

# THE SOURCE

by Dr. Stephen Pyne

As a highlight of the Joint Conference of the American Society for Environmental History and the Forest History Society, Dr. Stephen Pyne delivered the 2001 Distinguished Lectureship in Forest and Conservation History. The lecture was sponsored by the Forest History Society, the Nicholas School of the Environment and Department of History at Duke University, and the North Carolina Humanities Council.

It may be the most obscure site on the National Register of Historic Places. Rockfall and wild growth clog the entry. The West Fork of Placer Creek splashes a few feet below. It is not an easy place to find. It has the feel of some mythical grotto, a sepulchre, an oracle, the source of a sacred spring like Lourdes. The Nicholson mineshaft is, in truth, all these, for here, on the 20th of August, 1910 flames burned through conifer stands like prairie grass and came over the ridges, as one survivor recalled, with the sound of a thousand trains rushing over a thousand steel trestles. One ranger said simply, "The mountains roared."

The trek to the site is arduous, not because it is long (it isn't), but because the primary trail, which used to trend to Striped Peak, is abandoned and overgrown, vanishing into a Northern Rockies hillside beneath rockslides, talus, roots, forbs, the slender shafts of willow and alder. A secondary path to the old mine is even more obscure. You need a reason to come here, and you need a tool. You need something sharp to slash through the scrub. You need something durable to grub out steps through the loose rubble and root-clogged slopes. You need a pulaski.

What happened that astonishing summer was that American society and American nature collided with almost tectonic force. Spark, fuel, and wind merged violently and overran 2.6 million acres of dense and odd-disturbed forest from the Selways to the Canadian border. The sparks came from locomotives, settlers, hobo "floaters," backfiring crews, and lightning. The fuel lay in heaps alongside the newly-hewn Milwaukee Railway over the Bitterroots and down the St. Joe valley, and across hillsides ripped by mines and logging, and untouched woods primed by drought. The Rockies had experienced a wet winter but a dry spring that ratcheted, day by day, into a droughty summer, the worse in memory. Duff and canopies that normally wouldn't burn now could. The winds came with the passage of shallow cold fronts, rushing ahead from central Washington and the Palouse and the deserts of eastern Oregon, acting like an enormous bellows that turned valleys into furnaces and sidecanyons into chimneys. Southwesterly winds rose throughout the day to gale force by early evening, and then shifted to the northwest. Perhaps 75% of the total burn occurred during a single 36-hour period, what became known as the Big Blowup.

The summer witnessed the first great firefight by the U.S. Forest Service. As the weeks wore on, the fires had crept and swept, thickening during calms into smoke as dense as pea-fog, then flaring into wild rushes through the crowns. The fledgling Forest Service, barely five years old, tried to match them. It rounded up whatever men it could beg, borrow, or buy and shipped them into the backcountry. The regular Army contributed another 33 companies. The crews established camps, cut firelines along ridgetops, and backfired. Over and again, one refrain after another, the saga continued of fires contained, of fires escaping,

of new fronts laid down. Then the Big Blowup shredded it all. Smoke billowed up in columns dense as volcanic blasts, the fire's convection sucked in air from all sides, snapping off mature larch and white pine like matchsticks, spawning firewhirls like miniature tornadoes, flinging sparks like a sandstorm. Crews dropped their saws and mattocks and fled. That day 78 firefighters died. One crew on the Cabinet National Forest lost four men; one on the Pend Oreille lost two; rest of the dead fell on the Coeur d'Alene.

