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TOP STORY

Living with fire: Officials, environmentalists wrestle with how to best manage forests

By Helena Dore Chronicle Staff Writer 16 hrs ago

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A sign designating the boundary of the logging project in the North Bridgers on Oct. 15, 2020, off Fairy Lake Road. The marked trees are those that the Forest Service has decided to keep, while the unmarked trees will be logged.

RACHEL LEATHE/ CHRONICLE

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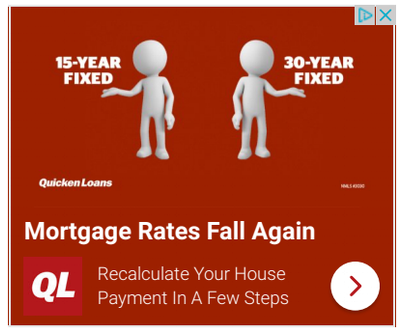
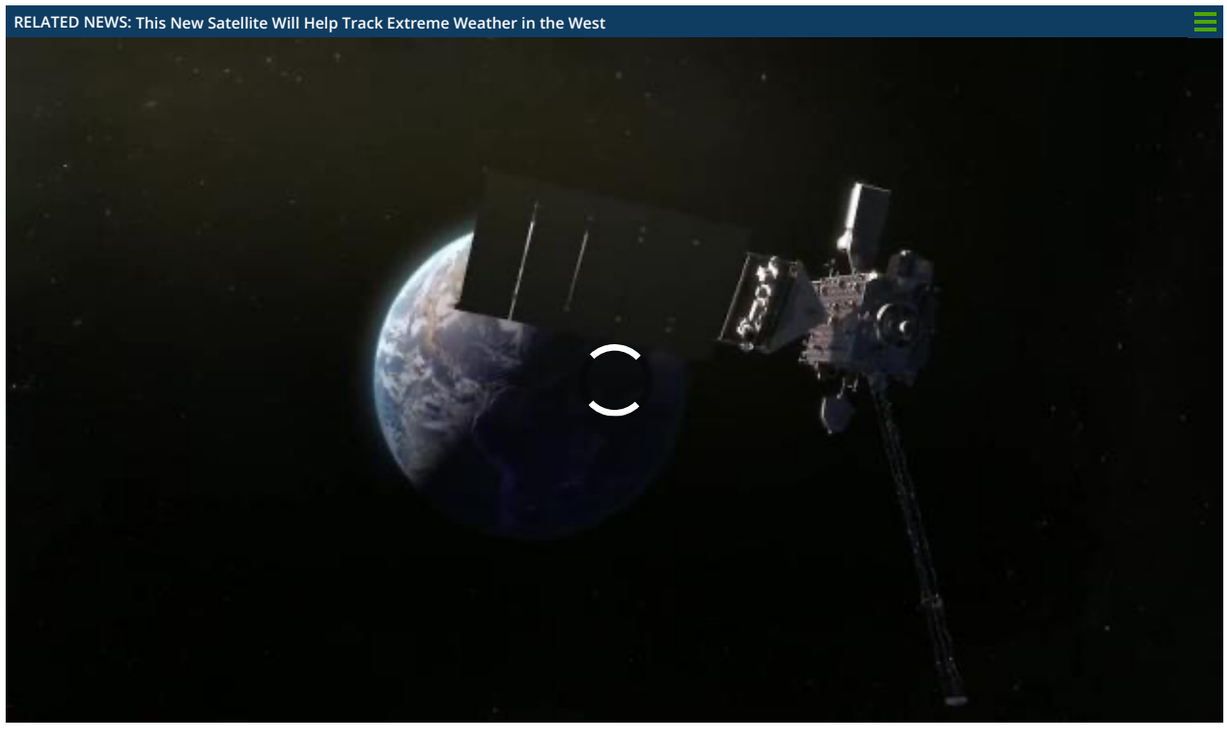
Squirrels scurried beneath massive Douglas fir in a forest above Kirk Hill south of Bozeman this summer. Trees with pink, orange and blue rings neighbored unmarked stands, climbing east toward Leverich Canyon.

John Meyer, an attorney for the Cottonwood Environmental Law Center, pointed to a thick tree painted with vertical orange lines. "This marks the boundary of the project," he said.

The rings flag trees that won't be cut when the logging trucks move in and crews harvest tress as part of the Bozeman Municipal Watershed Project, a 4,700-acre fuels reduction project approved in the Gallatin range. The project is one of two the

Forest Service has planned near Bozeman to reduce risks associated with wildfire.





