



Piñon Pine, (pinus edulis) one of the tree species earmarked for removal from Utah's public lands, photo Hank Meijer, Alamy Stock Photo

Forests on Utah's public lands may soon be torn out

The U.S. is moving forward with a plan to create new cattle pasture and prevent fires despite what scientists say is meager environmental review.

By Jennifer Oldham, Published September 03, 2019

In among the quietest places in the continental United States, where the discordant whine of newly hatched cicadas is usually the loudest sound, the metallic growl of a 28-ton masticator overpowers all as it shreds towering pinyon pine and gnarled juniper into fragrant bark piles. It spares a twisted gambel oak, the cicadas' honey-colored exoskeletons hanging from the tree's branches.

Machine tracks in the sand frame the site near Grand Staircase-Escalante National Monument,

a harbinger of its vanishing solitude. The federal government plans to remove an unprecedented number of trees here, it says to reduce fire risk, improve habitat for greater sage grouse, and increase forage for cattle and a world-renowned trophy-hunting deer herd.

And it plans to do it fast. The Bureau of Land Management failed to conduct a thorough environmental analysis of the project that considered the impacts of cutting trees on the climate, said scientists who appealed to a federal

review board to stop it. If approved, the effort could define how the nation's most sensitive public lands are managed for a generation.

Big consequences

Grand Staircase was set aside in 1996 in part for scientists to study “perhaps the richest floristic region in the Intermountain West,” according to the presidential proclamation that created it. The little-known BLM tree-removal proposal is part of an effort by the agency to cut tens of thousands of acres of pinyon-juniper woodland across the Colorado Plateau, Great Basin, and into the Pacific Northwest. Removing more forest portends far-reaching consequences for the ecological diversity of America's public lands.

The BLM is proposing three projects spanning 1,021 square miles of Grand Staircase. Just decades ago, underneath the soaring ruddy-red, chalky-white, and milky-caramel cliffs of the monument, botanists discovered an 800-year-old pinyon pine and several plants known to exist only in this area cradled by 250 million years of geologic time.

“Species are present in these desert ecosystems that we didn't know existed,” says Carolyn Shelton, a former assistant manager at the monument, home to the second highest diversity of bee species in North America, including 49 species previously unknown to science discovered in the last five years.

“The eggs of those wild bees are in the soil, and seeds from a rare plant or flower are in the soil. Sometimes it takes up to a decade for precipitation to be just right so that seed germinates and that bee hatches and is present so it can pollinate that flower,” adds Shelton, who retired in 2016 after 30 years with the BLM.

Heavy equipment use on fragile desert landscapes threatens to escalate erosion, encourage flammable invasive species, and destroy biomes already compromised by climate change, scientists say. Archeologists found the earliest evidence of wild potato use in North America near Grand Staircase, where less than 10 percent of the ground has been surveyed. In Utah, such projects endanger irreplaceable

cultural artifacts and fossils that remain buried and unmapped.

The BLM also plans to use chaining—a controversial practice in which two bulldozers drag an anchor chain that upends everything in its path—to fell trees in Grand Staircase, even though its own management plans found the method irreparably harms the landscape. Research funded in part by the federal government determined such treatments imperil the pinyon jay, whose population has plummeted 85 percent since 1970.

Official reasoning

Pinyon-juniper is the most common—and least understood—forest in the Southwest, where about 100 million acres of it carpets 10 states. The debate over whether the trees are “invading” the ailing sagebrush steppe escalated after President Trump issued an executive order in December for increased logging in U.S. forests and vegetation management on public rangelands to curb deadly wildfires. The order allows federal agencies to accelerate such projects by limiting environmental review and public input.

“We are replacing natural disturbance in the West by fire with mechanical disturbance and introducing diversity at the same time,” says Tyler Thompson, watershed program director for Utah's Department of Natural Resources. “We are not tree haters.”

Thompson directs Utah's Watershed Restoration Initiative, which coordinates and implements projects on behalf of federal and state agencies and private landowners funded by private donations from more than 500 sources, from hunting associations, to ConocoPhillips, to Patagonia, and taxpayer dollars, such as money from federal subsidies received by ranchers.

