

CALIFORNIA FOREST STEWARDSHIP PROGRAM

Forestland Steward

WINTER 2018

Lightening the Fuel Load

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Tahoe National Forest fuels reduction research shows strategic treatments reduce wildfire severity.



Forestland Steward

Forestland Steward is a joint project of CAL FIRE, Placer County Resource Conservation District, UC Cooperative Extension and USDA Forest Service to provide information on the stewardship of private forestlands in California.

CAL Forest Stewardship Program

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California's Forests—2018 and beyond

The prospect of another dry year has created concern for forestland owners facing unprecedented tree mortality and mounting forest fuel loads.

Researchers say continued dry and warmer conditions will lead to more tree die-off and will have lasting effects on the distribution and abundance of tree species in many areas of California.

These environmental changes have serious implications for how private forestland owners address the tree mortality crisis and how they will manage their land in the future to maintain forest health and build resilience in rapidly changing environmental conditions.

Because these changes don't recognize ownership or management boundaries, experts also say there's an increased need for collaboration among private landowners, government agencies and other stakeholders to improve forest health across large and complex ecosystems.

The U.S. Forest Service said in a recent public statement that it recognizes the need for science-based approaches to managing the large-scale impacts of the state's tree mortality crisis—129 million trees have died on 8.9 million acres in the Sierra Nevada range alone between 2010 and 2017.

But, increased tree mortality is occurring throughout the state, including in oak woodlands and coastal forests.

Tree die-off will continue

Dead trees will continue to pose a hazard to people and critical infrastructure, mostly in the central and southern Sierra Nevada region of the state, U.S. Forest Service experts said.

"The number of dead and dying trees has continued to rise, along with the risks to communities and firefighters, if a wildfire breaks out in these areas," said Randy Moore, Regional Forester of the USDA Forest Service, Pacific Southwest Region.

"It's apparent from our survey flights that California's trees have not yet recovered from drought, and remain vulnerable to beetle attacks and increased wildfire threat," Moore said.

While the Forest Service will continue to focus on removing hazard trees and thinning overly dense forests, Moore said, "to increase the pace and scale of this important work, we need to fix how fire suppression is funded."

He said last year fire management alone consumed 56 percent of the USDA Forest Service budget. As fire suppression costs continue to grow as a percentage of the agency's budget, he

said funding for non-fire programs will continue to shrink, constraining fire prevention work. This situation has not gone unnoticed, but has yet to be fully resolved at the national level.

Picking up the pace

In the meantime, to further improve forest health, the Forest Service and CAL FIRE have increased the pace and scale of their prescribed fire treatments and other tree mortality projects in high priority counties.

Between 2010 and 2017, more than 129 million trees have died in California due to a combination of drought-stress and bark beetle infestation. Since 2015, over 1 million of these trees have been removed or felled in high-priority counties through the coordinated efforts of the Tree Mortality Task Force.

"Addressing tree mortality at this magnitude takes on-going cooperation between public, non-profit and private entities," said Chief Ken Pimlott, CAL FIRE director and the state forester.

"By working together and using all the resources at our disposal, we will be able to make more progress towards our common goal of healthier, more resilient forests that benefit all Californians," Pimlott said.



'Blue oak leaves and acorns. Blue oaks are found only in foothills surrounding California's Central Valley and the species has been in decline. The long-lived trees survive low to moderate intensity fires, but don't fare well in high intensity wildfires. Photo by Beatrice Howitt, California Academy of Science. See more about blue oaks on page 6.

Editor's note: This issue of *Forestland Steward* focuses on managing forest fuel loads and includes conservation success stories, new research findings and a variety of links to funding sources for private forestland owners and forest communities to help reduce wildfire hazard, improve safety and rebuild forest health.

Fuel-load reduction becomes more urgent

The need for fuels reduction and active management in California's forests is at an all time high and local, state and federal resource agencies say they're advancing an increased number of projects to help clear over-growth on private and public forestland.

What that means for private forestland owners is increased resources for removing dead trees, brush and live vegetation from their land, said Rob Griffith, assistant director for USDA Forest Service Fire and Aviation for the Pacific Southwest Region. It also means more opportunities for collaboration and project funding.

