



# FOREST NEWS

The Newsletter of Forest Service Employees For Environmental Ethics

Spring 2024



## *Celebrating* the Gila

### Inside

**CHEATGRASS / PROTECTING SALMON STRONGHOLDS /  
GUEST AUTHOR: M. JOHN FAYHEE / AMAZING REDWOOD RECOVERY**

**M**arch 13, the National Wild Turkey Federation crowed about its “new Participating Agreement with the USDA Forest Service, marking a significant step in bolstering efforts to continue the great work that is being accomplished.” The press release gushed about the Federation’s new funding “entirely from federal dollars authorized in the Bipartisan Infrastructure Law and the Inflation Reduction Act.” These public tax dollars will pay for the private Federation’s “personnel costs, including travel, and supporting essential meetings like Partner Coordination Meetings and Industry Coordination Meetings to foster effective communication and collaboration among stakeholders.”

So when a journalist colleague asked me for “a plain language translation” of NWTf’s verbose, self-congratulatory release, I was happy to oblige (tongue firmly planted in cheek) as if the Forest Service had announced the same news.

*The Forest Service is pleased to announce that it is outsourcing more jobs that were previously performed by its own employees. “We have a real problem hiring people,” explained Deputy Chief Chris French. “We don’t know why, but our centralized Albuquerque Service (sic) Center just can’t seem to process the paperwork.”*

*The solution to this hiring crisis is to make significant investments in the private sector because they have promised us that there are people who want to do this work and they can hire them. Thanks to the generosity of American taxpayers and their representatives in Congress, the Forest Service has a record amount of cash to spend. Paying someone else to find and hire the people we are unable to is a win-win solution.*

*Our partners include the National Wild Turkey Federation. “We like the Federation because turkeys like clearcuts and we like to log,” explained Mr. French. “We’re giving NWTf more money to hire the overhead and administrative staff necessary to find the people out there who want to work in the woods,” he continued.*



**A male (tom) wild turkey struts outside Andy’s home in Oregon. Turkeys, which are not native to Oregon, were introduced by the state’s fish and wildlife department to increase hunting license revenue. The birds have become a nuisance throughout the state.**

*Eventually, if all goes well, NWTf will hire the non-union, low-skill workers who can be taught how to use a chainsaw without hurting themselves. If they exceed our expectations, NWTf will find heavy equipment operators who have the big machines (the bigger the better!) needed to cut, chop, smash, masticate, and pile all the ultra-hazardous fuel that threatens almost everyone who lives in our great nation.*

*“We wish we could do the contractor and hiring jobs ourselves,” said French, “but we’re thrilled that NWTf has stepped up to the plate to take on this critically important task.”*

*“I can’t think of a better way to Build Back Better than to outsource federal civil service jobs to the private sector,” mumbled a satisfied Agriculture Secretary Tom Vilsack between bites of a succulent wild turkey.*

Sincerely,

Andy Stahl

**Cover: Gila Cliff Dwellings National Monument lies within the Gila National Forest, which is also home to the world’s first wilderness area.**

## Inside

### 3 | Featured Forest

Gila National Forest, N.M.

### 4 | Smith River NRA

Protecting Salmon Strongholds

### 7 | Guest Column

M. John Fayhee: Excerpts From *A Long Tangent*

### 2 | Forest News - Spring 2024

### 11 | In Depth

Cheatgrass Threat

### 14 | Briefly

Redwood Recovery • Reforestation is Cool • FS Declines New Retardant

### 15 | Dispatch

Deicing Salts on Toiyabe National Forest

**Forest News** is published by Forest Service Employees for Environmental Ethics, a 501(c)(3) nonprofit organization.

**Andy Stahl:** Executive Director

**Misha English:** Development Director

**Marsha Gravesen:** Business Director

**Joe Stone:** Editor, Designer

*Board of Directors*


**Dave Iverson,** President

**Steve Horne,** Vice President

**Kevin Hood,** Secretary/Treasurer

**Dr. Jackie Canterbury,** Board Member

© Copyright 2024, some rights reserved.



**Cosmic Campground  
Dark Sky Sanctuary,  
the first in North  
America, is on the  
Gila National Forest.**

# Featured Forest

## Gila National Forest

---

**T**he Gila National Forest in New Mexico is home to Earth's first wilderness area, established by the Forest Service 100 years ago — June 3, 1924 — and 40 years before the Wilderness Act was signed into law. Aldo Leopold, a Forest Service supervisor working in New Mexico at the time, spearheaded the effort to preserve the land.

Leopold opposed expansion of a road system on the Gila and proposed instead that a large area be left roadless and preserved as wilderness. He saw the importance of preserving biological diversity and natural systems, and with local support, Leopold's vision prevailed, inspiring wilderness preservation worldwide.

While working on the Gila in 1918, Leopold wrote, "When the

pioneer hewed a path for progress through the American wilderness, there was bred into the American people the idea that civilization and forests were two mutually exclusive propositions.... A stump was our symbol of progress. We have since learned, with some pains, that extensive forests are not only compatible with civilization, but absolutely essential to its highest development."

The Gila also encompasses Gila Cliff Dwellings National Monument, Catwalk Recreation Area, and Cosmic Campground International Dark Sky Sanctuary.

