OP-ED: CHARLES CURTIN, PH.D.

FIRE, POWER AND PRIVILEGE IN THE PYROCENE

Old inequities, new threats and unparalleled opportunities

In 1967, Chicano activist and leader Reies López Tijerina led the famous raid on the Río Arriba Courthouse in Tierra Amarilla, New Mexico, to free compatriots from Alianza Federal de Mercedes—the larger goal was to restore land grants to Spanish colonial heirs. Now, decades later, the need to restore Spanish, and indeed all lands formerly held by Native peoples is greater than ever. However, I'm not referring to land tenure and ownership boundaries, but the recovery of the land back to a sustainable state that supports human and natural communities in the face of a warmer and drier climate and increasing wildfires.

Pencil drawing of Mora by Joseph Heger, 1859, from Campaigns in the West, 1856-1861, by John Van Deusen Du Bois and Heger, courtesy Palace of the Governors Photo Archives (NMHM/DCA). This shows the sort of pastoral landscape that dominated the region prior to extensive European settlement and the sorts of landscape mosaics we could strive to have again that would promote rural livelihoods and reduce fire threats.

As one looks across the American West, most rural communities that have experienced wildfires have gone into decline. The point is no amount of rural revitalization, or federal recovery dollars, will make a long-term difference in the face of repeated burns. And that is what current climate and fire behavior models predict unless radical changes in land stewardship occur. It's arguably the greatest threat facing rural communities in the mountains of New Mexico and across the Southwest. The pyrocene, the age of fire, means that conventional economic planning and land management are nearly impossible under the old stable, sustainable-resource use assumptions.

Wildfire amplifies inequalities and old wounds, and we need to have an honest conversation about what's at stake, who the winners and losers are, and what kind of a future we want for our lands and communities. Do we accept an accelerated pattern of rural decline—or do we embrace the new reality of recurrent fire and craft proactive solutions? The Alianza Federal de Mercedes slogan "justice is our creed and the land is our heritage" is as valid as ever; the question remains—what will we do about it?

Re-creating conditions closer to those which existed could provide more land-based opportunities for local people.

Inequity in the Age of Fire

The Southwest has passed a climatic threshold where recurrent wildfire is not just a possibility—it's a near certainty. The evidence from northern New Mexico is overwhelming. In the Jémez Mountains, the 2012 Cerro Pelado Fire burned over areas of the 2011 Las Conchas burn, which, in turn, burned over parts of the 2000

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Federal guidelines indicate that one to three inches of mulch is optimal to reduce soil erosion and encourage vegetation recovery. The left image is typical of what is seen across the Hermit's Peak-Calf Canyon burn scar. The right is typical of what's required. As of mid-summer 2023, Forest Service officials told me they stopped mulching—even though it is arguably the most effective restoration technique—and only focused on reseeding.

Cerro Grande conflagration. In the Sangre de Cristos, the 2022 Calf Canyon fire immediately burned over elements of the Hermit's Peak fire. Last spring, more homes and livelihoods were lost to the Las Tusas fire inside the Hermit's Peak–Calf Canyon burn perimeter.

Unsurprisingly, the biggest fire in New Mexico's history, the Hermit's Peak–Calf Canyon burn, occurred in some of its poorest communities, with a disproportionate number of Hispano and Indigenous people. Nature abhors a vacuum; here, there are relatively few resources for coordinated forest stewardship. It remains a region ringed by fire preparedness and planning in more affluent communities such as Santa Fe, Taos and Angel Fire. At the same time, a history of

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trauma leads to a situation where clans and family ties frequently trump collective governance—making it harder to coordinate planning. The land tenure system of thousands of private holdings further complicates the issue.

In the wake of recent fires, we've got an unparalleled opportunity to repair old wounds while remaking a system that is future-responsive, not one that recreates the situation that led to the fires in the first place. Yet, so far, the opportunity seems to have been largely squandered. Agencies and influential organizations have filled their coffers with fire relief funds, but little seems to have translated into substantive on-the-ground action to address long-term environmental challenges. For example, according to Burned Area Emergency Response (BAER) protocols, mulching is the most effective technique to hold soils and promote regrowth following fire, and yet in over 1,000 randomized sampling plots on private lands across the Hermit's Peak–Calf Canyon burn, almost none of NRCS-supported aerial treatments met federal guidelines—while seeded mixes composed primarily of exotic grasses displace natives and create additional fire hazards. Such corner-cutting at the cost of millions undermines the recovery potential for fire-ravaged communities.

