

Burning California to save it: Why one solution to raging wildfires can't gain traction

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On a crisp, breezy February morning near Lake Tahoe, a crew of five firefighters descended on a snow-covered, heavily-forested park straddling the California-Nevada border.

They came to start fires, not put them out.

Armed with gas and diesel drip torches, they lit stacks of tree trunks, limbs and brush that had been cut and piled together 18 months earlier. Within minutes the firs and pines were going up in spires of brownish-gray smoke. The crew, clad in protective fire jackets and hard hats, periodically poked the piles with pitchforks to make sure everything burned.

"We want it to disappear," said Milan Yeates, forest management coordinator at the California Tahoe Conservancy, a state agency. "The combustion — we're going for 100%."

California and the West are just months removed from one of the worst wildfire seasons in modern history. Climate change is ramping up the hazards, and a dry winter suggests another tough year is coming.

Desperate for a solution, states are finding that lighting a fire can be a good way of preventing one.

A growing army of experts argues that "prescribed fire" — planned, deliberate burns — can reduce the volume of combustible vegetation from parched landscapes and ease a crisis gripping the western third of the country.

"It's the closest thing to a consensus in the fire community," said Timothy Ingalsbee, director of Firefighters United for Safety, Ethics & Ecology. "We need more of it."

Yet there's also widespread agreement that the West doesn't make nearly enough use of prescribed fire. Western states conduct just a fraction of the burns performed in the Southeast — and are failing to keep up with a dangerous backlog of dead trees, dry grasses and overgrown shrubs on millions of acres.

"The work that we're doing is a drop in the bucket," said Lenya Quinn-Davidson, a forestry expert and director the Northern California Prescribed Fire Council, an advocacy group.

Why not do more? One problem is air pollution, which makes regulators leery about allowing smoke in the air — even in the interest of preventing major wildfires. They also worry that ill-timed gusts could turn a prescribed burn into an all-out wildfire. It's happened before, with disastrous consequences.

"It's not a small matter; you're putting fire on the landscape," said Anthony Scardina, deputy forester for the U.S. Forest Service in California. "There are risks and we have to manage those risks and follow protocols and see whether those risks are worth it."

IS THE FOREST SERVICE PART OF THE PROBLEM?

When fire scientists talk about prescribed burns, the discussion often turns to the Forest Service. Critics say the agency clings to a century-old "suppression culture" that resists deliberately starting fires.

For the Forest Service, "the only good fire is a dead-out fire," said Ingalsbee, a former firefighter with the agency in Oregon.

In the rugged Klamath region, along the California-Oregon border, a group called the Western Klamath Restoration Partnership says the Forest Service is blocking prescribed burns that are needed to keep the area safe.

"They're doubling down on a suppression strategy that's been catastrophic," said Will Harling, a director of Western Klamath. "They just can't let go of it."

The organization says the Forest Service rejected a proposed forest treatment that could have reduced the severity of the Slater Fire, which burned 157,000 acres in the Klamath, Six Rivers and Rogue-

Siskiyou national forests last September. The fire killed two people and destroyed 197 homes near Happy Camp in Siskiyou County.

The proposed treatment, a combination of thinning and burning, “would likely have saved at least half of these homes from burning,” the organization said in a letter to the Forest Service.

Another member of Western Klamath, the Karuk Tribe, says the Forest Service won’t allow tribal members to supervise prescribed burns — even though five members have become federally-certified “burn bosses,” the title needed to oversee fires.

“We’re getting these artificial barriers thrown up,” said Bill Tripp, the tribe’s natural resources director.

The Forest Service disputes these claims. Rachel Smith, the acting forest supervisor for the Klamath National Forest, said she wasn’t aware of that her agency had refused to recognize Karuk members as burn bosses.

And, rather than halting projects, Smith said the Forest Service has run plenty of burns in the Klamath area.

“It is a total certainty in my mind that we reduced the impact of the Slater Fire,” she said. “We take pride in doing a lot of prescribed burning on the Klamath.”

The fire remains under investigation, although some property owners are suing electric utility PacifiCorp for negligence.

Forest Service officials acknowledged that the need for prescribed burns sometimes collides with limited manpower and other hurdles.

Scardina said 2020 was especially challenging. COVID-19 protocols interfered with some burns. Other burns got postponed because the relentless wildfire season continued well into December, effectively depleting the agency’s crews.

“Everyone’s trying to do the right thing on the landscape but we have limited resources,” Scardina said.

THE WEST’S DISMAL RECORD ON USING FIRE

Prescribed fire often means burning piles of logs and branches. Less typical are “broadcast burns” over large swaths of land.