Gila Cliff Dwellings National Monument preserves the dwellings of the Mogollon people, Ancestral Puebloans contemporary to the

Anasazi and Hohokam cultures to the north and west of the Gila.

Catwalk Recreation Area provides a uniquely accessible opportunity to experience rugged canyon-country terrain of the Mogollon mountains. The original catwalk was built to support a mill for gold and silver ore in Whitewater Canyon. In the mid-1930s the Civilian Conservation Corps rebuilt the Catwalk, but it was washed away in 2012. Repairs have reopened the Catwalk for approximately ½ mile.

Cosmic Campground International Dark Sky Sanctuary is one of only 14 locations in the world certified to meet Dark Sky Sanctuary requirements, the most stringent standard for certification by the International Dark-Sky Association.



Fall Chinook salmon thrive in the Smith River, one of a cluster of salmon stronghold rivers threatened by strip mining in the Klamath Mountains (photo by Thomas B. Dunklin).

## Protecting Salmon Strongholds in the Klamath Mountains

by Grant Werschull

The Smith River watershed in northern California and southern Oregon is a land of superlatives. Ancient redwood forests stand along the lower river as it flows through Redwood National and State parks. The Smith is the only major undammed river in California, and it contains the highest density of Wild and Scenic River designations in the U.S. Anglers have landed record king salmon and steelhead trout here, and the Wild Salmon Center describes the Smith as “irreplaceable salmon habitat.” Thanks to layers of protection and vast public ownership (over 80%) the watershed is recognized as one of the premier salmon strongholds along the Pacific Coast.

Most of the mid and upper watershed is managed by the

Forest Service. However, existing protections fall short of what’s needed to deter the threat of devastating strip mining in the Smith headwaters. Passage of the Smith River National Recreation Area (NRA) Act of 1990 was inspired by strip-mining threats and included a ban on new mining claims, but the NRA boundary stops at the Oregon border, leaving 58,000 acres of the Smith watershed unprotected. The watershed is part of a cluster of salmon stronghold rivers in the Klamath Mountains threatened by strip mining in their headwaters.

Residents of downstream communities are alarmed by this proposed strip mining, which threatens not just salmon, but also the communities’ drinking water sources. Protecting potable water

has proven to be a unifying issue for every stripe of citizen. Allowing this threat to such an invaluable fishery also flies in the face of the hundreds of millions of dollars being spent on habitat restoration and recovery measures for salmon and steelhead across the bioregion.

For example, the Smith watershed abuts the Klamath River watershed on the south, and their mouths are a mere 29 miles apart. Removal of four Klamath River dams is underway, and the expected cost is \$450-500 million. River health, including recovery of salmon species, has been a principal driver for dam removal with strong support coming from tribes, sport and commercial fishermen, and the many communities that have historically benefited from a thriving

salmon fishery.

Salmon strongholds are critical to a functional ecosystem in this region. Salmon have survived vast landscape-scale change over the millennia. Volcanoes erupting and wiping out multiple spawning cycles of salmon didn't permanently eliminate salmon from those rivers. Rather, some number of salmon — from adjacent streams and rivers that weren't affected by the volcano and its lava flows — strayed into the devastated rivers. And when conditions were right for spawning, that's exactly what they did. It's a proven long-term salmon survival mechanism, and it highlights the importance of our salmon strongholds, further underscoring the importance of the Smith River watershed to the Klamath region.

Indeed, a cluster of salmon strongholds are threatened by strip mining in the Klamath Mountains. Several miles north and west from the Smith watershed are the headwaters of Pistol River and Hunter Creek. Both of these beautiful streams flow directly into the ocean south of Gold Beach, Oregon. Then, abutting the eastern edge of the North Fork Smith watershed in Oregon is Rough and Ready Creek, a tributary to the Wild and Scenic Illinois River, which flows into the Rogue River. These wild headwaters areas of Hunter Creek, Pistol River, North Fork Smith River, and Rough and Ready Creek share a common geologic feature — ophiolite, a suite of rock types rich in magnesium, iron and other metals with geologic origins in ancient oceanic crust and the upper mantle.

“Geology is destiny” explains why these watersheds share certain characteristics such as soils, vegetation, water-holding capability,



**Outdoor recreation — including river activities like fishing and boating — is a major economic driver for local communities (photo by Trevor Meyer).**

and so much more. These rivers and streams flow emerald green and clear rapidly after the pounding rains of winter. How much rain? In one location near Gasquet in the Smith River watershed, as much as 45 inches of rain fell in a three-day period, and a U.S. record — 254 inches of rain — fell in a single year.

In addition to shared geologic history and climate, these salmon stronghold watersheds have extraordinarily high biodiversity, including more than 21 species of conifers. In some locations, unique serpentine-influenced wetlands or fens, where insectivorous plants dominate, meter out the rainwater. Welcome to the Klamath Mountains Geomorphic Province, also known for its long period, at least 9,000 years, of Indigenous history — and salmon.