“We don't shy away from the fact that this program is in benefit of sustainable agriculture,” Thompson adds.

The U.S. Department of Interior's push to speed the size and scope of vegetation management projects is but one example of its laser focus on making more of the nearly 250 million acres of

public lands it manages available for industrial uses.

Since 2017, the agency has opened more land for oil and gas extraction and mining and scaled back protections for the greater sage grouse. The chicken-sized bird, found only in the United States, is a species that indicates through how much it's thriving how healthy its habitat is; it's considered threatened by scientists. The BLM says its plan provides "special protective measures" for land occupied by the greater sage grouse. Environmentalists disagree, countering that the document allows "enormous new loopholes for fossil-fuel development" that will "doom the bird to extinction."

The push to open more public land for business also included unprecedented reductions in monument status for Grand Staircase and Bears Ears, which the Trump Administration reduced by one half and 85 percent, respectively.

As the West's population grows, questions about how to balance nature, recreation, and industrial uses on public lands are gaining urgency. Pinyon-juniper removal provides a unique focal point for intractable land-use controversies around greater sage grouse conservation, grazing rights, and logging.

Even the verbiage around the trees is debated: Scientists call stands of juniper and pinyon forest, but the BLM refers to them as woodlands. Juniper rarely exceeds 30 feet in height and is easily identified by its fibrous, peeling bark. Pinyon, which can grow 56 feet tall, produces pine nuts prized by wildlife. Both species can live to be 1,000 years old.

The BLM is proposing to chain pinyon juniper in archeologically-rich Bears Ears and alongside 11,000 miles of primitive roads to slow the spread of rangeland fires. The agency is also implementing more small projects, citing the 2018 farm bill, which allows tree removal on areas under 4,500 acres to proceed with little review or public notice.

Conifers encroaching into the sagebrush steppe are sucking up scarce water, preventing grasses and nutritious plants known as forbs from growing beneath them, increasing erosion and

depriving wildlife and cattle of food, the BLM has said.

"Pinyon-juniper woodlands have increased substantially in both density and extent throughout the Intermountain West over the past 130 to 150 years," the agency writes in a February environmental analysis for a proposed project in Grand Staircase. It attributes the expansion of such forests to fire prevention and overgrazing.

"Without disturbance, these invading pinyon-juniper woodlands have matured and expanded, leading to increased fuel loading and greater potential for catastrophic wildfire," the report concludes.

Scientists who study pinyon-juniper landscapes counter that the slow-growing, fire-resistant trees are recolonizing their former range following decades of failed federal chaining treatments.

"We don't really know why expansion is happening, and we don't know how much our efforts to cure it have succeeded or failed," says Ronald Lanner, a forester who has written extensively about pinyon juniper. "Neither the forest service, nor BLM, has tried to do a definitive study in all these years to pinpoint its causes."

A pollen core study by BLM scientists in Grand Staircase found that juniper existed up to 7,000 years ago, with pinyon pine growing alongside the gnarled trees up to 4,000 years ago. Some samples were taken from Johnson Canyon, where steep white walls line a narrow road winding up to Skutumpah Terrace.

A delicate balance

The BLM is targeting about 30,000 acres of pinyon-juniper woodland for removal on the terrace. Botanist Laura Welp points to an array of grasses, flowering plants, and sage growing on Timber Mountain under towering evergreens whose green cones rustled in the breeze.

"These trees are old growth," she says. "There's absolutely no reason they should be proposing to cut them down—this area is healthy."

The agency plans to chain about a quarter of this area even though its own monument management plan forbids chaining of green trees, says Welp, a former BLM scientist who worked at Grand Staircase from 2001 to 2005. The agency is rewriting this plan and a draft of the new document allows such treatments.

She hopscoches around cracked, knobby biological soil crusts filled with cyanobacteria that retain water like a sponge, preventing erosion and providing the nitrogen that helps plants thrive. The crust takes decades to form and is easily destroyed by machines.

“The BLM will say that grasses they seed after pinyon-juniper removal function like biological soil crust,” says Welp, holding a tiny square with dangling entrails of cyanobacteria over her head. “To say that represents a real misunderstanding of basic ideas of ecosystem function in these areas.”

