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As thousands of Oregon homes burned to rubble last month, the state's politicians joined the timber industry in blaming worsening wildfires on the lack of logging.

Echoing a long-standing belief in the state that public forests are the problem, U.S. Rep. <u>Greg Walden</u>, a Republican who represents eastern Oregon, equated the federal government's management to that of "<u>a slum lord</u>." And Democratic Gov. Kate Brown on "<u>Face the Nation</u>" accused Republicans in the state's Legislature of blocking measures, proposed by a wildfire council, that would have increased logging on public lands.

In the decades since government restrictions reduced logging on federal lands, the timber industry has promoted the idea that private lands are less prone to wildfires, saying that forests thick with trees fuel bigger, more destructive blazes. But an analysis by OPB and ProPublica shows last month's fires burned as intensely on private forests with large-scale logging operations as they did, on average, on federal lands that cut fewer trees.

In fact, private lands that were clear-cut in the past five years, with thousands of trees removed at once, burned slightly hotter than federal lands, on average. On public lands, areas that were logged within the past five years burned with the same intensity as those that hadn't been cut, according to the analysis.

"The belief people have is that somehow or another we can thin our way to low-intensity fire that will be easy to suppress, easy to contain, easy to control. Nothing could be further from the truth," said Jack Cohen, a retired U.S. Forest Service scientist who pioneered research on how homes catch fire.

The timber industry has sought to <u>frame logging</u> as the alternative to catastrophic wildfires through advertising, legislative lobbying and attempts to undermine research that has shown forests burn more severely under industrial management, according to documents obtained by OPB, The Oregonian/OregonLive and ProPublica.

This year's wildfires were among the worst that Oregon has experienced. They destroyed more than 4,000 homes across the state and consumed about 1 million acres of public and private land, nearly double the acreage as in previous years. Extreme winds drove fires across federal forest and industrial timber plantations, down through canyons and into populated areas like Sam Drevo's community of Gates, about 45 minutes east of Salem.

Drevo stepped outside of his home Labor Day evening and saw flames racing across a clear-cut hillside a quarter mile away. He and his mother had time only to grab a bag of clothes before evacuating.

"I'm still kind of spinning. It's hard to believe what just happened," Drevo, a 44-year-old river guide, said. "The devastation of the loss, everything we lost in the house, everything that was sentimental to me. It's just really hard to cope with that."



Sam Drevo walks through wildfire damage in the town of Gates, Oregon, where he owned a home and river guide business. (Tyler Westfall for OPB)

As fires continue to threaten communities from California to Colorado, state and federal lawmakers have prioritized logging ahead of methods scientists say provide the best chance for limiting damage from wildfires, including prescribed use of fire to clear brush and programs that could help make homes like Drevo's more resistant to wildfire.

"This country has a huge amount of money," Cohen said, noting that annual firefighting costs have surpassed \$3 billion nationally. "But if you have a misperception of what the problem is, if you continually define it as a wildfire control problem, then that money largely goes into ineffective kinds of uses."

After last month's fires, the Oregon Forest & Industries Council, a statewide timber lobbying organization, spent thousands of dollars on <u>Facebook advertisements</u> promoting forest management to reduce wildfire risks. Four industry groups, including the council, <u>published an opinion piece</u> calling for the state to unite around logging, thinning and prescribed burns to reduce the buildup of dead and diseased trees on federal lands.

Sara Duncan, spokeswoman for the council, said logging is an effective tool for slowing wildfires. She said that this year's fires, which burned more than 275,000 acres of logged industrial timberland in Western Oregon, should be treated as an outlier because of winds that fueled unanticipated damage.

"In such an extreme event, any land would have burned, managed or not," Duncan said in an email.

#### The Campaign for Logging

The idea of managing forests to prevent wildfires began gaining popularity in the 1990s, after logging on public lands plummeted following court battles that led to protections for threatened species like the northern spotted owl.