## A REGIONAL SOLUTION

In response to overwhelming support from local communities, the [Southwestern Oregon Watershed and Salmon Protection Act \(SOWSPA\)](#) has been introduced and incorporated into the Oregon Recreation Enhancement Act (S. 440) to permanently ban new mining claims across the headwaters of Hunter Creek, the Pistol River, the North Fork Smith River and Rough and Ready Creek — an area of roughly 100,000 acres. [The Smith River National Recreation Area Expansion Act \(S. 162\)](#) has also been introduced. It would also permanently ban new mining claims from all Smith River watershed land in Oregon and would designate 75 miles of the North Fork Smith River

and its tributaries in Oregon as Wild and Scenic Rivers. Nearly all of the land proposed for protection by the two bills is managed by the Forest Service.

This legislation would provide critically important protections and, in the case of the Smith River NRA Expansion Act, would complete the NRA by expanding it to include land omitted in 1990, protecting drinking water supplies and salmon populations. Oregon Senators Jeff Merkley and Ron Wyden and Representative Val Hoyle have been leaders in support of both measures. Please urge your congressional delegation to support these bills. They enjoy broad support from local communities, and we need to get these protections done!

To learn more about the outstanding natural resources of this headwaters region, [The Klamath Mountains: A Natural History](#) by Michael Kauffmann and Justin Garwood is recommended reading.

*Editor's note: Please see back cover for details about how to support Senate Bills 440 and 162.*

---

Grant Werschull is the Co-Executive Director of the Smith River Alliance (SRA, [smithriveralliance.org](http://smithriveralliance.org)) a 44-year-old nonprofit watershed organization with a mission of natural resource restoration, protection, and stewardship. The Smith River Alliance is focused on salmon habitat restoration and cooperative projects with public and private partners. In 2012, the Forest Service recognized the SRA with their national award for Outstanding Stewardship for Wild and Scenic River





*Middle Fork Gila River, Gila National Forest, New Mexico.*

# Guest Column

## Excerpts From *A Long Tangent*

*Musings by an old man and his young dog hiking every day for a year*

*by M. John Fayhee*

With imminent sexagenarianism looming on my personal event horizon, I decided to do something of relative note. Part celebration that I am not yet dead and part personal challenge to see if I yet retained the physical ability and mental fortitude to complete an endeavor arduous enough that I could brag about it at my local watering hole.

Circumstances did not allow me to, say, attempt the Pacific Crest Trail, as I had several work projects on the front burner that I did not want to abandon, even temporarily. Plus, there was a good possibility my wife, Gay, would justifiably have divorced me had I yet again slung my pack and headed to the hills, leaving her behind to keep the domestic ship afloat.

I decided to try to hike every day for an entire year.

The idea began to germinate while sitting on a barstool so familiar it bears a permanent imprint of my posterior. When I sauntered back to my vehicle — a malodorous 1999 Toyota 4Runner nicknamed “Pronto” — I turned to my dog Casey, who was snoozing contentedly on the back seat. “You up to hiking a hundred straight days?” I asked. She answered with a standard semi-enthusiastic, semi-perplexed canine-companion facial expression that I read to mean, “Whatever you do, I do too.”

During the seven-minute drive home, my mind began to wander further afield. By the time I walked

through my front door, I was feeling my ancient oats. “To hell with a hundred days!” I exclaimed. “We’re going for a solid year!”

Throughout the process of compiling this manuscript, I was vexed by the subject of proper place names. I have long held the firm belief that outdoor recreationists of all stripes ought to foreswear publicizing the locales they visit. Basically, keep your mouth shut.

In the end, there was no hiding the fact that I live in southwest New Mexico and hike primarily in the Gila National Forest, known colloquially simply as “the Gila.” That said, with a few unavoidable exceptions, all other proper place names in these pages are fabricated because, like almost every square inch of the American West, they do not need additional publicity.

### **DAY 88**

I first arrived in Gila Country in the summer of 1976 to attend Western New Mexico University, then one of the few institutions of higher education in the country that would let me within a mile of their campus, unless it was to sweep the floors or clean out the sewer lines. Given that I had managed to attain a grade point average (and I am not making this up) of 0.6 (yes ... point six, as in — about halfway between an F and a D) at a small community college in the Old Dominion, I was granted a “conditional acceptance,” a status that, according to a friend who worked in the registrar’s office, they made up specifically

for yours truly, given that WNMU had open enrollment.

Even before I memorized a class schedule I would soon come to ignore, I decided to connect with that which first drew my attention to this remote part of the world: the Gila. My maiden multi-day trek into my new backyard would follow an old Jeep track that ascended toward the western flank of a prominent ridge connecting a double summit called the Dos Chichis, located pretty much directly atop the Continental Divide. By a combination of geographic default and geographic ignorance, my takeout point was to be a crumbling Army fort that was established in the late 1800s to help eradicate the local indigenous population. All told, maybe 10 or 12 miles. Or maybe 30. I had no idea.

I hoisted a bright-orange Sears Roebuck external-frame backpack given to me several years prior as a Christmas gift by my mom, who, 12 years later, would be dead. The pack was too small, but my young self, then unfamiliar with the concept of retail returns and exchanges, said nothing for fear of offending a woman who did not know the first thing about outdoor

gear but whose intentions were good.

I intended to follow that Jeep track only long enough to pass the national forest boundary sign, at which point I would begin a cross-country bushwhack that had a specific goal — a spring I pretty much chose because a cannabis seed popped out of my pipe and landed on my map Right There. A sign from on high, if ever there was such a thing.