The monument’s multihued soil is at the crux of the debate over how to manage land in the last place in the continental U.S. to be mapped, in the late 1800s. The carmel limestone that defines the Skutumpah Terrace sits near the middle of the five-step Grand Staircase, which begins on the cream-colored Kaibab limestone at the Grand Canyon’s North Rim and ends at Bryce Canyon’s lipstick-pink cliffs. Pinyon-juniper forest thrives in the terrace’s rocky soil, an indicator, Welp says, that they’ve historically grown on the site.

The BLM ignored soil type in its Skutumpah Terrace analysis, adds Welp, who joined other scientists and conservationists to appeal the decision to the Interior Board of Land Appeals. The appeal argued that site descriptions the agency used, which found the area should be covered mostly by sagebrush, grasses, and forbs, are not scientifically accurate.

In its response, the agency disagreed: “This argument fails because BLM is not required to rely on the best available scientific information in preparing an environmental assessment and, in any event, the agency’s reliance on ecological site descriptions was reasonable.”

If the 15-year Skutumpah Terrace project moves forward, the agency plans to treat an average of

about 2,000 acres each year, according to 14 grazing allotments on the site. Ranchers in the region said pinyon-juniper tree removal is essential to ensure cows have adequate forage.

“Pinyon juniper is a weed and the feed underneath that type of a canopy is about zero—we are excited when there is a chaining to bring in grasses,” says Mark Wintch, president of the Utah Cattlemen’s Association. “These treatments are just not made to benefit livestock—they are made to benefit all animals.”

What grows back

Cattlemen must let allotments rest for two years after trees are removed to allow grasses and forbs to take root. Even so, sometimes all that returns is crested wheat grass, clover or alfalfa planted for cows, Welp says, adding that the agency often does not monitor treated sites.

She pointed to a February literature review she co-edited entitled “Do Mechanical Vegetation Treatments of Pinyon-Juniper and Sagebrush Communities Work?” Half of the studies surveyed found that such projects “increase flammable non-natives...and may actually shorten the fire cycle rather than restore the natural fire regime.”

About four-and-a-half hours north of Skutumpah Terrace, five miles southeast of Vernon in the Uinta-Wasatch-Cache National Forest, scientists employed by agencies involved in Utah’s Watershed Restoration Initiative say rangeland treatments statewide are successful about 60 to 70 percent of the time.

“We are at the mercy of the weather,” says Thompson, the program director. Behind him, a masticator, part of an 894-acre project for the U.S. Forest Service, mows down a pinyon pine and sucks it into a drum with massive metal teeth that grind up the tree; ruler-sized wood chips shoot out the back.

“Winter and spring moisture that comes after a treatment determines what is successful,” he says.

A study of how 165 treated sites fared over a 15-year period found that, in general, perennial grasses and forbs do increase on the landscape,

said Kevin Gunnell, a project leader at the Utah Division of Wildlife Resources' Great Basin Research Center and co-author of the yet-to-be-published report.

WRI seeks to reseed treated areas with at least a majority of native seeds, although seeds for some native flowering plants, and sagebrush, are hard to find in bulk, Gunnell says.

As the heavy machine continues to chew up trees nearby, filling the pine-scented air with dirt and bark, Gunnell walks toward a hillside covered with shredded wood chips. Native plants will take time to return to the area, he says. BLM environmental studies found that some masticated sites carry scars up to 35 years later.

Bark piles on the Uinta-Wasatch-Cache site resemble the mastication project near Grand

Staircase, where mangled sagebrush lay near the lone gambel oak. Attorney Kya Marienfeld, who filed the Skutumpah Terrace appeal on behalf of the Southern Utah Wilderness Alliance, Western Watersheds Project and The Wilderness Society in conjunction with the Grand Canyon Trust, stands atop a manhole-sized pinyon stump, shading her eyes from the noonday sun and slowly spinning around for a 360-degree view of the denuded landscape.

"About 90 percent of what I do is to try to stop the BLM and WRI from clear-cutting trees," says Marienfeld, who sports a swirly "Unless" tattoo on her left wrist in homage to Dr. Seuss' *The Lorax*. "These lands have value outside of what humans extract from them."