The Coeur d'Alene was ground zero. In the St. Joe Mountains between Wallace and Avery, some 1,800 firefighters and two companies of the 25th Infantry manned the lines when the Blowup struck. A crew north of Avery survived when Ranger William Rock led them to a previously burned area, except for one man who, panicking, shot himself twice rather than face the flames. A crew on Stevens Peak lit an escape fire in bear grass, then lost it when the winds veered, and one man died when he stood up and breathed the searing air. A crew at the Bullion Mine split, the larger party finding its way into a side adit, the rest, eight in all, died in the main shaft. On Setzer Creek some 28 men, four never identified even as to name, perished as they fled and fought their way uphill and fell in a collapsing ring of death. A gaggle of 19 spilled off the ridge overlooking Big Creek and sought refuge in the Dittman cabin. When the roof caught fire, they ran out. The first 18 died where they fell, in a heap along with five horses and two bears; the 19th twisted his ankle in crossing the threshold and collapsed to the ground, where he found a sheath of fresh air. Two days later Peter Kinsley crawled, alive, out of a creek. Another group dashed to the Beauchamp cabin, where they met a party of homesteaders. A white pine thundered to the ground and crushed two men immediately, while trapping a third by his ankle; he died, screaming, in the flames. Another seven squirmed into a root cellar where they roasted alive.

And then there was the crew cobbled together by Ranger Ed Pulaski. He had gone to Wallace for supplies and was returning on the morning of the 20th when the winds picked up their tempo and cast flame before them. He began to meet stragglers and then a large gang spalled off from the main ridge camp. All in all he gathered 45 men, and with the smoke thickening in stygian darkness turned to race down the ravine of the West Fork toward Wallace. One man lagged and died in the flames. Pulaski hustled the rest over the trail before tucking them into a mineshaft. Then he hurried down canyon with a wet gunny sack over his head before returning and herding the group into a larger tunnel, the Nicholson adit, which had a seep running through it. Pulaski tried to hold the flames out of the entry timbers and the smoke out of the mine with hatfuls of water and blankets. But by now the men were senseless. They heard nothing but the din, felt nothing but heat, saw nothing but flame and darkness, smelled only smoke and sweat. As the firestorm swirled by the entrance, someone yelled that he, at least, was getting out. At the entry, rudely silhouetted by flames, he met Ed Pulaski, pistol drawn, threatening to shoot the first man who tried to flee.

By the 1990s the American fire establishment was a wonder of the world. It could field crews and aircraft to fight fire in numbers larger than the military of some Third World nations. It also seemed to many critics, and to not a few of its own members, to have broken. In 1994 wildland fires burned 2.5 million acres of the public lands, killed 34 firefighters, and swallowed up \$965 million off-budget; last summer burned still more land, more intensely, and may double the costs. For all this, a century of federal protection had

created a crisis of forest health; many lands suffered either too much or too little fire, from deluges of wildfire and droughts of fire famine.

The full costs of fire suppression became public, along with the admission that firefighting alone could not contain wildfire. But perhaps controlled burning could. That naive formulation finally ended last spring as the National Park Service kindled two prescribed fires under extreme conditions. One escaped Bandelier National Monument and scoured Los Alamos. The other forced the evacuation of the North Rim of Grand Canyon. It seemed that the American fire establishment could neither adequately fight fires nor light them.

Yet it is possible that the breakdown is not simply one of execution but the upshot of a flawed debate, a false choice between one practice or the other, that we either had to start or to suppress. But how did that dichotomy happen? Why those choices and no others? The options had become polarized in the usual way, by politics, personalities, and professional pride. In this case they also had fire to catalyze the social chemistry. With uncanny timing, this happened as the fire crews on the Coeur d'Alene were fighting for their lives.

The idea that fire protection on the public lands meant firefighting was, in 1910, a novelty. Most of the general public was indifferent or hostile to aggressive fire control, bar fires that immediately threatened property or lives. Rural Americans relied on fire - burned everything from ditches to fallow fields - and accepted the occasional wildfire as they did floods or tornadoes. The argument that one ought to systematically fight the flames, all of them, seemed odd, academic, and ridiculously expensive. The assumption was that wildfires would go the way of wild animals as the feral landscapes that fed them were domesticated into farms, pastures, and towns. The reservation of extensive lands for public parks and forests, however, broke that laissez-faire logic. In retrospect the choices are obvious: either convert those lands to something less combustible or do the burning yourself. And that was what critics at the time proposed: abolish the reserves or inoculate the forests by wholesale burning. >Better fires of choice than fires of chance.