From a retrospective position defined by the passage of more than 40 years, I should point out how foolhardy that plan was. At the time, though, it was pretty comprehensive coming from someone who looked at stale bong water as a perfectly acceptable breakfast beverage.

My optimism/ignorance coefficient was evidenced by the fact that I carried with me but a single quart canteen to cover a distance I could not accurately gauge across rough, cactus-covered country in hopes of locating a teeny spring icon that, for all I knew, might well have been dry for years. And it was August. Hot.

Off I went — me, my stupidity, and the bliss of my cognitive dissonance all walking arm in arm.

Several ripped-skin hours later, I experienced a Hallelujah Chorus-level miracle: I walked directly by that spring, which was flowing wonderfully. It was as though I knew where I was going and what I was doing.

I decided to camp near the gurgling fount. Level ground, however, was hard to come by, so I laid my pack in the very bottom of an arroyo I now know to be the headwaters of Dos Chichis Creek, which, most often, is a bit lacking on the “creek” part. I had never heard the words “flash flood” or “monsoon season.” This was the time of year when a storm could have come through and washed my moronic posterior down toward Texas with no evidence of me ever having passed and no one knowing where I was.

I had a \$3 plastic tube tent I used as a ground cloth and could make into a very basic shelter if the weather turned bad. I also had a Class Five Nickel Cigar down sleeping bag, one of my first pieces of backpacking gear that wasn't Boy Scouts or Army-Navy surplus. I laid the bag on top of the tube tent/ground cloth.

Toward dusk, I made a fire ring about fifteen feet from my bedding. I gathered tinder, kindling, sticks, and logs, just like I learned in the Scouts. I then poured an injudicious quantity of white gas from a metal cannister used to fill my one other piece of real backpacking gear — a Svea 123 stove — upon the mound of wood and dropped a match into its center. The flames instantaneously whooshed head high.

Later in the evening, when those flames began to dwindle, I kneeled and leaned forward to blow on what was left of the fire. As I exhaled, an explosion knocked me flat on my keister. And I'm not talking about a pine twig popping in the heat. I mean



*The author and his hiking companion, Casey, in the Gila. (photo by Gay Gangel-Fayhee).*



BOOM!!! Sitting in the dirt, nonplussed, with a ringing in my right ear that would not dissipate for several days, I shook my head and wondered what in the world had just happened. I rose unsteadily to my feet and came to the only plausible conclusion:

Someone unseen had, for unfathomable reasons, tossed an explosive device into the fire! An M-80 at the very least. Maybe even a stick of dynamite. There could be no other explanation!

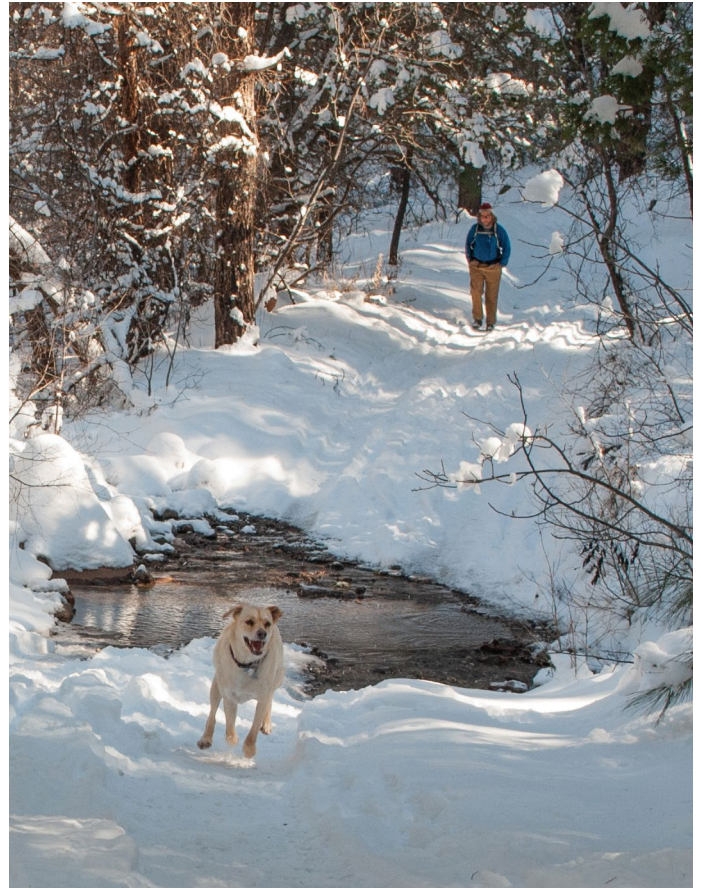
I then noticed that one of the rocks I had used to build my fire ring — one placed directly next to where my head had been when I blew on the flames — was fractured. Half the rock was gone. Vaporized. For reasons I did not learn until I related this tale to more experienced local campers, if there is one thing you definitely do not do in this part of the world, it's use river rocks to build a campfire ring.

“Pockets of air are often trapped in those rocks and, when heated, the trapped air expands,” I was told. “Most times, that expansion only causes the rock to crack, but sometimes, an explosion occurs.”

