Over 3000 site visitors from 46 countries participate.

- *Kalmia latifolia and Vaccinium vitis-idaea* are reported as susceptible to *P. ramorum* in the revised pest risk assessment for *P. ramorum* released by the UK.

- OR holds its first statewide informational meeting and strategic planning session on *P. ramorum* entitled "Perspective on the Sudden Oak Death Syndrome: Risks to Oregon Agriculture and Forestry," at OSU in Corvallis.

- The first report of *P. ramorum* on *Camellia japonica* and *Viburnum tinus* in the US is confirmed at a nursery in Marin County, CA. The symptomatic material was kept adjacent to a stand of *P. ramorum*-infected California bay laurel trees.

- The UK has 264 *P. ramorum* outbreaks recorded on *rhododendron*, *viburnum*, *Camellia japonica*, *Kalmia latifolia, Pieris japonica*, *Pieris Formosa* var. *forestii*, *Arbutus,* and *Syringa*. Some of the findings have been in large gardens open to the public and associated with plant nurseries or garden centers. An intensive survey is ongoing.

3/03

- *P. ramorum* is isolated from a potted *Pieris japonica* growing outside under an infested California bay laurel. This is the first find of infested *Pieris japonica* in the US.

1/03

- *P. ramorum* is isolated from *Camellia* in a UK nursery.

- *P. ramorum* is isolated from grand fir, *Abies grandis*, Christmas trees at a Santa Clara County, CA Christmas tree plantation.

12/02

- *P. ramorum* is isolated from over 150 nurseries in the UK. France, Belgium, the Netherlands, Sweden, Germany, and other European countries also report widespread nursery infestations.

- The first Sudden Oak Death Science Symposium is held in Monterey, CA. Over 300 people attend. Eight new plants associated with *P. ramorum* are announced: California Hazel, poison oak, salmonberry, cascara, Victorian box, and Pieris (the last from nursery stock in UK).

- Everett Hansen (OSU), along with Rizzo (UCD) and Garbelotto (UCB), name another new *Phytophthora* found on dying oaks and infecting leaves of California bay laurel. *Phytophthora nemorosa* has a similar geographic range as *P. ramorum* but is considered less virulent.

- The *P. ramorum* isolates from Europe are determined to be a different mating type from those isolated in North America, indicating that the pathogen did not come from Europe to CA or vice-versa.

11/02

- Scientists at the US DOE Joint Genome Institute in Walnut Creek and the Virginia Bioinformatics Institute in Blacksburg are receiving $3.8 million from federal agencies to decode and study the genomes of *P. ramorum* and *Phytophthora sojae*.

- The EU issues regulations for *P. ramorum* to prevent pathogen spread within the Union as well as the importation of the North American genotype and A2 mating type.

10/02

- The CFIA adds a certification program to their *P. ramorum* regulations allowing shipments of field-grown plants into Canada from non-infested counties of CA following inspection.

- *P. ramorum* is found on two shipments of rhododendron in Spain.

9/02

- Australia introduces regulations preventing the importation of host species from countries known to have *P. ramorum.*

- CDFA and USDA APHIS add only the affected plant parts of coast redwood and Douglas-fir to state and federal regulations.

- Governor Davis's administration supports Sudden Oak Death research and response with a $2 million commitment in the 2002/03 CA budget.

- UC researchers confirm coast redwood and Douglas-fir are susceptible to *P. ramorum* by isolating the pathogen from needles and branches.

7/02

- Forest trees in Humboldt and Contra Costa Counties, CA, are confirmed to have *P. ramorum,* bringing the number of infested CA counties to 12.

5/02

- Two informational meetings are held for resource professionals in Humboldt County, CA. The meetings are hosted by UCCE. About 175 people attend.

- The UK bans imports of plants and wood from infested counties in CA and OR to prevent the spread of *P. ramorum.*

4/02

- Poland's *P. ramorum* findings on nursery rhododendron plants are reported to the US.

- England confirms *P. ramorum findings on Viburnum tinus* in a nursery setting.

- The scope of infestation includes 15 known host species, 10 confirmed CA counties, and the following eight state parks in CA: Austin Creek State Recreation Area, China Camp State Park, Jack London State Park, Pfeiffer Big Sur State Park, Samuel P. Taylor State Park, Sugarloaf Ridge State Park, Henry Cowell Redwoods State Park, and Mt. Tamalpais State Park.

3/02

- The media reports that *P. ramorum* DNA has been detected on maple in Foresthill, Placer County, CA (furthest inland report of *P. ramorum*). Unless samples are cultured, Placer County will not be classified as a regulated county.

- Publication of the scientific data that links *P. ramorum* to Sudden Oak Death in Plant Disease 86: 205-214. 2002. *Phytophthora ramorum* as the cause of extensive mortality of *Quercus* spp. and *Lithocarpus densiflora* in California. D.M. Rizzo, M. Garbelotto, J.M. Davidson, G.W. Slaughter, and S.T. Koike.

2/02

- Assemblypersons Nation and Migden introduce AB2251 to continue CA's Sudden Oak Death program.

- The first of two public hearings is held in Petaluma, CA on the interim APHIS Sudden Oak Death regulations. The second hearing was held shortly after in Riverdale, MD.