Proponents of more logging have argued that a rise in the number of large fires in recent decades coincided with the slowdown in timber sales on federal lands.

In 2018, the Oregon Forest & Industries Council launched a campaign that featured a simple message: "Managed Forests Do Good Things. Catastrophic Wildfires Do Bad Things." The campaign aims to "build a high-quality, on-line community

of activists who will advocate for the industry to policymakers and elected officials," according to an internal strategy document obtained by OPB, ProPublica and The Oregonian/Oregonlive.

Over the past decade, 80% of the acres burned in the state have been on federal land, according to data from Oregon's Department of Forestry. The disparity in acres burned is in part because 60% of Oregon forests are managed by the federal government. Most of those forestlands are in drier, remote areas prone to more frequent fire, compared with private forest lands.

Fires on private industrial timberlands can be more quickly suppressed because firefighters have more access through roads, making data that shows the intensity or severity of fires an incomplete metric for damage, industry groups said.

"More important is how the fire spreads and how easy it is to control," Duncan said in an email. "Fires on private forestlands are easier to put out because fuels are more receptive to suppression efforts, and access is maintained through roads."



A stretch of private industrial timberland that burned in the Holiday Farm Fire. (Jes Burns/OPB)

Because the state and federal governments have tried to put out every wildfire for decades, forests that would have been cleared of vegetation by frequent, naturally occurring fires became overgrown. Logging or thinning could provide jobs and wood for local mills, but scientists say it <u>won't prevent destructive wildfires like the ones the state experienced this year</u>.

Logging doesn't eliminate the underbrush, twigs and tree needles that fire feeds on. Removing brush and debris requires fire. That includes "prescribed fire," using drip torches to safely burn across the forest floor during cooler weather.

A forest that is thinned must then be purposely burned to reduce wildfire spread. But in Oregon, more than 1 million acres of federal land have been thinned in the past 10 years, while landscape burning has been completed on less than half that amount, according to data from the Forest Service and Bureau of Land Management.

Homes most often ignite from flying embers, not flames, and <u>research from the U.S. Geological Survey</u> found vegetation levels on public lands were a poor predictor of home destruction in a wildfire.

Scientists with the U.S. Forest Service and wildfire insurance industry say adapting communities to withstand wildfire by clearing vegetation and using fire-resistant construction like closed eaves, covered vents and double-pane windows provide the best chance to prevent home losses.

In Oregon, neither the state nor federal government track money spent on preventing home ignitions.

Matt Donegan, a former timber investor and consultant who led Brown's Wildfire Response Council, acknowledged thinning may not be effective in the rainy forests of western Oregon because the trees would grow back before wildfire.

Donegan said the damage caused by wildfires this year, which was almost entirely on the west side of the state, will likely prompt a special legislative session. He expects a debate over how much state funding should go toward fireproofing private residences.

"I think one of the most vexing topics Oregon will face is what do you do with the west side forests?" Donegan said. Wildfire there is "not going to happen often but when it does, my heavens, the impacts are so great."

The governor's wildfire council put forth a set of recommendations this year that

included increasing the state's firefighting capacity, creating a buffer around homes and requiring electric companies to shut down power lines during high winds.

The council's most expensive recommendation called for the state to spend \$4 billion over the next 20 years on forest management, primarily on thinning. Funding for the proposal would have covered fewer than half of the total acres in Oregon considered at high risk of wildfire.

The cost estimate didn't include maintenance treatments of prescribed fire, which the council acknowledged are "essential for maintaining risk reduction over time."

#### "Researchers and Their BS Study"

About an hour east of Eugene in a patchwork of heavily managed public and private timberland, with hundreds of acres of clear-cutting and thinning in every direction, the community of Blue River was completely leveled by September's 173,000-acre Holiday Farm Fire.

Picking through the burned husks of buildings and cars, researcher Chris Dunn pointed to a nearby hillside that had been logged before the fire.