But in 1910 those options seemed stickier. The national forests existed to preserve the forests, not wipe them away. If federal agents logged them off, they were no better than lumber companies or homesteaders. If they adopted wholesale burning, the lands were no differently managed than if they had not been reserved at all. To forestry officials, however, it appeared plausible that clearing people out of the landscape, fielding patrols, and attacking the wayward flames would be enough. Several decades of "improvements" - roads, trails, telephone lines, lookout towers - would stamp fire out of the scene. This was what the European oracles of forestry argued had to be done, and what the great colonial powers were attempting in India, Algeria, Australia, and Africa.

Yet the critics were adamant. The doctrine of light burning or "the Indian way," as it was called, was remarkably pervasive. Almost all categories of settlers burned, and saw no reason to cease. An occasional fire would escape and perhaps raze the occasional town, but that, regrettably, was the price of progress. Smoke in the woods was the complement to smoke from factories. Where land was not farmed but logged or grazed, the preferred means of dampening wildfire was to lightly burn over the understory as often as the fuels would allow. In California, for example, major timber owners hired gangs to prepare sites for burning by filling basal cavities with dirt or raking around snags. They burned after a couple inches of summer rain had fallen. The fires piddled around; they scorched perhaps

half the area targeted; they smoldered in windfall. They burned weakly because they had not much to burn. Not every forest could burn this way, but most of those that mattered to people could, and that was how most people living on the frontier wanted matters. They found intellectuals to back them up, like the poet Joaquin Miller, the novelist Stewart Edward White, the state engineer of California William Hall, and the Southern Pacific Railroad. Light burning by the American Indian, after all, was what had created the forests for which everyone now lusted.

Yet foresters detested and denounced the practice. However slight its apparent damage, they knew in every fiber of their professional being that it was evil. It sacrificed future growth to current old growth. It abraded soils, gnawed the bases of the big timber, abetted frontier habits of sloth, and promoted folk indifference to the cause of conservation. It was the lost nail that would end with a lost war. To convince the public otherwise - especially those who lived on the land - demanded decades of trench warfare.

But in August 1910, the quarrel took a quantum leap when *Sunset* magazine printed a direct challenge, matching arguments point by point, and even suggested that the regular Army do the burning so that private landowners could protect themselves from federal malfeasance. Then, after the Big Blowup, Secretary of Interior Richard Ballinger championed the cause in a national press release. Clearly, he argued, the Forest Service had failed in its firefight; another strategy was worth pursuing. Gifford Pinchot and Chief Forester Henry Graves blasted the argument in the *New York Times*. enunciated carefully, as though to idiots, was no different than fighting fires in cities. Left unsaid was the corollary: no one would burn off carpets to protect houses from roof fires.

Their polar pronouncements placed the Great Fires squarely in the political firestorm that was about to consume the administration of William Howard Taft. Gifford Pinchot had been a favorite of the Roosevelt Administration - had free access to T.R., had been allowed to trespass across bureaucratic borders, and most critically had convinced the president to transfer the forest reserves from the fumbling General Land Office in the Interior Department to the Bureau of Forestry, which Pinchot oversaw for the Agriculture Department. Roosevelt also brought in Richard Ballinger to clean up the GLO. Ballinger did, but posted legal guards along the agency borders and told Pinchot to stay clear. Then Taft arrived as Roosevelt's anointed successor. Like Ballinger, he insisted that Pinchot hold to his own turf, and worse, he appointed Ballinger as Secretary of Interior.