"The time to clear at least 100 feet of flammable vegetation around homes in forested and wildland areas is now."

These efforts will increase homeowner and firefighter safety, protect communities, reduce losses and save lives, he said. This is particularly important as California faces the potential of another dry year.

The benefits of doing this work now are many, Griffith stressed. Landowners will find there's greater soil moisture for the remaining trees and greater forest health, which makes stands more resistant to pests and fire.

The Future of California's Forests

"But, it's not just about reducing current fuels," he said. "It's also about planning for future growth; creating forests that are more productive overall."

Increasing temperatures and moisture stress may change the distribution and abundance of tree species in some areas, Forest Service experts said during a scientific symposium last summer on "Lessons Learned From Extreme Drought and Tree Mortality in the Sierra Nevada."

The forward-looking scientific event concluded that because these effects do not recognize ownership or management boundaries, in the future collaboration will be required among private landowners, government and stakeholders to build resilience in forest ecosystems across large landscapes.

With the help of private forestland owners, the public, partners, scientists and local, state and federal resource agencies plans are being developed to identify priority areas for forest treatments over the next decade.

"We want California forestland owners to know that all the forest resource agencies in the state are working together very closely to support them," Griffith said.



Removing ladder fuels and brush that allow wildfire to climb into forest canopies reduces the risk of fire spread and is a focus of land managers in this El Dorado County forest.

"One thing the Forest Service recommends to California forestland owners is to connect with local Fire Safe Councils to learn more about project funding and programs.

"Fire Safe Councils are a clearing house for grant funding and a great place to start if you have a fuels reduction project in mind."

Links to local Fire Safe Councils are online at: <http://bit.ly/2EBy3I3>.

A summary of the symposium's conclusions is online at: <http://bit.ly/2BEgicr>.

Managing forests for climate change

- Reduce forest competition for moisture and sunlight, as well as reducing wildfire and pest risks, by thinning understory ladder and surface fuels.
- Manage for forest diversity. In uncertain times, selecting a number of tree species can reduce the risk of losing all trees. Consult a Registered Professional Forester about tree selection before planting.
- Consider that, depending on many variables, long-lived trees may need to survive in much warmer temperatures in 50 years.
- Consult with forestry experts who can advise on adaptation plans.

See page 10 for a list of forestry experts in your area.

Owl numbers continue to decline

A recent spotted owl status review by the Dept. of Fish and Wildlife shows owl population declines.

CDFW held 21 stakeholder meetings in 2017 to assess species management rules and owl conservation practices on private timberland.

Themes based on shareholder comments include:

- Consider California Forest Practice rules changes.
- Review protocols for surveying and managing owl sites.
- Clarify resource agencies' roles and responsibilities.
- Improve monitoring of rule proposals to improve effectiveness. Assess Owl Observations Database needs.

CDFW's Report on Northern Spotted Owl Stakeholder Meetings and Recommendations is online at: <http://bit.ly/2o9klGb>

Research suggests the need to rethink Sierra spotted owl habitat requirements

Technology is increasing understanding of how spotted owls actually use forest habitat. Researchers say the species generally prefers tall trees—above 157 feet—to shorter trees in dense stands.

In what is believed to be the Western region's largest spotted owl study in terms of area analyzed, Light Detection and Ranging imaging, or LiDAR, is providing a more precise look at habitat preferences. Findings have implications for greater flexibility in future forest and species management.

"For the last 25 years, forests in the western United States have been managed to protect habitat for spotted owls based on ground surveys that were limited by plots with a small sample area and what could be seen from the forest floor," said Malcolm North, a research ecologist with the U.S. Forest Service's Pacific Southwest Research Station and lead author of the study.

"We're employing relatively new technology to get a new vantage point into the forest canopy—across an unprecedented amount of terrain—to better understand the needs of spotted owls," North said.

Researchers studied forest attributes across 1.2 million acres, encompassing 316 documented owl territories, along California's Sierra Nevada.