"That kind of management clearly didn't provide community protection," said Dunn, who spent eight years as a wildland firefighter. He now studies fire behavior and risk for Oregon State University and the Forest Service.

In 2018, Dunn co-authored a study with Humboldt State University's Harold Zald that found the 2013 Douglas Complex Fire in southern Oregon burned 30% more severely on private industrial timber plantations than on federal forestlands.

Dunn said the research wasn't intended to target the timber industry. It was meant to explain why the fire burned in a particular pattern. He thought perhaps industry leaders might use the study to push for better fire protection funding for their lands, which provide society's wood supply and could be susceptible to burning.

But the findings challenged a report by the Oregon Forest Resources Institute, a tax-funded forest education agency overseen by timber companies. The institute's report had pointed to the same fire to caution that unlogged public lands contributed to damage on private lands.

"While the study is not receiving attention, enviros are using it, and it is out there as a matter of record," then-director Paul Barnum wrote to staff in 2018 in an email obtained by The Oregonian/Oregonlive, OPB and ProPublica. "Without someone challenging the study, those accessing it in the future may assume it's legit."

Barnum declined to answer specific questions about the study by Dunn and Zald. He said his emails were not relevant to this year's fires.

The institute drafted a guest opinion refuting the study and sought input from industry groups before submitting it to a local newspaper.

"From beginning to end I would keep the focus on these two specific researchers and their BS study," advised Nick Smith, a lobbyist for the national timber group American Forest Resources Council.

In response to emailed questions, Smith said he took issue with the researchers' "broad policy conclusions" and thought the study didn't contribute much to the protection of forest values or communities.

The institute's opinion piece ran nearly two months after the study was published, under the heading "Replanted forests don't increase intensity of wildfire."

Dunn said no one from the industry reached out to him before criticizing his findings.

"Why wouldn't someone just email me and ask me about it and talk," Dunn said. "It's like creating a false perception of me being against them or them being against me, and that's completely incorrect."

#### **Land Managed, Homes Lost**

Days after the September fires wreaked havoc in Oregon communities, Congress had a hearing on a comprehensive wildfire bill.

In the Senate, Democrat <u>Dianne Feinstein</u> of California and Republican <u>Steve Daines</u> of Montana introduced a wildfire bill focused primarily on expanding logging. The bill, which also includes prescribed burning and funding for home construction, would provide additional exemptions on environmental and legal reviews for logging to help mitigate wildfire.

Logging didn't help Drevo's community of Gates. Five of the nine houses on his street survived because they were built to be fire resistant or their owners doused them with sprinklers during the blaze. Drevo, who didn't learn he could fortify his home until it burned down, said politicians should focus on making communities more fire-resistant.

"You look at what happened in my little microcosm," Drevo said, "and the fact that there was an area that was heavily logged, and it was a huge inferno that helped add to the destruction of our community."

Late last year, Sen. <u>Kamala Harris</u>, a California Democrat and her party's nominee for vice president, sponsored a bill to create a \$1 billion grant program for making homes more resistant to wildfires. Oregon Democratic Sen. <u>Ron Wyden</u> cosponsored the bill in September. He also filed a separate bill seeking a \$300 million federal investment in the use of prescribed fire.

Neither bill has received a hearing.

Jes Burns of OPB and Rob Davis of The Oregonian/Oregonlive contributed reporting.

### Colorado's Troublesome megafire

November 2, 2020 by Allen Best



# Troublesome questions about where we're headed during our hotter, drier, longer summers in Colorado

by Allen Best/Top photo by Brad White

East Troublesome, now the second largest fire in Colorado as defined by acreage, appears to have started on Oct. 14 within a mile or so of my first backpack trip 40 years ago.

My days of backpacking have ended. These very large, very strange fires such as East Troublesome will almost certainly become more common in coming decades. For about a decade, wildfire specialists have been using a new word to describe those of another dimension:

megafires. Colorado this year has had three wildfires that crossed the threshold of the simplest metric, 100,000 acres in size.