Scientists say the West’s record on both types is dismal. Florida burns around 2 million acres a year, according to data compiled by Climate Central, a nonprofit news organization.

By contrast, the mega-landowner of the West, the Forest Service, conducted prescribed fires on just 167,000 acres in the West last year, according to data supplied by the agency. That’s just a sliver of the 80 million acres the agency manages in California, Idaho, Oregon, Washington and other Western states.

In California, the Forest Service oversaw burns on 44,000 acres in 2020. With other agencies thrown in, the total amount of land deliberately burned in California averages 125,000 acres a year, according to the California Air Resources Board.

Still, that’s small compared to the 33 million acres of California forest and 15 million acres of flammable grassland and chaparral.

In the Forest Service jurisdictions that cover Idaho, prescribed fires were conducted on 34,000 acres, a figure that includes some burns in Washington, Montana and the Dakotas. The agency manages 20 million acres in Idaho.

While the acres subjected to prescribed burning in the United States has increased by 5% a year since 1998, in the West the acreage “has remained stable or decreased,” University of Idaho scientist Crystal Kolden reported in a 2019 article in the journal *Fire*.

Certainly it’s easier to burn in humid states like Florida, where the risk of something going wrong is lower.

But scientists say the dry climate is the very reason why Western states must become more aggressive about prescribed burns. As climate change lengthens the wildfire season and creates hotter, drier summers, the need for prescribed fire is becoming more urgent.

“The acceptance of the need for prescribed fire use in the South is a completely different world than what we find in the West,” said Leda Kobziar, a University of Idaho scientist who used to manage burns in Florida and Georgia.

The destruction in the West is “the price we pay for not being courageous,” she said.

THE FIRE THAT CHANGED EVERYTHING

More than 4.9 million acres of national forests burned in 2020. It was the most since 1910, a year seared into the Forest Service’s history.

That year, the Great Fire devoured 3 million acres in Montana, Idaho and eastern Washington, killed 85 people and sent smoke billowing as far away as New England. The Forest Service, just five years old, took it to heart.

Fire once was a natural part of the landscape — as many as 4 million acres a year burned in California before whites arrived. But after the Great Fire, the Forest Service and its first director, Gifford Pinchot, adopted a suppression culture that called for extinguishing all fires.

Critics say this left forests badly overgrown and susceptible to disaster. It wasn’t until a pioneering Berkeley professor named Harold Biswell began experimenting with prescribed fires in the 1950s and 1960s that the Forest Service began to see the light.

“For so many years, the culture was that fire is bad and all fire needs to be put out,” said Theodore Peterson, a Forest Service fuels specialist in Idaho. “Recently we’ve found that wasn’t the best tactic to go with. Finding a blend is where we need to be.” In some parts of Idaho, the Forest Service allows wildfires to burn themselves out.

Still, budget numbers suggest the traditional strategy of suppression is still a top priority. The Forest Service, National Park Service and other federal agencies have been spending about \$500 million a year on prescribed burns, according to data compiled by Climate Central.

The budget for fighting wildfires? In 2018 it was seven times as much — nearly \$3.5 billion.

Last August, the chief of the Forest Service, Vicki Christiansen, signed a memorandum of understanding with California Gov. Gavin Newsom, pledging to double the volume of forest treatments in the state, to 1 million acres a year, through thinning and burning.

The document is nonbinding. Newsom wants the Legislature to appropriate \$1 billion over the next few years to pay for California’s share of the agreement, but it’s unclear how much the feds will spend.

Still, state officials believe the agreement is significant as California tries to pivot away from the emphasis on traditional fire suppression. “A paradigm shift,” said Wade Crowfoot, secretary of the California Natural Resources Agency.

WILDFIRE ENGULFS THE PACIFIC NORTHWEST

Chris Martin, emergency management coordinator at the fire department in Roslyn, Wash., made a three-hour trip last fall to the small town of Malden, near the Idaho border.

He came to pay his respects.

Weeks earlier, Malden almost completely burned to the ground, the first Washington town in memory to suffer such a fate. City Hall, the fire station, post office and library — “nothing really left but foundations and chimneys,” Martin said.

When Martin first raised the idea of prescribed fire in his town a few years ago, residents objected. Now they want to see more of it, and the fires of 2020 have intensified that feeling.

“All the destruction in California and Oregon, people are starting to pay attention,” said Martin, chairman of the Washington Prescribed Fire Council.

But regulators still throw up roadblocks, particularly around air pollution.

“We get our decisions being made by a meteorologist at a desk in Olympia,” he said, referring to the state capital. “These regulators — they don’t want to see any smoke.”