LiDAR uses laser pulses shot from an instrument mounted in an airplane that can measure a forest's canopy, including tree height, distribution of tree foliage and any forest gaps.

Owls prefer height

Previous research suggested spotted owls need dense canopy cover—generally about 70 percent or greater—across a broad landscape. LiDAR data reveals the owl's habitat preference is more about the height of the canopy than it is the canopy's expanse.

The findings were recently published online by the journal "Forest Ecology and Management," including data indicating spotted owls typically are found in forests with high concentrations of tall trees—measuring at least 105 feet in height, but preferably taller than 157 feet.

Meanwhile, dense stands of trees measuring 52 feet or shorter were generally avoided by the owls. The report is online at: <http://bit.ly/2BGKDHg>

"We rarely found owls in high canopy cover without tall trees," North said. "We also found owls in areas with tall trees but low surrounding density."



California spotted owl. Source: UCANR

Land management strategies aimed at improving forest resilience to wildfires, drought, insects and diseases should now include reconsideration of historical tree density, he said.

Forests and owls at risk

"While land managers may have felt compelled to maintain these abnormally high densities (in California spotted owl territory) to adhere to the 70 percent canopy-cover threshold requirement, it might also have placed both forests and owls at risk," North said.

The large trees favored by spotted owls can withstand low to moderate wildfires and other disturbances, but when exposed to extreme wildfires from high fuel loads or when their vigor is compromised by too many trees competing on the landscape, these tall trees can become vulnerable, he added.

Researchers also studied how large openings in the canopy or gaps in the forested landscape affected owl use or nest site selection.

"Owls showed no difference in the areas they used compared to the surrounding landscape with regard to gaps," North said.

This study comes on the heels of a newly available report synthesizing the last two decades of research pertaining to spotted owls.

"The California Spotted Owl: Current State of Knowledge" by the Forest Service's Pacific Southwest Research Station is online at <http://bit.ly/2BETgC2>.

Changing wildfire patterns require a new mindset for living in the West

Current wildfire policy can't adequately protect people, homes and ecosystems from longer, hotter fire seasons, according to new research by the University of California and the University of Colorado, Boulder.

Researchers—a team of wildfire experts—concluded efforts to extinguish every blaze and reduce the buildup of dead wood and forest undergrowth are becoming increasingly inadequate.

Instead, they urge policy makers and communities to push for policy reforms that promote adaptation to increasing wildfire and warming.

"Wildfire is catching up to us," said lead author Tania Schoennagel, a research scientist at CU Boulder's Institute of Arctic and Alpine Research. "We're learning our old tools aren't enough and we need to approach wildfire differently."

This means accepting wildfire as an inevitable part of the landscape, according to research conclusions published in the journal "Proceedings of the National Academy of Sciences."

Additionally, as climate change forces species to move their ranges, some may vanish entirely, studies indicate. But such changes, including those caused by wildfire, could be necessary for the environment in the long run, said Max

Moritz, University of California Cooperative Extension wildfire specialist and a coauthor on the paper.

"We need the foresight to help guide these ecosystems in a healthy direction now so they can adjust in pace with our changing climate," Moritz said. "That means embracing some changes while we have a window to do so."

Reducing stand density and understory growth helps ease forest adaptation to ecosystem changes.

The western U.S. has seen a 2-degrees Celsius rise in annual average temperature and lengthening of the fire season by almost three months since the 1970s; both elements contribute to what the authors call a "new era of western wildfires."

This pattern of bigger, hotter fires, along with the influx of homes into fire-prone areas—over 2 million since 1990—has made wildfire far more

costly and dangerous.

"For a long time, we've thought that if we try harder and do better, we can get ahead of wildfire and reduce the risks," said Schoennagel. "We can no longer do that. This is bigger than us and we're going to have to adapt to wildfire rather than the other way around."

The complete research findings are online at: <http://bit.ly/2HtkMCW>.

"We need the foresight to help guide these (forest) ecosystems in a healthy direction."