East Troublesome hurtled past that metric in less than 90 minutes. Like at least one other fire, it appears to have created its own weather. And then there's the weirdness of the timing. It started in mid-October, traditionally a time of down comforters and, if not every year, most years in the mountains, snow on the ground.

The largest fire in Colorado history is now the Cameron Peak Fire. It started Aug. 15 and has now reached 209,000 acres. The East Troublesome Fire is second at 194,000 acres. Both remain lives fires. The third largest fire, Pine Gulch, north of Grand Junction, also occurred this year, covering 139,000 acres before being declared completely contained in September. Partly in Colorado, but mostly in Wyoming, is the Mullen Fire, at 177,000 acres.



Smoke from the Mullen Fire along the Wyoming-Colorado border as seen from the Snowy Range in Wyoming on Oct. 6. *Photo/Allen Best* 

But first, about that backpack trip. In 1980, I was living in Kremmling, a small town with a blue collar and cowboy boots. The busiest bar was called the Hoof 'n' Horn. Most people worked at the Edwards Hines sawmill, one of several sawmills in the region, or at the Amax Henderson molybdenum mill, which was "up" the Williams Fork Valley 25 miles away.

About backpacking, I knew nothing. My equipment was laughable, more suitable for a city park than a stretch of country rarely visited by people except cowboys during roundup time. A girlfriend drove me up Colorado 125, the road between Granby and Walden, and then onto a Forest Service road, and dropped me off.

It rained hard that night, lightning crashing fiercely, and there were bumps in the night, probably cattle and maybe elk, but I thought for sure bears. Then the sun came up. I had caught the bug. Exploring places beyond the roads became a passion. A decade later I had become an avid backpacker and a pretty good backcountry skier, too.

The East Troublesome fire started Oct. 14 and would have been a record fire in the 20th century and, by 21st century standards it was still respectably large. But in the dull, gray sky along Front Range, it was indistinct from the smoke of the Cameron Peak Fire and then the fire near Boulder called CalWood.

We had watched the CalWood fire that Saturday evening from a restaurant in Boulder, the last one along Broadway before it joins Highway 36. The fire had started about seven hours before and was already, I believe, the largest in Boulder County history. Sitting outside at the restaurant, we could see the fire flaring in the distance, maybe 10 miles away. I didn't realize how personal it was to people in the next socially distanced table until later. Cathy, my companion, who still has good hearing, said they were people who had homes in the fire area. One was calling his insurance agent.

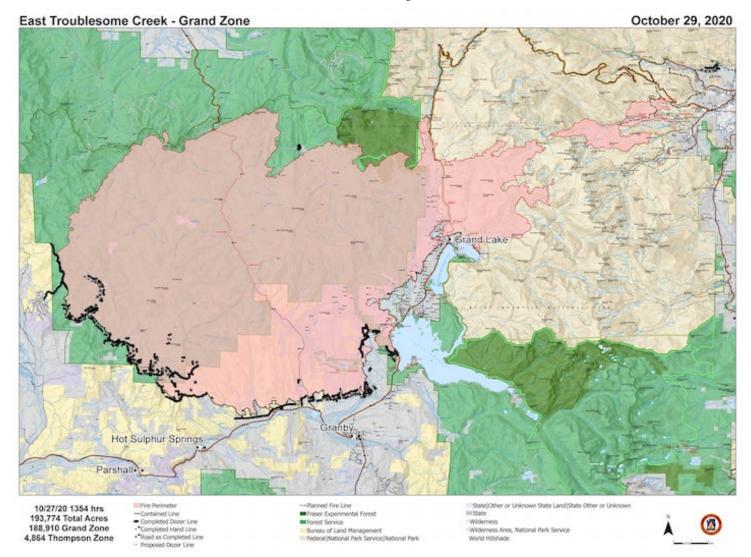
#### Like a volcanic eruption

On Oct. 21, a week to the day after East Troublesome had started, I saw a Facebook post showing a giant plume of smoke as seen from Park Meadows, in Denver's South Metro area. I assumed one of these Front Range fires had blown up. It had been another unseasonably warm day. The person who posted the photo compared it to Mt. Vesuvius erupting.