Meyer knows the markings well. Before he became an attorney, Meyer painted trees for the Forest Service as a biological technician. He surveyed forests for threatened plants and decided which trees to keep for timber sales.

Now Meyer's firm has sued the Forest Service over the watershed project and two other logging and thinning projects approved outside of Bozeman — the one in the Bridgers and the other near Hebgen Lake.

Other critics say the consequences of the the logging projects outweigh the benefits. They say agencies should rethink how to manage forests for wildfires.

George Wuerthner, a photographer, ecologist and author of dozens of books about environmental issues in the West, said the collateral damage on forest ecosystems that's caused by logging includes displaced wildlife, spreading of weeds and carbon removal.

"A lot of logging that's being done is delusional," Wuerthner said. "It's being promoted with this idea that it's going to make communities and homes safe or reduce the cost of firefighting, when the very fires the logging is designed to stop are the fires that those treatments don't work upon."

Wuerthner said large fires are driven by dried fuels and extreme weather conditions like high wind, low humidity and high temperatures.

"When you're talking about 40 to 50 mile-per-hour winds, there's a whole new scale of fire spread. Fuels are less important," he said.

Wuerthner cited the Holiday Fire near Eugene, Oregon, where satellite data revealed that more than 70% of burned areas were on lands that had been managed using clearcuts, according to an article from David Gavin, a professor of geography at the University of Oregon.

“The natural inclination of people is to think that if we reduce fuels, we won’t have fires,” Wuerthner said. “It’s easy to convince people that’s where we should put our focus.”

Wuerthner said the focus instead should be on lessening the dangerous conditions created by sprawl. Modifying homes to reduce flammability and prescribing burns right around small towns consistently may give firefighters a better opportunity to stop fires, he said.

“We’re never going to stop fires from burning in a forest,” he said. “We’re going out and doing all this stuff in the backcountry to prevent a fire that may never come in 100 years. If we were to focus activities right around homes and communities, it could help a lot.”

Neither the Bozeman Municipal Watershed Project nor the North Bridgers project are in the backcountry, according to definitions set in Gallatin Community Wildfire Protection plans. The projects fall entirely within the wildland urban interface (WUI), meaning they’re relatively close to areas where structures or human development intermingle with the forest.

Forest Service officials say the BMW Project won’t prevent a wildfire but could reduce its severity. A lower-intensity fire would minimize the chances that the city’s water treatment filters get clogged with debris.

The project targets the Bozeman and Hyalite creek drainages, which supply 80% of Bozeman’s water. Plans involve building seven miles of temporary logging roads, burning 1,575 acres and thinning 3,162 acres on National Forest and city-owned land.

In addition to protecting the watershed, officials hope creating fire breaks will protect homes in the WUI and improve firefighter safety.

Caleb Schreiber, assistant fire management officer of fuels for the Custer Gallatin National Forest, said it’s a lot easier for firefighters to respond to wildfires when they’re on the ground rather than running through the forest canopy.

“If you’re looking at crown fires of 100- to 200-foot flame lengths, you can’t get people to deal with those,” he said. “Four feet or less is the objective.”

Marna Daley, a spokesperson for the Custer Gallatin National Forest, said keeping flame heights lower would save time to evacuate people from Bozeman Creek and Hyalite Canyon, since there’s only one way in and out of those areas.

“Over 2,000 people per day travel up that road during peak season,” Schreiber said. “It’s basically the size of a small city.”

The urgency of preparing for wildfires became evident on a hot, dry September afternoon less than a month after Meyer showed reporters the marked trees above the MSU-owned Kirk Hill loop trails.

That Sept. 4, a holdover lightning strike ignited the Bridger Foothills Fire near the “M” trail. The fire ripped up the western side of the Bridgers and descended the eastern side of the range. High winds the following afternoon caused the fire to spread rapidly. It burned 8,224 acres, destroyed 30 homes, prompted evacuations and forced three firefighters to deploy fire shelters.

Schreiber, an incident commander trainee on the fire, said it showed the importance of preparing for fire, which is a natural part of ecosystems. He recommended that homeowners living in the WUI seek out local, state and federal resources to educate themselves on fire resistant materials and formulate pre-evacuation plans.

The Bridger Foothills Fire also showed that fuels treatments can be effective, as fire behavior changed when it encountered areas with past treatments, according to Schreiber. After the fire reached treated units near the Pine Creek drainage, severity lessened and retardant had more of an impact, he said. Crews successfully controlled the fire around this area.