*Max Moritz
wildfire expert, UC
Cooperative Extension*

Key aspects of adaptive resilience

- Recognize that fuels reduction alone cannot alter regional wildfire trends.
- Target fuels reduction to increase adaptation by selected ecosystems and residential areas prone to more frequent fire.
- Actively manage more prescribed fires, using management techniques that reduce land-owner risk and liability.
- Provide incentives for planning residential development to withstand inevitable wildfires.

Source: Proceedings of the National Academy of Sciences



Rural home in San Bernardino County is saved by fire fighters battling a large wildfire that started in San Bernardino National Forest and made its way into the Summit Valley area. Source: Bernie Deyo Photography

Fuels Management

MoonShine Ranch conservation projects save home, blue oaks and historic Gold Rush town from wildfire



The 2017 Detwiler Fire in Mariposa County burned from Lake McClure, above, across nearly 82,000 acres, destroying 63 residences, 67 outbuildings and 1 business structure. Brush clearing and conservation projects on MoonShine Ranch helped firefighters stop the fire, save the ranch and nearby historic Coulterville, a gold mining town founded in 1850. Investigators found discharge of firearms on public land caused the fire.

Lake McClure from the ridge above MoonShine Ranch in Mariposa County is a breathtaking sight—a landscape of blue oak woodland, dotted with pines, chamise and other native shrubs.

Although fire has historically been part of this foothill ecosystem, decades of fire suppression and vegetation growth clogged the 350-acre ranch.

Landowners Stephen and MaryAnn Huff needed help taming the overgrowth to create a fire-safe home site and promote a healthier landscape.

Stephen, recently retired, had time to invest in ranch improvements. MaryAnn, a University of California Cooperative Extension master gardener, is no stranger to landscape restoration.

The Huffs, like hundreds of other foothill landowners, turned to experts for help with fuels management projects, tree removal and advice on finding conservation funding to get their land on healthier environmental footing.

Restoring the ranch

“Stephen and MaryAnn care very much about restoring the health of their oak woodland,” said Robyn Smith, district conservationist for the Natural Resources Conservation Service and its partner Mariposa County Resource Conservation District.

It’s a busy four-person team at the county’s local partnership office that in 2017 found ways to help the Huffs and more than 270 other local landowners faced with a tree mortality crisis. They were contending with dead and dying trees due to drought and pest infestation and needed help addressing the problem.

The die-off throughout the county has created hazards for people and critical infrastructure. The wildfire threat in the state’s

10 most hard hit counties—including Mariposa—is extreme.

Planning for fuels reduction

“The Huffs knew there was way too much woody fuel on their property and that fire hazard reduction was critical for protecting the land they loved,” said Smith, who worked with the couple to develop fuels reduction and conservation plans and help find funding.

MaryAnn’s Master Gardener program training focused a lot on defensible space, she said, and the couple started by clearing and landscaping around their home with fire safety in mind.

“Stephen spent months working to reduce the risk of catastrophic wildfire by painstakingly thinning and cleaning up the overgrown oak woodland on the surrounding hillsides,” Smith said.

Their hard work paid off in July 2017 when the fast moving Detwiler Fire raced from its ignition point near Lake McClure up the canyon toward MoonShine Ranch.

“The Huffs rushed home from Sonora when they heard the fire was heading towards their home,” said Smith. “They could only hope their efforts would protect the ranch.”

As the wildfire advanced, MaryAnn evacuated. Stephen, aware of the risks and prepared to help firefighters make a stand, stayed behind to protect their home. The Huffs’ home was given an “A” rating by CAL FIRE for the defensible space created during their brush clearing and conservation work. Huff crossed his fingers and hoped it was enough.

In addition to cleaning out vegetation and preparing a clear

space for firefighters to safely stage trucks and equipment, the couple had also improved ranch roads and water systems, including installing a back-up generator for well pumps and maintaining a 10,000 gallon pond on the property. Together these improvements made it easier for firefighters to save their home and provided safe spaces for regrouping during the fire.

Benefits of forest resilience

But, there were some unexpected benefits. Because firefighters safely staged on the ranch and fought the advancing wildfire from there, they prevented it's spread into the town of Coulterville and helped hold the Detwiler Fire to about 82,000 acres.