Later, the story has been pieced together. The fire had advanced to northeast of Hot Sulphur Springs but still east of Colorado 125, the highway that goes from Windy Gap—west of Granby a few miles—north to Willow Creek Pass and to Walden.

Brad White, the fire chief for Grand County Fire Protection District No. 1, whose service territory includes most of the affected area other than Grand Lake, says the fire made a run toward evening, as the sun was getting low in the sky. The fire had been burning a mixture of live and dead trees in the Kinney Creek area northeast of Hot Sulphur Springs. In 90 minutes, pushed by winds from the southwest, the fire rushed to Rocky Mountain National Park and across Trail Ridge Road. By White's calculation, that's a distance of 17 miles.

Slow-burning fires spread by the ground, often from tree crown to tree crown. This fire, during its runs, leaped great distances, a process called spotting. Visiting the charred remains of Columbine Lake, a housing development west of Grand Lake, White and others found a burning fist-sized ember—a piece of burning tree that they believe was hurled into the sky and came down miles away, like hail.



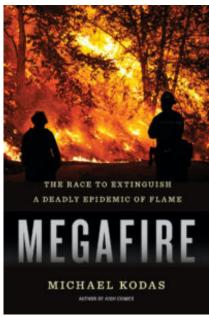
The East Troublesome fire was large by conventional Colorado standards, having covered a large area north of Hot Sulphur Springs. Then, in one evening it sprinted past Grand Lake and across the Continental Divide.

The current issue of Wired magazine tells of something similar, but set in Redding, Calif. An employee of the Forest Service, Eric Knapp, barely escaped a fire alive. The assumption he had made was that the fire would spread in typical fashion, on the ground. It instead created a giant column of fire and smoke, like a tornado, and then spread ashes and embers. That is what nearly killed the Forest Service fire expert and many of his neighbors. It sounds like something similar happened with the East Troublesome fire.

#### A key paragraph from that story:

"Knapp knew this could signal a once rare and dangerous phenomenon known as plume-driven fire, in which a fire's own convective column of rising heat becomes hot enough and big enough to redirect wind and weather in ways that can make the fire burn much hotter and, with little warning, spread fast enough to trap people as they flee."

See, "The West's Infernos Are Melting Our Sense of How Fire Works."



Michael Kodas, the Boulder-based author of a 2017 book called "Megafire," says Cameron Peak, East Troublesome and Pine Gulch fires all produced what are called pyrocumulus clouds, basically thunderheads. In the case of Pine Gulch, it produced lightning. Lightning from such smoke-born clouds can make the fire worse or spread it.

So far, though, Colorado has escaped what has now been observed in California: tornadoes caused by wildfires. They've been nicknamed firenadoes.

But the East Troublesome fire had enough wind to sprint hard across Grand County. I heard statements about hurricane-type winds capable of forcing cars off roads. Another report from a second-hand source was of "pine cones on fire blowing in the wind that were like missiles in the air."

White's estimate bears repeating: This fire ran 17 miles in 90 minutes. And 105,000 acres in an evening. To put that into perspective, Colorado's largest forest fire until 2020 was the Hayman Fire of 2002, which covered 138,000 acres. It's largest single-day run was 60,000 acres.

The Troublesome fire got big and did so fast in a month when fires are rare. It also leaped across the Continental Divide. In some areas, where the Continental Divide in Colorado is forested and relatively low, that wouldn't be all that notable. But in this case it leaped across two miles of rock and tundra to start a fire that quickly forced the evacuation of the east side of Estes Park, including the downtown area, and eventually the entire valley. In published reports, firefighting experts described it as so rare as to cause head-scratching.