Oregon has wrestled with strict limitations, too. Until 2018, “a puff of smoke entering a community” could set off enough alarm bells to cancel a prescribed burn, said Amanda Rau, a forestry specialist and head of the Oregon Prescribed Fire Council.

The state has loosened its smoke restrictions, and prescribed burning has ticked up, to around 200,000 acres a year.

But in a state with 30 million acres of forests, it hasn’t been enough. Last year brought Oregon a wildfire season that rivaled California’s. In September the Almeda Fire gutted much of Phoenix and Talent in southern Oregon, reducing more than 1,800 homes to ashes. Four people died.

All told, 1 million acres of land and 3,000 homes burned in Oregon in 2020 — and millions of acres remain at risk.

“The backlog of acres that needs to be burned is so substantial,” Rau said.

WHEN PRESCRIBED FIRE BURNS OUT OF CONTROL

When the Forest Service began burning piles of vegetation in early October 2019, two hours east of Sacramento in the Eldorado National Forest, conditions were ideal.

There was snow on the ground. Winds were calm.

A few days into the burn, however, the winds kicked up and the fire started burning beyond its designated boundary. A prescribed fire became a wildfire incident — the Caples Fire. It burned another three weeks.

Adding to residents’ confusion and fear, the wildfire burned during a PG&E Corp. “public safety power shutoff” — a deliberate blackout to reduce fire risks.

“All of a sudden everyone lost power and lost communications and there’s smoke in the air,” said Forest Service spokeswoman Kristi Schroeder.

It wasn’t much of a wildfire. Only 325 additional acres burned. No one was hurt. But it was something that can make the citizenry squeamish about deliberately set fires.

“Any escaped prescribed fire gets a lot of news,” said Martin, the fire official from Washington.

In 2016, a prescribed fire that ran amok near Reno destroyed 23 homes. A jury convicted the Nevada Division of Forestry of negligence and the state paid \$25 million for damages.

In California in 1999, a fire set by the U.S. Bureau of Land Management to eradicate noxious weeds near Redding got loose and burned 2,000 acres. Investigators blamed the Lowden Ranch Fire on a supervisor who ignored hazardous conditions.

A 2012 fire gone wrong in Colorado killed three people. A 2000 fire in New Mexico burned 200 homes and 45,000 acres, and even threatened the Los Alamos National Laboratory.

Dan Tomascheski, a vice president at timber industry giant Sierra Pacific Industries, said the fear of a prescribed fire spiraling out of control is genuine.

If the fire gets loose, “you’re on the hook for the bill from Cal Fire and the Forest Service,” he said. “You can be on the hook for a huge amount of money.”

WHY IT CAN BE HARD TO BURN

As wood piles burned above Lake Tahoe, tourists perused the shops a half-mile away on Highway 50 or streamed into the casinos just over the line in Nevada, oblivious to the flames. The famous gondolas to Heavenly ski resort glided overhead.

Keegan Schafer, the “burn boss,” stole a glance at his phone.

The forecast was good. Although snow was coming, the winds were cooperating — strong enough to blow smoke away from the tourists, too weak to fan the flames out of control.

The burn followed years of planning. In 2017 the state received a \$6.8 million federal grant to treat Van Sickle Bi-State Park, a woodsy spot that's seen two dozen small fires in the past decade.

The state hired the Tahoe Douglas Fire Protection District to map out the project. Its crews chopped up trees and branches, arranged the piles and left them to "cure" for more than a year so they'd burn properly. Then it was a matter of finding the right weather in which to ignite the stacks.

"The windows of opportunity, they're very small up here," said Schafer, fuels management officer at Tahoe Douglas.

At Boise National Forest in Idaho, fuels planner Ryan Jones said preparing for a burn can take so long that sometimes unplanned fires can ignite on ground that was earmarked for a prescribed fire.

A big concern is air pollution. Luke Montrose, a Boise State University environmental toxicology professor, said he worries about deliberately introducing smoke into communities that have already had wildfires in summer. "The exposure becomes chronic then, because it's year-round," Montrose said.

Smoke issues are no small matter. Researchers fear that "bacteria and fungi that hitch a ride on smoke" are infecting firefighters and the general public, according to a recent article in the journal *Science* by Kobziar, the University of Idaho scientist, and UC Davis' George Thompson III.

COVID-19 creates other complications. Last year fewer acres were deliberately burned not just because of pandemic protocols on social distancing. In Idaho, Montrose said officials feared that smoke from prescribed fire would make residents more vulnerable to the virus.

In California, two different approvals are needed for a burn — an air permit and a smoke management plan from the California Air Resources Board or a regional air-pollution district. In some cases, Cal Fire has to sign off, too.

If the winds are too still, the air district can pull the plug at the last minute because the smoke won't disperse properly.

