



## How Primeval Forests and Non-Partisan Alliances Can Save Us

by Chris McGowan

In an era of record-breaking drought, the Southwest faces a challenge: how can it restore its National Forests and make them resilient in the face of conditions that may persist for many years? Fortunately, Cal Joyner has a two-part plan that may help us get through the hot, dry days. Joyner is the U.S. Forest Service Southwestern Region's Regional Forester and oversees the National Forests of Arizona and New Mexico, of vital importance to most residents of those states. "When we manage the National Forests to capture, store and release water, then we basically allow these large desert cities to be there," says Joyner.

Yet, the current climactic outlook is daunting. Speaking of the Colorado River Basin, a May 9, 2018 Bureau of Reclamation press release states: "With drought and low runoff conditions dating back to 2000, this current period is one of the worst drought cycles over the past 1,200-plus years." And, Bureau of Reclamation BR Commissioner Brenda Burman notes that "there is no indication that the current low runoff and drought conditions will end anytime soon." Not only is water in short supply across the entire Southwest, the drought has created dangerous wildfire conditions for the six National Forests in Arizona and five in New Mexico overseen by Joyner.

So, how can we minimize catastrophic wildfires and maximize the water supply? Joyner comments, "In this region, we have a General Technical Report that came out of the Rocky Mountain Research Station a few years ago, and it shows the landscape pattern that existed before European settlement in the Southwest and [before] we became really good at fire suppression. A couple of things happened from the turn of the century to 1940ish. We were doing a lot of timber harvest and we had a couple of really great seed years and so the forest came back in after those timber harvests very dense. Abnormally dense."

More trees means more fuel and the potential for high-intensity fires. Yet, it appears that the best strategy to reduce catastrophic fire risk is not uniformly thinning the forest, but returning to the original landscape pattern mentioned above. Research from the Rocky Mountain Research Station shows "that we have to put the forest back into the original pattern and that original pattern was clumpy and groupy, with lots of openings with just grass and forbs." He adds, "The forest was unevenly aged, so you had old growth mixed with young forests, and we had lots of openings. We had fire twice in ten years, ground fire, [which is] pretty normal in our ponderosa pine forests, and they were just much less dense and were wide open. So we're trying to return to that pattern."

He notes, "Those openings are where the snow accumulates. And the standing clumps and groups of trees are the shade for the snow, so that it lasts further into the early summer before it melts out. So we interrupted that cycle as well when we interrupted the fire cycle, and we started growing more trees than the forest should have had. We made it much less resilient."

Now, as part of the Four Forest Restoration Initiative program in northern Arizona, Joyner and others are trying to put "that original landscape pattern back" with controlled burns and biomass



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removal. He adds, “We are aiming to do what has never been done before – comprehensively restore a vast and invaluable set of forests, grasslands, and springs in Arizona’s high country.” We’re “betting that the forest will be as resilient in that shape as it could be.”

The Four Forest Restoration Initiative (4FRI) covers 2.4 million acres of mostly ponderosa pine forest in Arizona northern forests and is a multi-decade program. “It’s about reducing fire risk to human communities but also ensuring integrity of the watersheds for Phoenix and the cities below. That pattern is also our recovery strategy for the Mexican Spotted Owl. It needs some dense forest that’s fairly old and the only way to have those forests be secure is to have a matrix around them that’s not carrying high-intensity fire.”

Prescribed burns help restore the forest to its primeval state. “If you look at Mark Finney’s work, I need to burn six times as many acres right now in this region as I currently am. So every year I don’t do that, I’m adding to the [fire] deficit, I’m adding to the accumulation of unburnt fuel. We’re focusing a lot on managing fire, especially in this region.” The Forest Service is also hiring NewLife Forest Products (formerly Good Earth Power) to harvest biomass.

“Good cutting-edge science [is] helping us tremendously, out of The Western Wildland Environmental Threat Assessment Center [WWETAC], that group that Alan Ager’s been affiliated with, and the Rocky Mountain Research Station here in the Southwest, and the Ecological Restoration Institute at Northern Arizona University that Wally Covington runs. We have lots of tools now that help us figure out what pattern we put on the landscape with our restoration interventions.”

While restoring the forests to their original state is one part of Joyner’s plan, another is the non-partisan collaboration: of people and agencies to meet the forest -restoration challenge. The Forest Service is working with state, local and county governments, the collective stakeholder group around 4FRI and groups like The Rio Grande Water Fund and the Northern Arizona Forest Fund. The participants in this diverse coalition understand the urgent need for forest restoration, including fire management.

“I think there’s a greater awareness and acceptance of the need to manage fire among the general public than I’ve ever seen in my 38-year forest service career,” Joyner says. “People get it. They’re getting it better than they ever did.”

*Chris McGowan is a freelance writer who has published articles and blogs about nature and environmental issues in the [Los Angeles Times](#), [Huffington Post](#) and elsewhere.*