It may have created its own weather, as big fires can do. Some anecdotal reports gleaned second-hand describe intense winds. From Fraser, about 30 miles to the south, Andy Miller, with whom I worked almost 40 years ago at the now-defunct Winter Park Manifest, said he saw tall columns of smoke, thunderhead-type formations. Atop this cloud of smoke were lenticulars, which commonly are at 40,000 feet.

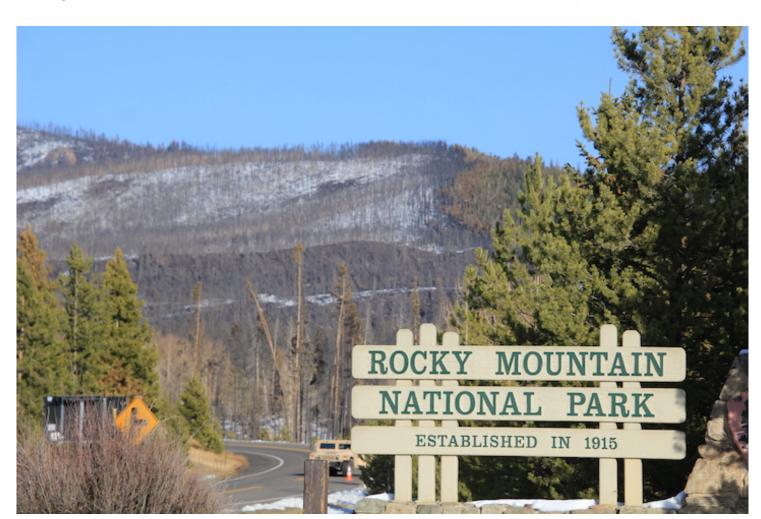
On the outskirts of Granby, Patrick Brower and his wife and children had packed their car that httWednesday. The town was under a pre-evacuation order, but some areas on the mesa north of

the high school were ordered to evacuate. That afternoon, there had been a steady stream of evacuees flowing through Granby—people from Grand Lake and the Three Lakes area—driving by his former office at the Sky-Hi News. Police did a good job of getting people out of harm's way, he says, just as they had in Granby in 2004.

"It was scary for sure, because there were massive, massive clouds of smoke," he says. "But the fire was still west and north of Granby."

Brower has a habit of sticking around until the last minute. In 2004, when he was still editor and publisher of the newspaper, Brower fled through the back door of the newspaper office just as the bulldozer of the small-town terrorist Marvin Heemeyer crashed through the front door.

Heemeyer nursed his grudges against the world in Grand Lake, the town of knotty-pine-sided buildings at the entrance to Rocky Mountain National Park. It mostly escaped the fire.



Despite the greenery evident in the foreground of this photo, there was a stench all around such as being amid 10,000 smoldering campfires. *Photo/Allen Best* 

On Saturday, 11 days after East Troublesome made its big run, I drove to Granby and then Grand Lake. An electric sign at the entrance said, "Locals only please." My companion and I instead followed Highway 34 to the blockade at the entrance to Rocky Mountain National Park. In the background of Grand Lake were giant hillsides of charred, dead trees. Immediately along the highway, only a few areas had burned. Nearly all the houses remained standing. The Grand httCounty Sheriff reported 300 houses wee lost, not counting outbuildings. I suspect considerable

luck. Easily, hundreds of houses could have burned if the wind had been in a slightly different direction.

Munching on our ham sandwiches, the car windows open, because it was warm, almost hot, we smelled the stench, the stink of being in a landscape of 10,000 campfires. It became unpleasant, almost sickening. We wondered what it would be like to live amid that strench for days, even weeks.

## This is from the Nov. 2, 2020, issue of Big Pivots. To join the mailing list go to BigPivots.com

President Trump famously blamed environmentalists in the case of California's fires this summer with his comment that "you gotta clean your floors, you gotta clean the forest." The general grievance that I heard in Trump comments was that it's those darned environmentalists wanting nature pure and pristine. If only the logging industry were allowed to get out the harvest.