Pinchot found himself, in relative terms, marginalized, and he believed that Taft was similarly marginalizing the grand scheme of Rooseveltian conservation, which for him had assumed the status of a political crusade. When a murky matter involving Ballinger and Alaskan coal lands surfaced, he seized on it to force Ballinger into disrepute and eventually a resignation. No formal charges of illegality and corruption were ever filed, but Pinchot and his allies launched a campaign to discredit Ballinger in the court of public opinion. Someone had to go, Pinchot insisted, and on January 7, 1910 Taft decided that that someone would be Pinchot and fired the chief forester.

The next few months, as congressional committees began their own inquiry, Pinchot, the Forest Service, and their allies sought to vindicate the patriarchal Pinchot by vilifying Ballinger. While both men insisted they were "Rooseveltian conservationists," they represented two very different versions. Pinchot stood for the new wave of technocratic, federal administration; Ballinger, an old guard, sensitive to local politics and Western

ambitions. These differences had practical consequences. They mattered, for example, in how each man responded to the problem of fire. For both, the Great Fires became a test of larger philosophies. One had to choose between them. One had either to suppress fires or to start them.

He came to shortly after midnight. No one else in the tunnel stirred, and at the entrance he found the body of Ed Pulaski crumpled in a heap. He crawled out into a darkness illuminated by flaming snags and logs and began to stagger toward Wallace. There he met the supervisor of the Coeur d'Alene, William Weigle, who had returned from his own misadventures an hour before. The eastern third of Wallace was afire. He told Weigle that everyone else at the Nicholson adit was dead. Weigle organized a rescue mission.

By the time that party arrived, others had roused themselves, including Big Ed himself. The creek water was hot and alkaline, too foul to drink. They sucked in deep breaths, still heavily laden with smoke. They counted off, and realized that five were missing. They died where they had passed out on the tunnel floor, probably drowned in the muck and waters that had ponded behind the fallen bodies. Pulaski suffered more than most. He was temporarily blind and his lungs were so charged with soot and seared with heat that he could breath only haltingly. They began the march to Wallace.



Mouth of the mine tunnel where Ranger Pulaski held his men near Wallace, Idaho. (USFS photo, 1910.)

As reports screamed across telegraph lines, it was not clear how the fires would be interpreted. Those on the ground considered the Great Firefight as a rout. On the Lolo forest, supervisor Elers Koch considered the summer a "complete failure." More than 78 firefighters had died, the Forest Service had expended almost a million dollars over budget, and the flames had roared over the Bitterroots with no more pause than the Clarks Fork over a boulder. At national headquarters, foresters fretted whether the Great Fires might be the funeral pyre of the besieged Forest Service. In fact, those far removed from the flames saw them otherwise. They chose to see Pulaski's stand, not his flight. They saw a gallant gesture, not an act of desperation. The Forest Service's critics claimed the Service had been granted ample resources and had failed. >Its defenders replied, the Service failed only because it had not been given enough.

Quickly, the political tide turned in its favor. The Forest Service successfully defended its 1911 budget. The Weeks Act that would provide for the eastern expansion of the

national forests by purchase and for federal-state cooperative programs in fire control, stalled for years, broke through the congressional logjam in February. In March a beleaguered Ballinger asked to resign. Foresters redoubled their efforts to crush light burning, and all it implied. It was, they sniffed, mere "Paiute forestry." Light burners belonged with perpetual motion mechanics and spoon-bending psychics.

The young Forest Service had the memory of the fires spliced into its institutional genes. The Great Fires were the first major crisis faced by Henry Graves, Pinchot's handpicked successor. The next three chief foresters - William Greeley, Robert Stuart, and Ferdinand Augustus Silcox - were all personally on the scene of the fires, had counted its costs, buried its dead, seized upon "smoke in the woods" as their yardstick of progress. Not until this entire generation passed from the scene would the Forest Service consider fire as fit for anything save suppression. Three months after the Big Blowup, Silcox wrote that the lesson of the fires was that they were wholly preventable. All it took was more money, more men, more trails, more will.