Some months later, sitting around a campfire down in the Bootheel with a cadre of newfound amigos, I told the story of my near-decapitation, and everyone went real quiet real fast. I am a Sagittarius, a zodiac sign defined by the insertion of one's hiking boot directly into one's big mouth. I knew the instant the words had passed my lips that I had for the millionth time in my life inadvertently said the Wrong Thing. Turns out that the brother of one of the men listening as I related my tale had been killed a few years prior by an exploding river rock. I had relocated to a state where murderous rocks seemed to be fairly common.

When I finally moved toward my sleeping bag there in the bottom of the arroyo, I saw that when the rock exploded, it had sent a fusillade of red-hot shards cascading into the night sky and they had landed in a perfect row upon my plastic tube tent/ground cloth, mere inches from my Class Five Nickel Cigar, and burned through to the ground. That not one of those shards had touched my bag was a miracle. That a fragment had not entered my right temple as I blew upon the fire was an even bigger miracle. It was as though I was being issued a warning that said: “Young man, this is not the East. You are now in Gila Country. You had better get your act together.”

That Class Five Nickel Cigar sleeping bag stayed with me for many years. It was with me when I hiked the Appalachian Trail end-to-end. It was with me the first time I traveled deep into Latin America. It covered me and the woman who is now my wife the very first night we ever spent together in the woods. When it finally died of old age, no longer able to keep its loft, I built a big fire and sent its mortal remains toward the star-filled New Mexico sky.



*A winter hike in the Gila (photo by Gay Gangel-Fayhee).*

Inspired by my quest to hike every day for a year, I decided to recreate that hike at almost exactly the same time of year, 40 years after the exploding rock almost blew my head off. I left Casey at home because it had been a disappointing monsoon season and I suspected the spring, even if I could somehow locate it, would be bone dry. I did not want to have to carry water for one human and one quadruped.

I climbed to the base of the Dos Chichis, where I plopped into the dirt and dined upon a partially melted, peanut butter-flavored PowerBar and a rock-hard red delicious apple, likely genetically modified. On that inaugural hike shortly after I moved to southwest New Mexico in 1976, I scampered up both of those 8,000-foot peaks. The summits are connected by a bright-white rock bridge, upon which, all those years ago, I sat and gleefully snarfed handful after handful of trail mix, purchased from Silver City's first health food store.

The trail mix contained raisins, peanuts, sunflower seeds, chunks of dried fruit, carob chips, and coconut flakes. Hardly exotic ingredients, but to a young man who went to high school in a backwater county where snacks consumed among the trees still consisted primarily of canned Vienna sausages smeared on saltine crackers, this stuff might as well have been prepared by Wolfgang Puck.

I consumed trail mix by the bucketful. Yet, despite caloric intake measured in gigawatts, that young man remained refugee-camp scrawny. These days, I can't eat a raisin without gaining 5 pounds.

I looked up at that rock bridge, trying to reconcile all that passed time with the unfortunate metabolic reality that verily defines the aging process. I wondered what that young man sitting on the rock bridge connecting the Dos Chichis would say if he looked down and saw a decrepit version of himself hobbling down below. Would he be pleased that he was still out there, pack upon his back — that he had survived to a ripe old age? Or would he be appalled by what he saw? Would he stare at the infirmed sexagenarian and weigh the supposed benefits of an extended lifespan?

Simultaneously, I wondered what I might yell up that steep slope to the previous me. Something only he and I would understand, like maybe: “You were very lucky that you did not get arrested for felony drug possession with intent to distribute when you were pulled over by that state trooper in Kentucky on your journey out here from Virginia with five pounds of weed in the back of your Opel Kadett station wagon. You would still be in prison!”

His eyes might then widen in disbelief. That fictional conversation could wait till I was comfortably ensconced in camp, lukewarm craft beer in hand (I packed in four cans, in case of emergencies), rumination glands secreting full bore. Bushwhacking would not be necessary — or even possible — this go-round, given that the entire area surrounding the Dos Chichis is now thick with

well-marked trails.

On the backside of the Dos Chichis, I slowed my pace, looking for signs of the spring I located without even trying 40 years prior. I examined every side drainage for several miles and found nary a molecule of water. I dropped my pack and walked back and forth a few times, finally giving up and picking a campsite on a rise above the bone-dry bed of Dos Chichis Creek, in the basic vicinity of where I almost got my head blown off by that exploding river rock.

I slept well, a rare blessing for a lifelong insomniac. I was calmed by the nocturnal sounds — the breeze through the trees, random bird noises, crickets, and various unidentifiable movements through the surrounding understory. Mice, maybe, or a skunk. Other possible culprits: bear, bobcat, javelina, raccoon, mountain lion, coatimundi, jaguarundi, ringtail cat, coyote, or Mexican gray wolf. I was not concerned. I had hung my food bag well away from camp and did not feel even slightly threatened by the creatures that dwell hereabouts.

---

For 12 years, M. John Fayhee was the editor of the *Mountain Gazette*. He was a longtime contributing editor at *Backpacker* magazine and a two-time Colorado Book Awards finalist. His work has appeared in *Canoe & Kayak*, *High Country News*, *Overland Journal*, *Adventure Travel*, and many others. Fayhee has hiked on five continents and has completed the Appalachian, Colorado, Arizona, and Inca trails, as well as the Colorado section of the Continental Divide Trail. Fayhee is, improbably enough, a New Mexico Humanities Council Scholar. He lives in Gila Country with his wife, Gay Gangel-Fayhee.