In fact, sawmills in Colorado during the 20th century did cut a lot of wood. The mill in Kremmling when I was there ran 12 to 14 million board-feet a year. When Louisiana-Pacific came in, it did 20 million board feet. I assume the mill in Walden had some comparable numbers to the earlier Kremmling mill. These mills would mostly have had access to the wood on national forest lands in the East Troublesome fire area.

Then came the beetle epidemic. There had been a fairly significant epidemic in the lodgepole pine that dominates that country in the early 1980s. Then, in 1996, a much, much bigger epidemic, first along Keyser Creek, near the molybdenum mill where I had once worked, then spreading outward: the Fraser Valley and Winter Park, Grand Lake, Summit County and Vail, Steamboat Springs and along I-70 near the Eisenhower Tunnel.

Some of this wood has been harvested, such as for wood pellets at a new mill in Kremmling. More in recent years has been used to produce electricity at a plant at Gypsum.

Mostly it was left standing or it fell down. The economics of wood in Colorado just aren't that good. To make electricity, for example, requires a subsidy. Even so, it makes no sense to haul the wood more than 70 miles. And the dimensional timber from Colorado's mostly scrawny lodgepole pine just isn't worth that much. Bigger trees in the Pacific Northwest and British Columbia, that's where the money is. As for the beetle killed trees, they begin twisting and cracking fairly soon after they've died.

#### **Suppressed fires**

A century of fire suppression also mattered. Fires had been big in the 19th century in Colorado. There were big fires in the 1850s and then again in 1878. The latter fires were attributed to Ute Indians and were called spite fires. Maybe, maybe not. Better authenticated are the fires set by prospectors to study the rock outcrops more easily. We do know that Vail's famous Back Bowls lost their trees in 1878.

This federal policy of fire suppression in landscapes that are fire prone has been written about often, and in various ways. In "The Big Burn," Timothy Egan wrote about the fire in northern Idaho that covered three million acres in 1910 and triggered the fire-suppression policy in the new federal agency created to manage the forest reserves. In his delightful novel "English Creek," Ivan Doig created a central figure who was dogged by a disquieting past that never comes out until late in the book. He had, we learned, let a fire get out of hand.



The East Troublesome fire burned to the shores of Granby Reservoir in one or two places but more generally had a northeasterly trajectory. *Photo/Allen Best* 

In 1988, by which time I was in Vail, the harm of fire suppression had become apparent. That was the year that Yellowstone was "lost." But – the ecologists insisted – fire is natural in forests, even if the scale in Yellowstone was mind boggling: 1.2 million acres. Colorado that summer was smoked up by the I Do fire west of Craig, named because a firefighter got married the day lightning caused the fire. It covered 15,000 acres. At the time, it was Colorado's record.

In Vail in the 1990s, the Forest Service tried to reintroduce fire to improve game habitat. There was bitter opposition, although fire did occur after I left. Trees were cut, mostly with more thought to aesthetics and biology, along Red Sandstone Road north of Vail and in the Buffehr Creek area. And swathes of forest on the south—think ski mountain—side of Vail were thinned of wood in the first decade of this century after the big drought, the big fires of 2002, and the bark beetle left forests red and then needle-less.

In Summit County, the pivot may have been even greater. I greatly oversimplify here, but think of public policy that went from thou-shalt-cut-no-trees to thou-shalt-cut-trees.

Climate change matters, too—immensely so. During my years in Kremmling, it routinely got to 20 and 30 below. Most memorable was the January morning in 1979 when the thermometer at the Phillips 66 gas station next to where I lived registered 62 below. That wasn't an official record temperature, but it's as cold as it gets on Colorado's record books. Nowadays, In Fraser, the self-described "icebox of the nation," it got to 14 below last week. During mid-winter it can get to 30 below. But that's not routine, like in the good, cold days.