David Mecchi, president of the Mariposa County Resource Conservation District, who also assisted with fire rehabilitation in the area around MoonShine Ranch, noted well-managed blue oak woodlands can be a key to controlling many wildland fires in the Sierra Nevada foothills through proper vegetation management.

Blue oaks are slow growing, long-lived native trees that have natural ability to withstand low- to medium-intensity wildfire, but have had regeneration issues over the last 100-plus years, said Smith.

"There are very few young blue oaks left," she explained. The majority of foothill stands contain mature trees 100 to 400 years old.

Value of Blue Oaks

She cited changing land management approaches, competition with annual grasses and overgrowth of shrubs, shade intolerance and loss of acorns to livestock and wildlife as factors contributing to the problem of stand decline.

But foothill development has posed the biggest threat to the species.

"Although younger trees will re-sprout if cut or damaged by fire, it's the loss of mature trees that often results in forest-type conversion to oak savannah and open grassland," she said.

"Blue Oak ecosystems are endemic to California, and their preservation is crucial to maintaining oak woodlands' biological diversity," said Len McKenzie, of the Yosemite Area Audubon Society, who has studied the species decline.

In general, oak woodlands provide habitat for more than 300 species of wildlife, he said. Blue oaks are an important part of that ecosystem.

The county resource conservation team, led

by Smith and Mecchi, with added assistance from BluePoint Conservation Science consultants, "pulled out every strategy known to humankind, and a few that aren't," said Curtis Tarver, acting state conservationist for NRCS in California. He presented Smith and Mecchi with a state "Outstanding Conservation Planning Team" award in Sacramento last November.

"What this team has accomplished borders on the miraculous," said Tarver. "They somehow developed the capacity to help hundreds of landowners and secured funding for over 200 of them. They developed conservation plans that prescribed thinning of damaged forests, replanting trees and other vegetation, and scheduled erosion control practices to protect watersheds.

"They found a contract forester to join their team, recruited volunteers, wrangled funding, secured training to cover unfamiliar aspects of the work and developed a team approach to conservation planning," he said.

In accepting the award on behalf of the Mariposa County team, Smith said, "We know the people in this community, and saying 'no' to one of them simply wasn't an option. We knew we had to find a way."



Experts credit good brush removal around blue oaks on MoonShine Ranch in Mariposa County for a healthy under-burn in many areas. This allowed firefighters to stop the advance of the 2017 Detwiler fire onto the ranch and into the nearby town of Coulterville.

Tools for reducing fuel loads

Free online resources to help create tailored fuels management plans:

Restoring Forest Health: <http://bit.ly/2CtZGAT>

Guide to Brush Management: <http://bit.ly/2BDSJAA>

Forest Vegetation Management: <http://bit.ly/2CtZGAT>

See page 10 for a directory of local forestry experts who can help with creating fuels management plans and identifying funding opportunities.

Database lists community wildfire risk

To help protect people and property from potential catastrophic wildfire, the National Fire Plan calls for identifying at-risk U.S. communities.

At the request of Congress in 2001, the *Federal Register* notice only listed those communities neighboring federal lands.

However, California, with its extensive Wildland-Urban Interface areas, lists communities beyond just those adjacent to federal lands.

CAL FIRE manages the public list of at-risk communities, and it can be found online at: <http://bit.ly/2EBE8rV>

Fuels reduction grants offered for 2018



The Thomas Fire burned in the hills of Los Padres National Forest in December 2017. These urban structures abut federal wildlands and survived the fire's advance with defensible space. Source: Stuart Palley, USFS.

Reducing wildfire risk within the Wildland-Urban Interface is the target of newly available federal grants offered through local Fire Safe Councils organized throughout the state.

Project funds will be awarded through a competitive process with emphasis on hazardous fuels reduction in interface areas, providing information and education programs, assessment and planning efforts, and through monitoring community and landowner action.

Funding is being administered by the California Office of the State Fire Marshal and managed through local organizations. This portion of the National Fire Plan was developed to assist interface communities with managing the unique hazards they find around them.