Reconceptualizing the Challenge

Nassim Taleb, in his influential book *Antifragile*, coined the phrase the

Few communities that have been impacted by wildfire recover. Cycles of fire can lead to dramatic social and ecological upheaval and community and landscape decline.

These efforts are not just ecological or economic—they are a social justice issue.

Lucretius Problem after Roman poet and philosopher Lucretius Carus, who, in his work *De rerum natura* (On the Nature of Things), makes the point that a crucial failing of human cognition is that we usually can only imagine what we've already experienced. What Nobel Laureate Herbert Simon called "*bounded rationality*," in which we pick not the best option but the most plausible one based on a limited frame of reference—a fundamental challenge of the pyrocene that agencies and political leaders can't adapt to what they haven't seen. Yet, most scientific evidence points to the same conclusion—future fires will differ significantly from those in the past in greater size and intensity. By some estimates, all the forests in the West will be altered by fire within the next 50 years. Based on these projections, we must radically rethink our approach to land stewardship, or fire-related tragedies will repeat themselves, and the divide between the haves and have-nots will likely deepen.

One of the barriers to creative problem-solving of the wildfire crisis is a disconnect between opportunities and incentives—the scale at which decision-making is made and that of the system it seeks to address. When massive influxes of public dollars fund agencies and institutions, it's hard for them to admit the approaches undertaken are insufficient. This situation is compounded by a FEMA-driven recovery process in some burned areas that, almost by definition, is short-term and narrow in scope.

Without restoration, soon, trees will begin falling and the landscape will become impassible. Grazing, hunting, wood cutting and other activities key to Hispano and Indigenous culture will become hazardous.

The disconnect is baked into the system. In a recent conversation with Dr. Wally Covington, arguably the premier forest restoration ecologist in the Southwest, he pointed out that a significant contributor to the wildfire crisis is a lack of long-term strategic thinking. This occurs because most federal agency staff have short-term appointments, while leadership in state and federal agencies tend to be accountable to elected officials who, in turn, primarily work on short time frames. This means it is critical to have place-based, community-led efforts at the table that are relatively insulated from politics and can take the long view. As it is, millions go to quick fixes when—even in the words of regional leadership at the Forest Service—there is no coordinated long-term recovery strategy.

We need to think differently about fire mitigation and environmental and social recovery.

To address the need for a coordinated strategy, my organization and partners are assembling a panel of regionally and nationally recognized experts in climate change, fire, forestry and social change to assess potential and desired future conditions based on a warming and drying climate and altered fire regimes. A number of leading scientists and practitioners have agreed to engage in our process, and we are inviting others to participate in this effort.

Reseeding with mixes composed primarily of barley was successful in restoring vegetation cover. However, these exotic species can displace natives, reduce tree seedling success and may even create additional fire threats. Seeding typically has little impact on reducing soil erosion.

Coupled with documenting the environmental dimensions of the challenge is engaging leading practitioners in economic development who can help assess the amount of housing and workforce development needed to sustain rural communities and our landscapes and watersheds based on what is required to attain and maintain desired future landscape conditions. We have worked with development- and community-renewal experts like Elmo Baca and Mark Lautman and community leaders in Mora and San Miguel counties to begin assessing housing and workforce needs. We also need to understand what forestry and ecological restoration capacity exists—and how much is required to sustain our forests in the face of a changing climate. What carbon-negative technologies, such as biochar, can fill the gap between existing capacity and future needs, and how do we develop the markets and attract the investment capital required?

Again, these efforts are not just ecological or economic—they are a social-justice issue where centuries of *Indo-Hispano* culture are on the line, as well as that of urban centers downslope and downstream. It's intensely political because the long-term needs of disenfranchised local people frequently don't align with the short-term interests of agencies or political elites, so we are also engaging with local and nationally based community rights organizations to provide additional resources and political support.