Then add to that warming trend this year's exceptional heat. It wasn't particularly a dry winter at the headwaters of the Colorado River where the East Troublesome fire began. But spring came early, and summer turned hot.



Many homes along Highway 34 and west of Granby Reservoir were spared, perhaps the result of the luck of winds. *Photo/Allen Best* 

This August was the driest and hottest on record in much of Colorado. By mid-month, several fires were raging: The Williams Fork fire began almost precisely at the epicenter of the bark beetle epidemic from 1996, near where I had worked during that year of my first backpack trip. There was Grizzly Creek above Glenwood Canyon, which shut down Interstate 70 for two weeks, causing bumper-to-bumper traffic across South Park as people took the long, long detour through Gunnison to get to Denver. But after a a snowstorm in early September, it got

hot again. I was in the Steamboat area a few days before that East Troublesome fire began, and it had been 85 degrees at an elevation of almost 8,000 feet. Yikes.

The current issue of Foreign Affairs has an article by Michal Oppenheimer of Princeton University titled: "As the World Burns: Climate Change's Dangerous Next Phase." He talked about wildfires and cyclones, disparate, but alike in important ways, and increasingly common:

"Soon, some once-in-a-lifetime catastrophes will become annual debacles. As temperatures rise, the odds that such events will occur at any specific location in a given year are growing quickly, particularly in coastal areas," wrote Oppenheimer. He went on to make the case for adaptation getting equal billing with mitigation.

Bruce Finley, writing in The Denver Post, riffed on the same theme of accelerating impacts of climate change. The headline was: As Colorado wildfires burn, fears that climate change is causing "multi-level emergency" mount.

#### A heavy wool blanket

Megafires—including 2020's Cameron Peak, East Troublesome, and Pine Gulch—are burning hotter and longer, with record destruction this year of 700,000 acres in Colorado and 6 million acres around the West. The smoke that exposed tens of millions of people to heavy particulates, health researchers say, will pose an even greater risk to public health in years to come.

The U.S. Interagency Fire Center defines a megafire by its size: more than 100,000 acres. By that count, Colorado has had three alone this year after having just one before in 2002.

Kodas, the "Megafire" author, dislikes a simple metric of size in deciding when to apply mega to a fire. Impacts also matter, and by that measure none of this year's fires caused near as much damage as those along the Front Range in years past: Waldo Canyon at Colorado Springs, Four Mile west of Boulder and High Park west of Fort Collins.

Colorado, he agrees, has entered a new era of wildfires: a time of larger fires more resistant to suppression and fires outside what has typically been considered wildfire season. In this, Colorado has company with California but also other parts of the world, he says. Next year may not be as bad as this year. Every year won't look the same. But the trend is clear.

There's also something else, as was hinted by the October fire near Boulder.

"We will see bigger fires and I think we will also see fires closer to and more threatening to our infrastructure, our communities, our homes," he says. "That's when these fires will really become mega."

Fires, some of them very big, have always been a part of our ecosystems. In the early 1600s, for example, there was a giant, stand-replacing fire in the Fraser Valley. But in the 20th century, it was still possible to describe the high-elevation forests on the Western Slope as "asbestos"

forests," the threat of fire was so remote. We've lost that illusion. Now we have the unnatural created by accumulating greenhouse gases like a heavy wool blanket on top of what is natural.

In 1980, during my first backpack trip, the accumulation of greenhouse gases measured at Mauna Loa stood at 338 parts per million. This year we hit 411 ppm. East Troublesome, foremost among the several giant fires in Colorado during 2020, tells me we've entered a new era. Call it a Big Pivot.

Author Recent Posts



#### **Allen Best**

Allen Best is a Colorado-based journalist who publishes an e-magazine called Big Pivots. Reach him at allen.best@comcast.net or 303.463.8630.