"Sometimes they'll say, 'No, sorry, it's not going to happen that day because we're bumping up against our (pollution) thresholds,'" said Quinn-Davidson, of the Northern California fire council.

Air quality is a particularly sensitive point in a place like Lake Tahoe.

"It's a destination resort; people don't like the smoke," Schafer said. "People come up here for the fresh air."

RED TAPE AND RESOURCES CREATE FRUSTRATION

Three years ago, Sierra Pacific — one of the West's largest private landowners, with 1.8 million acres of forest under management in California — led a group of 12 timber companies that signed a memorandum of understanding with the Forest Service, Cal Fire and other agencies to "reduce excess forest fuels."

The timber industry's involvement in wildfire policy is a red flag to environmentalists like the John Muir Project's Chad Hanson, who says loggers simply want to harvest more trees "under the guise of fuel reduction." Sierra Pacific, though, insists it wants lower fire risks and to protect habitat for fragile species like the California spotted owl.

In any event, implementing the strategy has been hard. Tomascheski, the company vice president, said Sierra Pacific has struggled to get Cal Fire to approve its proposed burns. Cal Fire is often overwhelmed with its firefighting duties and "they aren't really equipped to cope with the paperwork," he said.

Cal Fire acknowledges the need to do more. Under an executive order from Newsom, the Department of Forestry and Fire Protection in 2019 implemented 35 emergency thinning and burning projects. The agency says the projects have helped. The "fuel break" it carved around Shaver Lake in Fresno County, for example, helped contain the Creek Fire, one of the largest fires in the state last year.

Without that work, the Creek Fire “would have been so much worse,” said Len Nielson, Cal Fire’s staff chief for prescribed fire and environmental protection.

Yet Cal Fire still spends just over 10% of its \$2.5 billion annual budget on thinning and burning; the rest goes toward traditional firefighting. Its workforce of about 9,000 includes 130 employees who specialize in thinning and burning.

The end result is a backlog. Cal Fire has more than 500 planned burns and other fuels-reduction projects that are “ready to go and primed” but are waiting for “funding, resources, crews, equipment,” Nielson said.

“I drive up into the mountains,” said Nielson, whose home was nearly evacuated during the Creek Fire. “I look around at private timberland and Forest Service timberland. And I think there’s so much more we could do.”

PRESCRIBED BURNS CAN’T ELIMINATE ALL FIRE RISK

Prescribed fire won’t eliminate the risk of a wildfire, but it can make it more manageable.

“Prescribed burning isn’t necessarily going to stop fires, especially in the current conditions we have where things seem to be hotter and drier come summertime,” said Peterson, fuels specialist at the Nez Perce-Clearwater National Forest in Idaho. “Our hope is we can maybe reduce the intensity to reduce the overall negative effect from those fires.”

The value and limits of prescribed fire became evident after a lightning strike in Northern California last summer set off the Bear Fire.

At first the Bear Fire behaved itself, burning relatively quietly in and around the Plumas National Forest as more spectacular fires made headlines. Ryan Tompkins, a UC Cooperative Extension expert and former Plumas forester, said the fire’s initial slow growth was partly the result of thinning and burning projects undertaken years ago as an outgrowth of the Quincy Library Group. That was a revolutionary 1990s collaboration between environmentalists and timber executives who overcame long-standing hostilities to forge a compromise on managing California’s increasingly dangerous forests.

But on Sept. 8, the Bear jumped the Feather River and raced southwest, fanned by 45 mph winds. It skirted Paradise, site of the catastrophic 2018 Camp Fire, and within hours destroyed the tiny community of Berry Creek. Sixteen people died, including two in nearby Feather Falls. Later dubbed the West Zone of the North Complex Fire, it was the year’s deadliest wildfire.

What went wrong? Despite aggressive forest management, much of the wooded area had grown back. The fire jumped the river at a spot that had been burned clean by a wildfire years earlier but had become carpeted with flammable vegetation.

“That was 100% shrubs,” said Scott Stephens, a UC Berkeley fire scientist.

In early November a group of scientists and others toured the area in a Cessna flown by nonprofit environmental group EcoFlight. The view was a startling blend of overgrown, green woods and blackened, scorched earth.

Darrel Jury, an area environmentalist who was hiking in the vicinity the morning of the fire, looked out the aircraft’s window and said disaster was probably guaranteed once the winds kicked up. But he’s equally convinced that a more rigorous program of thinning and burning might have limited the damage.

“We need to get fire back into the ecosystem, to prevent these massive fires,” said Jury, head of the environmental group Friends of Plumas Wilderness. “We could do a lot more burning in winter and fall.”