In addition to the National Fire Plan, the National Wildland Fire Management Strategy brings forward the goals of restoring resilient landscapes, fire adapted communities and response to wildland fires.

The California Fire Safe Council, a statewide non-profit organization, receives federal grants from agencies like the U.S. Forest Service, Bureau of Land Management and National Park Service. The state council distributes grants to local councils and other community organizations through its online Grants Clearinghouse, which expands funding opportunities like the WUI grants.

Grant Criteria: General

Oversight agencies said Wildland-Urban Interface grants for reducing wildfire risk in the west will be strongly influenced by the ability of property owners to collaborate across ownership boundaries and implement projects on a landscape scale.

Projects must be for a qualifying activity, meet the 50/50 match requirement and not exceed the \$300,000 match limit. No single western state will receive more than 15 percent of available funds. Not less than 70 percent of the funding available will be allocated to hazardous fuel reduction projects.

Grant requests must be submitted on a current 2018 WUI Competitive Grant Application template using the WUI Competitive Grant Online Submission System.

The 2018 WUI Grant Application is online at: <http://bit.ly/2CvekI1>

California Specific Instructions

Northern California Contacts
<http://bit.ly/2Bviumx>

Southern California Contacts
<http://bit.ly/2EOy7aQ>

In 2017, grants awarded through the California Fire Safe Council Grants Clearinghouse totaled about \$2.1 million for local projects, with commitments of matching funds totaling nearly \$3 million.

Sudden oak death pathogen spreading

First detected in California in the 1990s, the pathogen that kills California native oaks and a variety of other native and ornamental plant species continues to spread. It continues to affect both known host plants and new species.

"Some people thought the drought would cause this tree disease to diminish," said Yana Valachovic, UC Cooperative Extension forestry advisor and director for Humboldt and Del Norte County extension offices. "What we've seen is quite the contrary."

She said abundant rain in 2017 helped rein-vigorate the disease, *Phytophthora ramorum*, and predicts in 2018 "we're likely to see a widespread level of oak mortality throughout the coastal counties where the disease is currently located. This will add to the already high tree mortality levels we're seeing in the Sierras."

In 2017, *P. ramorum*, which causes sudden oak death, was recovered for the first time from a number of new manzanita species.

Most samples tested were collected from field restoration plantings or native stands. Some were collected from nurseries.

In total, seven new *Arctostaphylos* (manzanita) species were identified as potential hosts of *P. ramorum*. These are in addition to *A. virgata* and *A. glandulosa* which were identified in 2015.

Potential Hazards

Many brush species—such as manzanita, broom, coyote bush and juniper—are highly flammable and burn with an oily heat, according to the Napa Communities Firewise Foundation.

Dense manzanita growth, with high mortality from *P. ramorum*, has potential to add to already high fuel loads and can burn with intense heat and rapidly spread wildfire making it difficult to suppress or control.

California Department of Food and Agriculture researchers currently are conducting laboratory tests on two *Arctostaphylos* species and plan to test the other seven potential host species for the *P. ramorum* pathogen once plant material is obtained.

Many of the new potential hosts are considered endangered or threatened in the wild, 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 also recovered from Brisbane box (*Lophostemon confertus*) for the first time from street trees in Sausalito in Marin County.

Researchers said it's possible higher than average precipitation levels in 2017 contributed to the spread.

Monitoring

California's 2017 citizen scientist-based SOD Blitz surveys documented a three-fold increase in overall infection rates in sampled areas since the drought ended in 2015, with 13 percent of samples found to be positive, the highest levels to-date since the blitzes began in 2008.

Pathogen levels on California bay laurels from previous years put oaks at high risk for infection.

Gaining a foothold

The pathogen is also 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.

In southern Sonoma County, the pathogen has become established for the first time in the more rural areas west and east of Petaluma. Western San Mateo County also has increased pathogen levels.

Several popular public destinations have been found to have substantial infestations, including Point Reyes National Park, the San Francisco Presidio and the University of California's Berkeley and Santa Cruz campuses.