Reimagining Landscape Composition

In 2000, I had the opportunity to tour Los Alamos in the wake of the Cerro Grande fire, and what I saw was striking. In every instance, the fires roared through the tree crowns until they hit a thinned area—then, they would drop to the ground and snake along the forest floor, only to jump back into the crowns after the thinned area had passed. The impact of thinning on wildfire spread has been the conventional wisdom for decades, and forest thinning is the logical response to wildfire mitigation needs. And yet, in the immortal words of Bob Dylan—"*the times they are a-changin*." I've walked nearly 20,000 acres in the last year, helping landowners in Mora and San Miguel counties with fire recovery, and in that time, I've seen dozens of thinned forests, and under last year's weather conditions—not one of them stopped a crown fire. Yes, the thinned areas fared much better and had less erosion and other ecological damage, but in most cases, almost all the trees died. As we saw last year during the Hermit's Peak–Calf Canyon fires, under dry and windy conditions, when embers can carry more than a mile—traditional approaches to fire mitigation, such as fuel breaks, frequently don't work. The point is—the rules of the game have changed. We need to think differently about fire mitigation and environmental and social recovery.

For example, harnessing what Rene Romero, Fire Management Officer at Taos Pueblo, calls rejuvenating the "*warrior spirit*," where young people realize that one of the greatest threats facing their people is fire and land health, and they need to be on essentially a war footing where they aggressively address the challenge. It also means taking an approach that Rene described as not fearing fire—but actively engaging in prescribed burns and other strategies that can be risky – but with the profound knowledge that inaction, procrastination and obfuscation only lead to worse outcomes. This requires political courage and, again, the ability to take the long view to think not about what restoration means in five years—but decades ahead…

Solutions also lie in carbon-negative technologies, creating markets and well-paying local jobs to help remove the small-diameter wood that often comprises over 80 percent of our forests. With the support of the U.S. Department of Energy, we've documented that strategies such as biomass energy can pencil out. We need regional strategies and private, state, and federal investment—coupled with forward-thinking landscape restoration that ensures the ecological integrity of our mountains is sustained.

Justice is not just social or environmental—but generational. What legacy will we leave our children and grandchildren? Will we leave them with a deteriorated landscape and fewer options—or will we choose a different path? Equity means not promoting management that leads to cycles of fire but thinking strategically about attaining desired future conditions. And there are considerable opportunities! Already, post-fire, more water is coming off the mountains; this is key because even with similar annual precipitation, there is the functional equivalent of drought in a warming and drying climate with longer growing seasons. Fewer trees mean more water, and our forests are fire-prone in part because, in many places, they have 100 times historical stand densities.

The system was and is seriously out of whack from natural processes due to shifting climate, a century of fire suppression and declining rural populations to tend the land. Historical records indicate very different landscapes from today's—more open areas, grazing and farming. Indigenous people managed fire to create healthier and more open landscapes because they knew they needed them to survive. Re-creating conditions closer to those which existed in the past could reduce fire impacts while providing more land-based opportunities for local people. But this means engaging them in strategic decision-making and considering alternatives to the status quo through creatively thinking long-term and large-scale about our collective future. ■

In May 2023, during the Hermit's Peak-Calf Canyon fires, embers crossed the Mora Valley to cause ignitions more than a mile away. The valley is much wider than typical human-built fuel breaks—suggesting that fire mitigation efforts such as thinning and fuel breaks are less effective under current climatic conditions.

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Under a warming and drying climate, wildfire is projected to become increasingly common in New Mexico and across the West.
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CLIMATE CHANGE'S IMPACT ON PRESCRIBED BURNING

NM POLITICAL REPORT

New research indicates that climate change will cut the number of days when prescribed burning can safely occur by 17 percent on average in the western United States, though winter months may see a 4 percent increase in favorable weather for these burns. The peer-reviewed journal *Nature* published the study on Oct. 3. Prescribed burning is a key tool to reducing risks of wildfire, but the reduction in days that these controlled fires can safely be used will impact that ability.

New Mexico has seen the consequences of prescribed burning in dry, windy conditions. The Hermit's Peak/Calf Canyon fire and the Cerro Pelado fire were caused by prescribed burning. This has led to backlash against prescribed burning. The Hermit's Peak fire is referenced in the new study. "Extreme meteorological events, especially severe to historically unprecedented drought conditions, have been contributing factors to several prescribed fires that 'escaped' and became disastrous wildfires," the study states.

The Four Corners region will have one of the more significant decreases in prescribed burn days, with 29 percent fewer days when those fires can safely be lit. "The narrowing of prescribed fire windows, as well as increases in extreme wildfire burning conditions at other times, will further challenge fire and land management agencies and entities already constrained by limited budgets and growing administrative burdens. This may be especially true across the Pacific Southwest (including California) and Four Corners regions—which are likely to see the largest declines in [prescription burn days]," the authors wrote.