“These fuels reduction projects do not by any means prevent a wildland fire. We will have lightning-caused fires, and with all the folks out in the woods, humans will start fires, as well,” he said. “Fuels reduction projects are about giving us time and returning the ecosystem to a state that is more natural than heavy fuel loading.”

Philip Higuera, an associate professor of fire ecology at the University of Montana, said many factors play a role in fire disasters, but climate-related conditions are fundamental. Since the mid-1980s, warmer and drier summers and longer fire seasons have become more frequent, exacerbating conditions that are conducive to fires.

At the same time, people have pushed homes and infrastructure into forests, increasing the likelihood humans will spark fires. “In the WUI, most fires, over 90%, that threaten homes are started by humans directly or indirectly,” Higuera said.

Weather and vegetation both influence the way wildfires play out. Fuels reduction has been shown to modify fire behavior in a range of forest types, but under extreme weather conditions, the effectiveness can wane, Higuera said.

“Conditions are most frequent where fuel treatments will be effective, but every few years, you’re going to get extreme conditions. It’s this really tricky rolling of the dice game,” he said. Climate change is increasing the odds that a fire will start under more extreme conditions.

Higuera said thinning can increase wind speeds through trees, but this doesn’t necessarily translate into greater fire spread. That also depends on the amount and type of vegetation.

“If the true goal is to reduce the risk of fire severity, science supports that fuels treatments need prescribed burning afterward,” Higuera said. He added that regular maintenance after burns is also needed, as these areas quickly revegetate.

Schreiber said there isn’t a plan guiding future maintenance treatments on the Bozeman Municipal Watershed Project, but the lifespan of treatments on forests near Bozeman typically lasts about a decade. Crews plan to burn debris piles after mechanical treatments, but not all treated areas will undergo prescribed burns.

Because climate change is making forest landscapes more conducive to wildfires, Higuera said we can’t afford to do nothing. “The perspective of not wanting to remove any vegetation from the landscape is a hard one to hold,” he said.

Dave McWethy, a Montana State University research professor and fire scientist, said if we continue to respond to wildfires the way we have in the past, people will continue to be vulnerable. Humans have been remarkably successful at suppressing wildfires, but removing fire from the landscape removes a natural process, he said.

After large fires burned millions of acres in the United States in the early 20th century, forest management shifted to fire suppression. In 1935, agencies adopted a 10 o'clock rule, which required firefighters to control any new fire by 10 a.m. the following morning. Policies aimed at suppression triggered changes in vegetation structures and caused fuels to accumulate in drier and lower elevation forests.

Even though agencies have goals to use more prescribed fires, on-the-ground actions have fallen short of those goals, according to McWethy. Houses are consistently rebuilt in wildfire-affected landscapes, and most of the Forest Service's budget goes toward preventing and fighting fires, he said.

Fuel reductions have been shown to alter fire behavior if they're targeted at small trees small shrubs, but traditional logging projects have not been shown to alter fire spread and behavior, he said. "Data shows that if you remove small diameter woody fuels — shrubs and small saplings — it can drop a severe fire to a ground fire."

McWethy said preventing severe fires is more difficult in wetter forests. In dense, wet forests, "it's really tough to not get a severe fire even with prescribed fire and removing smaller fuels," he said.

Many of the trees targeted in the Bozeman Municipal Watershed Project are large-diameter trees. Phil Knight, a local conservation advocate, organized a petition to save old growth trees on National Forest land above Kirk Hill. Over 2,100 people have signed the petition.

Many of the targeted trees above Kirk Hill are large Douglas fir, which provide critical habitat for animals, according to Knight. Logging the area would mean building temporary roads in a roadless area, and he said he's skeptical the Forest Service will do an ample job eliminating the roads after work is completed.

"There are some parts of the project that make sense, and other parts that don't make sense," he said.

Schreiber said removing trees near the ridge line above Kirk Hill will widen spacing between trees and restore habitat to more historic conditions. Officials hope creating a fire break in that area will prevent a fire from entering the watersheds.

Focusing fuel treatments right around towns and houses gives firefighters a better chance of limiting fire severity and protecting resources, according to McWethy.

"If you're doing it 100 miles from a community, it's hard to argue there's a direct link to protecting homes, but if you're doing it in the WUI, it's certainly easier to manage," he said.

Even though tactics like creating defensible space, making homes more fire resistant and targeting reduction projects around communities can be successful, McWethy said there's no way to manage our way out of fires.

"We need to fundamentally rethink how we live on landscapes with wildfire," he said. "There's no lack of fuels to burn in southwestern Montana and throughout the West."

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