**Sunset in Gila Country,  
Gila National Forest.**



**Ground disturbance from mechanical tree-thinning at a forest health treatment site in Central Colorado is facilitating the rapid spread of a pre-existing roadside cheatgrass infestation, increasing the frequency and intensity of wildfire.**

## In Depth

### Cheatgrass

*‘One of the most significant ecological crises facing land managers in the arid West.’*

A report published in January, *Cheatgrass Invasions: History, Causes, Consequences, and Solutions*, by Western Watershed Projects is the source of the above quote. Authored by Erik Molvar, Roger Rosentreter, Don Mansfield, and Greta Anderson, the new report draws on a century of research and data supporting a firm scientific consensus that this invasive species fuels a “livestock-cheatgrass-fire cycle” which “now prevails across much of the public lands of the western United States.” As a result, those lands are now “susceptible to larger and more frequent fires.”

Cheatgrass is the most widespread invasive weed in North America with millions of acres converted to cheatgrass monoculture and tens of millions of acres at risk of infestation. This annual grass from Eurasia was introduced to North America in the 1800s. Spread by railroads, vehicles, and livestock, it colonized lands that had been

disturbed and degraded, mainly from overgrazing cattle. Molvar et al. provide a comprehensive review of scientific research on cheatgrass and evaluate solutions to restore healthy native ecosystems.

A significant proportion of the public lands at risk from cheatgrass-fueled fire is managed by the Forest Service, an agency currently spending billions of tax

dollars to “mitigate wildfire risk” by cutting down trees. These logging projects don’t address readily combustible fine fuels like cheatgrass, even though the risk is well-documented. The Boy Scouts

*Today the honey-colored hills that flank the northwestern mountains derive their hue not from the rich and useful bunchgrass and wheatgrass which once covered them, but from the inferior cheat.... The cause of the substitution is overgrazing. When the too-great herds and flocks chewed and trampled the hide off the foothills, something had to cover the raw eroding earth. Cheat did.*

— *A Sand County Almanac*, Aldo Leopold, 1949



**Cheatgrass now dominates a former pinyon-juniper woodland following a wildfire in Nevada's White Pine Range.**

understand fine fuels, which they call tinder: “Thin, dry material that ignites instantly with a match. It’s the basis of every fire. Examples include dead, dry grasses....”

Cheatgrass produces two crops per year, providing dead, dry grasses in summer and fall. The spring crop of cheatgrass dies off by early summer, leaving “the basis of every fire” available for easy ignition at the height of fire season. According to *Cheatgrass and Wildfire* (Colorado State University Extension) “A typical cheatgrass fire on flat terrain with wind speeds of 20 miles per hour may generate flame lengths up to eight feet in height,” significantly putting cheatgrass in the category of “ladder fuel.” Increase the wind speed, and a cheatgrass fire becomes unstoppable — like the million-acre grass fire that recently burned in Texas.

Multiple scientific studies cited in the cheatgrass report demonstrate that “cheatgrass invasion creates larger and more frequent fires by creating continuity of fine fuels.” Anything from a roadside cigarette butt to a hot tailpipe on an ATV can ignite cheatgrass and spark a wildfire. And cheatgrass seeds are adept at surviving fire; therefore, cheatgrass fires often lead to establishment of a cheatgrass monoculture. “The costs and difficulties of combating both further cheatgrass expansion or retention — and minimizing the frequent fires that result — are high from both the ecological and the economic perspectives.” The science cited in the report puts the threshold for avoiding the ecological and economic consequences of cheatgrass infestation at between 5% and 25% of land area.

The cumulative advantages of this invasive weed over native bunch grasses make cheatgrass a formidable opponent. As the research demonstrates, two key factors facilitate cheatgrass dominance over native plant species:

- Ground disturbance.
- Seed spread.

Livestock grazing continues to cause ground disturbance, and the authors note, “Reduction or elimination of livestock grazing achieves results on a sufficiently large scale, but full restoration can take decades.” They also warn against prescribed fire and fuel-break construction, which “risk a worsening of cheatgrass infestations.”

For wildfire mitigation and containment activities, the report recommends avoiding the use of “ground-disturbing equipment,” which “creates a seedbed for cheatgrass.” The bulk of Forest Service funding for wildfire mitigation goes to mechanical tree-thinning, which employs ground-disturbing equipment like masticators, skidders, and feller bunchers. These

mechanical “forest-health treatments” not only create conditions favorable to cheatgrass infestation, but the machinery used can introduce cheatgrass seeds, causing new infestations. Thinning trees also removes tree canopy, which provides more sunlight on the ground, further supporting the spread of cheatgrass.

Multiple studies identify prevention of ground disturbance as the best way to limit the spread of cheatgrass. Native ground cover in the arid West often consists of a “biological soil crust” (lichens and mosses) and “perennial bunchgrasses,” which are more resistant to ignition than cheatgrass. The combination of biocrust and bunchgrasses also creates a synergy that resists cheatgrass invasion. Soil-disturbing machinery destroys the biocrust and damages native grasses, inviting cheatgrass establishment; then, cheatgrass outcompetes native bunchgrasses.