Rincon Ridge manzanita, included in the California Native Plant Society Inventory of Rare and Endangered Plants. Manzanita is now found to be a host species for *P. ramorum*, posing a threat to this species.

Source: John Rusk © 2016

Sudden Oak Death Facts and Links

The sudden oak death pathogen, *Phytophthora ramorum*, has been identified on more than 100 diverse plant species.

Hosts include hardwood and conifer trees, shrubs, herbaceous plants and ferns.

Since the mid-1990s, *P. ramorum* has killed millions of tanoak trees and several oak tree species, including coast live oak, California black oak, Shreve oak, and canyon live oak.

Links for Forestry

Find the California Oak Mortality Task Force online at: <http://bit.ly/1JObQIN>

Sudden Oak Death Guidelines for Forestry: <http://bit.ly/2sTgaTM>

Federal List of Regulated Hosts and Plants Proven or Associated with

Phytophthora ramorum: <http://bit.ly/2okH9mn>

Landowner options & grants to reduce fuel hazards

Temporary wood processing and storage facilities are available for trees removed in 15 high hazard tree mortality areas.

Location map and site details are online at: <http://bit.ly/2oivvr9>

CAL FIRE's Forest Health Program Grant Guidelines may be found online at: <http://bit.ly/2o8vNkq>

Experts say high tree mortality levels will continue for several more years. High-risk counties have localized information and added resources.

Check with county emergency or environ-

ment departments.

Information about local project funding also is online at: <http://bit.ly/2oivvr9>

The California Forest Improvement Program (CFIP) offers cost-share opportunities to help individual forestland owners with land management planning, adopting conservation practices to enhance wildlife habitat and practices to improve the productivity of the land.

The CFIP User's Guide is online at: <http://bit.ly/2CxV38X>

Crisis to Opportunity

The California Association of Resource

Conservation Districts is partnering with the state office of the Natural Resources Conservation Service to make \$10 million in project grants available this year.

The funds will help address the tree mortality crisis in the Sierra Nevada, including removing dead trees from high mortality areas, reforesting and restoring forest and watershed health on private forestlands.

Contact county RCDs for more information.

The state Tree Mortality Task Force Web page at: <http://bit.ly/1RPglSk>

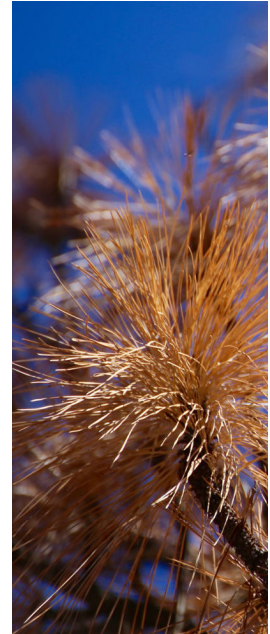
provides information on state, federal and local response to tree die-off and forest recovery efforts.

See the Big List

The task force has compiled a comprehensive list of potential grants available to agencies, local governments, communities and private landowners. It's online at:

<http://bit.ly/2o1Uoby>

See below for a directory of local experts who can advise on project planning and help identify resources for reducing hazardous fuel loads on privately owned forestland.



Dead conifer needles in the Sierra National Forest. Source: US Forest Service

Stay in Touch!

It's easy and free to get the latest news about what's happening in California's forests.

Forestland Steward delivers forest management news and funding opportunities along with tips from the experts to your inbox or mailbox—both if you'd like.

Send a quick e-mail to kcamp300@yahoo.com and specify how you wish to receive the newsletter.

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California Stewardship Helpline

1-800-738-TREE; foresthelp@gmail.com

California Dept. of Forestry & Fire Protection

Deputy Chief of Forestry Assistance **Stewart McMorrow**, Stewart.McMorrow@fire.ca.gov

CAL FIRE Forestry Assistance Specialists (FAS)

(Find the FAS for your county at calfire.ca.gov/resource_mgt/downloads/ForestAdvisorList.pdf)

Guy Anderson/Topher Henderson (Fresno, Imperial, Inyo, Kern, Kings, Los Angeles, Madera, Mariposa, Merced, Mono, Monterey, Orange, Riverside, San Benito, San Bernardino, San Diego, San Joaquin, San Luis Obispo, Santa Barbara, Tulare, Tuolumne, Ventura) 559-243-4109

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USDA Forest Service

Forest Legacy and Stewardship
707-562-8937

Calendar

May 5

Wildfire Community Preparedness Day

Location: Throughout California and the U.S.