- USDA APHIS releases interim federal regulations that will oversee interstate movement of *P. ramorum* host material from the CA counties known to be infested.

1/02

- The media reports that *P. ramorum* has been detected on coast redwood. Unless isolates are cultured from samples, coast redwood will not be classified as a host.

12/01

- Senator Boxer announces $400,000 in agricultural appropriations for Sudden Oak Death research.

11/01

- Marin County Supervisor Cynthia Murray convenes the second Sudden Oak Death Summit.

- *P. ramorum* is confirmed on the UC Berkeley campus.

10/01

- China Camp Back Ranch Campground closes to remove and destroy about 80 hazardous trees. Park trails have another 70 potentially hazardous trees to remove.

- Alameda and Solano Counties are added to the Zone of Infestation by the CA Board of Forestry after confirmation from CDFA that both counties have Sudden Oak Death and are now regulated counties.

- California coffeeberry, Toyon, and California honeysuckle are confirmed as new hosts.

9/01

- The COMTF issues sampling guidelines for *P. ramorum.* CDFA defines and requires "official" samples for regulatory purposes.

- The Legislature passes, and Governor Davis signs, AB 62 (Migden) authorizing funding and spending based on COMTF recommendations. Funds are allocated as follows: monitoring $440,000; management $1,796,000 – earmarked largely for affected counties; research $480,000; education $221,000; regulation $420,000; and administration $243,000.

8/01

- South Korea imposes a *P. ramorum* quarantine on infested counties in CA and OR, prohibiting the importation of known host species.

7/01

- Governor Davis and the Legislature provide $3.586 million to address Sudden Oak Death in the 2001/02 budget.

- OR identifies and confirms *P. ramorum* on 40 acres in Curry County. Infested areas are quarantined and under regulation. Plans for eradication of host material begins.

6/01

- Senator Boxer introduces a bill in the US Senate calling for $70 million to address Sudden Oak Death. Congresswoman Woolsey introduces a similar bill in the House of Representatives.

5/01

- CDFA issues emergency regulations, requiring permits to be issued by an authorized agricultural official before moving *P. ramorum* host plants or material within or from

infested areas.

- Researcher Matteo Garbelotto, UC Berkeley, develops a molecular diagnostic tool using PCR to identify the presence of *P. ramorum.*

- *P. ramorum* is recovered from madrone and bay laurel.

4/01

- The Board of Forestry and Fire Protection passes a resolution declaring a "Zone of Infestation" for the counties of Marin, Monterey, Napa, San Mateo, Santa Clara, Santa Cruz, and Sonoma. In July 2001, the zone is expanded to include Mendocino County after confirmation by CDFA.

- The new *Phytophthora* is formally named *Phytophthora ramorum* in Mycological Research 105(10): 1155-1165. 2001. *Phytophthora ramorum* sp. nov: a new pathogen on *Rhododendron* and *Viburnum*. Werres S., R. Marwitz, W.A. Man in 't Veld, A.W. De Cock, P.J.M. Bonants, M. De Weerdt, K. Themann, E. Ilieva, and R.P. Baayen.

3/01

- Canada issues a quarantine against CA for the new *Phytophthora*.

- OR's emergency quarantine becomes permanent.

2/01

- Researchers recover the new *Phytophthora* from rainwater collected beneath coast live oak stem infections and from soil collected around diseased coast live oak.

- Huckleberry and Shreve's oak are confirmed as hosts of the new *Phytophthora.*

1/01

- The new *Phytophthora* associated with dying oaks is recovered from rhododendron container plants in a Santa Cruz, CA nursery.

- OR bans the new *Phytophthora*'s host plants and other plant products coming from CA unless they have been treated. This emergency rule applies for 90 days.

- The Federal government appropriates $3.5 million for Sudden Oak Death research and monitoring.

12/00

- State legislators introduce bills to establish a statewide program for Sudden Oak Death: SB31 (Chesbro); AB53 (Wiggins); AB62 (Migden); and ACR (Nation).

11/00

- Clive Brasier of the UK Forestry Commission recognizes that an unknown *Phytophthora* from rhododendron in Germany and the Netherlands, that had been originally isolated in 1993/94, appears identical to the new *Phytophthora* isolated from dying oak trees in CA.

- Marin County Supervisor Cynthia Murray convenes the first Sudden Oak Death Summit. The USDA Undersecretary of Agriculture Jim Lyons pledges $2.1 million in federal funding for support. Governor Davis pledges $100,000 in state funding through CDF.

10/00

- The first COMTF general member meeting is held at the USDA FS, Pacific Southwest Region Headquarters in Vallejo. The theme for the meeting is "What is Sudden Oak Death?" About 150 people, including press, attend.

8/00

- The COMTF is formed. It is a voluntary consensus group that brings together public agencies, nonprofit organizations, and private interests to address oak mortality in CA in a comprehensive and coordinated manner.

7/00

- UC researchers identify the cause of Sudden Oak Death to be a previously unknown *Phytophthora* species.

1999

- Researchers join efforts in analyzing increased oak and tanoak mortality levels. The UC system provides $70,000 in emergency funding and the USDA FS provides $85,000.

1995

- Large numbers of tanoaks are observed to be dying in CA's Marin and Santa Cruz Counties.