Soil disturbance also damages the soil’s symbiotic fungal network, which supports native plant species, including trees, and it can take up to a decade for these fungi – i.e., mycorrhizae – to recover from mechanical



**As part of a wildfire mitigation project, this masticator was used to grind entire trees into mulch in Central Colorado. Ground-disturbing heavy equipment such as this can spread cheatgrass seeds, damages native plants, and destroys the beneficial fungi network in soil, creating optimal conditions for invasive cheatgrass to take root.**

disturbance. Native plant species rely on mycorrhizae, which enhance nutrient uptake, but cheatgrass can thrive without the fungi. Cheatgrass also expands rapidly “because it is a prolific seed producer, can germinate in spring and autumn giving it a competitive advantage over native grasses, is tolerant of grazing, and increases with fires,” according to a 1996 report — *Cheatgrass: The invader that won the West*.

Other studies show that cheatgrass “can outcompete native grasses for water and nutrients because it is already actively growing when native plants are initiating growth.” Cheatgrass “ultimately drains soils of available nitrogen, which helps cheatgrass exclude native grasses” and exhausts other soil nutrients needed by native plants. The science also shows that cheatgrass “depletes soil water in spring much more rapidly than native species,” preventing the survival of native seedlings and subjecting adult native plants to moisture stress.

For a litany of reasons, minimizing cheatgrass infestations and restoring infested lands to natural conditions should be “a priority dictating the outcomes of land-use and land management decisions throughout the arid West.” With their cheatgrass report, Molvar et al. add more scientific weight to the arguments against mechanical forest-thinning for fire mitigation. Recent record-breaking grass fires in Texas, Hawaii and Colorado reinforce their conclusions.



**Less than a year after masticators shredded mature pinyon-juniper forest in Central Colorado, fine fuels have spread. Citing established science, the cheatgrass report by Molvar et al. recommends, “Prevent pinyon-juniper removal in areas where woodlands are mature” to prevent cheatgrass infestation.**

## *Burned Redwoods Recover From 2020 Fire*

In August 2020, the CZU Lightning Complex fire burned through Big Basin Redwoods State Park near Santa Cruz, California, consuming all of the foliage on some of the oldest redwoods. “It was shocking.... It really seemed like most of the trees were going to die,” Drew Peltier told *Science magazine’s* Erik Stokstad.

Peltier, a tree ecophysiologicalist at Northern Arizona University, and his colleagues recently published a research article in *Nature Plants*. The researchers have documented the incredible recovery of burned redwoods, which have resprouted from roots, trunks and branches by drawing energy from decades-old carbon reserves.

Some of the sprouts contain “the oldest carbon ever observed to be remobilized for growth,” the article reports. For some trees, half of the carbon fueling the sprouts was stored almost 60 years ago, and buds for some of the sprouts had lain dormant under bark for centuries.

## *Reforestation Contributes to Cooling Temperatures*

Researchers have shown that reforestation in the southeastern U.S. has had a cooling effect on the region. The findings of Mallory Barnes and her associates are documented in a [Feb. 13 research article in \*Earth’s Future\*](#), published by the American Geophysical Union.

This new research helps explain a “warming hole” over parts of the Southeast where temperatures have remained steady or grown cooler despite a broader North American warming trend.

“The strong and persistent increase in forest cover throughout the region in the 20th century contributed to cooling, which is consistent with observed temperature changes,” the researchers conclude. “In addition, the findings demonstrate that reforestation has a consistent cooling effect on both surface and air temperatures, especially during midsummer periods when high temperatures can be most harmful.”

According to the researchers, the restored forests cool the Southeast by as much as 3.6° F during summer months.

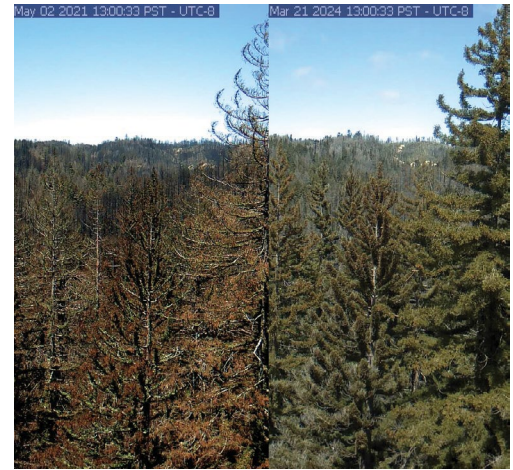
## *Forest Service Declines Contract for ‘Eco-friendly’ Retardant*

The Forest Service will not enter into a contract to purchase a new type of fire retardant for the 2024 fire season. [James Dornbrook with the \*Kansas City Business Journal\* reports](#) that the Forest Service “discovered significant signs of corrosion in air tankers using Compass’ magnesium chloride-based aerial fire retardants.”