Information: <http://bit.ly/2EK20ZB>

Note: National Wildfire Community Preparedness Day calls on individuals, families, communities to develop a project and join others throughout the nation in making big changes in local wildfire safety.

May 7-8

Sierra Institute's Sierra to California All-Lands Enhancement (SCALE) Workshop

Location: Tsakopoulos Library, Sacramento

Information: <https://bit.ly/2pR6c0i>

Note: Two-day workshop on landscape-scale forest restoration and community improvement across California. \$25 registration.

May 7-9

Living With Wildfire in California's Coast Range: Promoting Fire-Resilient Communities and Landscapes

Location: Sonoma State University Student Center

Information: <http://bit.ly/2DQmnAF>

Note: Free. Pre-registration advised. Sponsors: Sonoma State University, CAL FIRE, US Forest Service, University of California Cooperative Extension, California Fire Science Consortium, Pepperwood Foundation, Sonoma County Forest Conservation Working Group.

May 14-16

California Chaparral Symposium: Global Change and the Vulnerability of Chaparral Ecosystems

Location: Angeles Training and Conference Center, Arcadia CA

Information: <http://bit.ly/2HmjObN>

Note: Free symposium includes field trip to a chaparral site in the San Gabriel National Monument. Sponsors: US Forest Service Pacific Southwest Region, California Fire Science Consortium.

Coming Soon!

Reforestation workshops are being held for bark beetle tree mortality areas.

Contact Stewart McMorrow for details:
stewart.mcmorrow@fire.ca.gov

Board of Forestry and Fire Protection

2017-18 Schedule

The California Board of Forestry and Fire Protection's mission is "to lead California in developing policies and programs that serve the public interest in environmentally, economically and socially sustainable management of forest and rangelands, and a fire protection system that protects and serves the people of the state." The Board meets almost every month to discuss forestry issues and make decisions. The public can attend the meetings. Find online information is at <http://bofdata.fire.ca.gov>.

April 10-11	Resources Building, Sacramento
May 8-10	Travel
June 12-13	Resources Building, Sacramento
July 17-19	Travel
August 21-22	Resources Building, Sacramento
September 25-27	Travel

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Safeguarding California: 2018 Plan for Forest Health

Given the importance of wildland and urban forest ecosystems in meeting the challenge of climate change, state leaders have updated the "Climate Change Adaptation Strategy" to include new and expanded measures that will affect both private and public landowners in California.

The Safeguarding California Plan, which outlines the state's climate change adaptation strategy notes improving forest health isn't a single prescription. Instead it's a suite of actions that need to take place on diverse forest landscapes after decades of drought and fire suppression.

Investing in a number of targeted activities can improve forest resilience on public and private land, experts said.

Some of these recommended activities include:

- Increased pace and scale of management activities, such as prescribed and managed fire for fuels reduction, logging and thinning.
- Expanded use of the Good Neighbor Authority to advance cooperative projects to thin overstocked and degraded National Forest System lands.

- Increased partnerships and collaboration between state agencies and conservancies; federal, local and tribal governments; nonprofits; and private landowners to apply prescribed and managed fire.
- Implementation of the Forest Carbon Plan on a regional scale, identifying sources of funding to support regional forest management activities.
- Connecting small and non-industrial private forestland owners to funding and cost-share programs for fuels reduction and forest management.
- Increase education and outreach efforts tailored to private landowners.

The 2018 plan update, developed by 38 agencies across state government, is a catalogue of ongoing actions and recommendations to protect infrastructure, communities, services and the natural environment from climate change, said John Laird, California Natural Resources Secretary.

The complete plan, including the detailed forestry section is online at: <http://bit.ly/2nrXhSB>