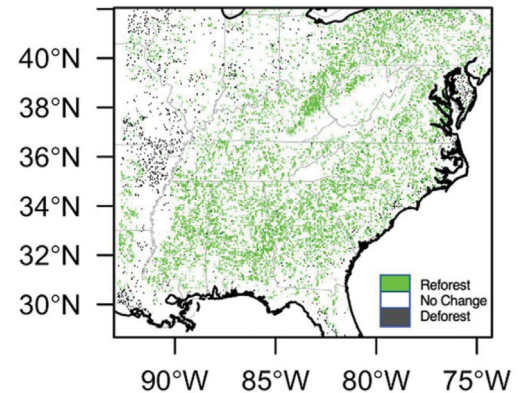
The mag chloride fire retardant was developed by Fortress North America, now a subsidiary of Kansas-based Compass Minerals. In 2022, Fortress became the first company in 20 years to gain Forest Service approval for a new fire retardant.

In 2023, [International Firefighter](#) touted [Fortress retardant](#) as “a cleaner, safer and eco-friendly alternative to the ammonium phosphate chemicals that have been the industry standard for the last six decades,” in spite of limited evidence to support the eco-friendly claim.

Dornbrook reports that the Forest Service will await a “coordinated, independent assessment” by the National Transportation Safety Board and the National Institute of Standards and Technology before deciding whether or not to purchase Fortress aerial fire retardant for future fire seasons.



**Photos from Northern Arizona University’s Phenocam network document California redwoods’ post-fire recovery from May 2, 2021, to March 21, 2024.**



**Reforested lands in the Southeast correspond to cooler regional temperatures (Barnes, et al., 2024)**



**A plane drops Fortress magnesium chloride-based fire retardant on the 2023 Rabbit Fire, Moreno Valley, California (photo by Marty Wolin via Fortress North America).**



**Deicing salts used by the Nevada Department of Transportation and the U.S. Forest Service keep roads open for winter recreationists to access Mt. Charleston, but the salts have been implicated in the deaths of growing numbers of mature ponderosa pine trees.**

## Assaulting a Unique Forest on the Toiyabe

Reaching 11,918 feet above sea level, Mt. Charleston is the highest peak in the Spring Mountains, a forested oasis on the Toiyabe National Forest west of Las Vegas. Because of its high elevation and drastically different ecosystem than the surrounding Mojave Desert, Mt. Charleston is considered a “sky island.” In 1989, the area’s unique qualities earned a wilderness designation that protects 56,018 acres, including 18,000 acres of bristlecone pine groves and the most bio-diverse region in southern Nevada.

A hamlet nestled among the eastern slopes of Mt. Charleston takes its name from the mountain, and its residents have expressed alarm at the deaths of thousands of trees since the Nevada Department of Transportation and the Forest Service began using de-icing salts on local roads more than a decade ago. Long-time residents insist that the forest was healthy during the decades when roads were maintained without salts, just plows and sand. The community funded a [scientific study](#) to determine why 300-year-old ponderosa pines are dying. Dr. Dale Devitt, a soil and water scientist with the University of Nevada – Las Vegas, performed the research.

“We had places where the salinity was higher than what you’d find in seawater,” [Devitt told the Las Vegas Review Journal in 2016](#). “That shouldn’t happen.” At that time, Forest Service Plant Pathologist John Guyon had conducted annual assessments of the Spring Mountains for three decades. He said, “What we saw in 2012 was something we had never seen before.... There was a very definite increase in tree damage. We saw a lot of freshly salt-damaged trees.”

But the damage goes beyond trees. Sodium chloride from road deicers is infiltrating local drinking-water sources, and the increased salinity of the water is leaching toxic metals like lead from water pipes, similar to what happened in Flint, Michigan. While the problems in Flint have made national headlines, Mount Charleston has largely been ignored. A decade after Devitt published his study, the Forest Service and the Nevada DOT continue to use deicing salts on the roads.

As the trees die, the Forest Service resorts to its ‘hazard tree’ rationale to then allow these old-growth ponderosas to be logged in the name of public safety. If there is a modern equivalent to the hydra, it must be Forest Service logging policy: eliminate one reason for cutting down a tree and the agency sprouts to new reasons.

Watch [Halt the Salt on YouTube](#) for additional information about the damage on Mt. Charleston from deicing salts.



# FSEEE

Forest Service Employees  
for Environmental Ethics

NONPROFIT ORG  
US POSTAGE  
PAID  
EUGENE OR  
PERMIT NO. 679

**P.O. Box 11615**  
**Eugene, OR 97440**  
**541-484-2692**  
**fsee.org**

Forest News is a publication of Forest Service Employees for Environmental Ethics. Our mission is to protect National Forests and to reform the U.S. Forest Service by advocating for environmental ethics, educating citizens, and defending whistleblowers. FSEEE is a 501(c)(3) nonprofit organization.

*Forest News is printed on post-consumer, recycled paper with vegetable-based ink.*

## Take Action

### *Call your senators and representatives*

**PLEASE CALL** and urge your senators and representatives to support **Senate Bill 440, the Oregon Recreation Enhancement Act, and Senate Bill 162, the Smith River National Recreation Area Expansion Act.**

***Together, these bills will protect vital salmon strongholds and drinking water from strip mining in the Klamath Mountains.***

**The Congressional switchboard phone number is 202-224-3121.  
It can connect you to your senators' and representatives' offices.**