In 1935 Gus Silcox, then chief, had the opportunity to reconsider. The Selway fires of the previous summer had sparked a review in which the Forest Service itself admitted the lands it was protecting at such cost were in worse shape than when the agency had assumed control. Field critics observed that the Service was unable to contain backcountry burning. Scientific critics had announced at the January meeting of the Society of American Foresters that fire was useful and perhaps essential to the silviculture of the longleaf pine. Ed Komarek observed bitterly that this was the first time such facts had become public. And a cultural criticism burst forth as well. Elers Koch noted that the pursuit of fire into the hinterlands - mostly by roads - was destroying some of the cultural value of those lands. The Lolo Pass, through which Lewis and Clark had breached the Rockies, he lamented, was no more, bulldozed into a highway. All this landed on Silcox' desk. His reply was to promulgate, in April, the 10 AM Policy, which stipulated as a national goal that every fire should be controlled by 10 AM the morning following its report. The veteran of 1910 replied, that is, by attempting to squash fire, to allow it no sanctuary, to tolerate no qualifications, to apply the full force of the Civilian Conservation Corps and the federal treasury. He would refight the Great Fires, and this time he would win.

Beneath the surface storms of 1910 politics, moreover, ran a deep current of cultural sentiment. This was an activist age - of political reform, of nation building, of pragmatism as a formal philosophy. One of its mightiest intellects, William James, published his last essay in the same month as the Big Blowup. "The Moral Equivalent of War" argued to redirect the growing militarism James saw boiling over in Western civilization to more constructive purposes. Why, he reasoned, could there not be a moral equivalent of war as there was a mechanical equivalent of heat? Why not divert those martial enthusiasms into a war against humanity's common enemy, the forces of nature, to replace wars against other people?

James had written the essay in Europe. He returned to America, terminally ill, even as Ed Pulaski and William Rock and Joe Halm were standing before flames unlike any short of the Apocalypse. He hurried to his country home in New Hampshire and lay dying as the smoke from the Big Blowup passed overhead and turned the New England sun to a copper disk. The firefight as moral equivalent of war. Why not, indeed?

To an astonishing degree the Great Fires contain, virtually in all its pieces, voices, and avatars, the grand narrative of American fire. The politics. The contrast between federal and state fire protection. The controversy between fire-setting and fire-suppressing. The use of the emergency fire fund (1910 saw a 20-fold increase over previous expenditures). The mass hirings and the appeal to the military. Lavish meals in firecamp. Wholesale salvage logging. The (attempted) rehabilitation of burned landscapes. Inaccurate and self-serving reports. The confused memorializing of the dead. The stories of crews saved and crews felled. The metaphor of the firefight as battlefield. A platoon even hauled away an injured bear cub. The profound impact on persons and institutions: the Great Fires acted on the Forest Service as the Long March did Red China. Almost every fire story since has its rhetorical structure forged in the flames of 1910, and no fire since has harbored all the parts so completely. Nearly every incident, controversy, or idea had its rehearsal in the Great Fires. Fundamentally the same story plays out at Blackwater, Pepper Run, Mann Gulch, Rattlesnake, Inaja, South Canyon, or the next-millennial fires of 2000. The fires stayed.

Most of the people who fought them, however, did not. They moved on, transferred, climbed up the ranks. A few did hold, Ed Pulaski among them, homesteading bureaucratically in Wallace. At 40 he had been older than most. He was married and had an adopted daughter and a house and remained on the Wallace district until a car accident in 1930 drove him into retirement. Because he stayed, he never left the aftermath of the Great Fires.

He refused to become a celebrity. He wrote only once about his experiences, for an essay contest sponsored by *American Forestry*, and that because he needed money to pay for eye surgery. (Through bureaucratic fumbling, he had received no compensation for his fire injuries.) He tended the two mass graves hastily dug at the Wallace cemetery for those who had died and were otherwise unclaimed, and in fact unidentified. He pestered the Forest Service for a more fitting memorial, which finally arrived in 1921. He rebuilt the trails blocked by blowdown; assisted with timber cruising for salvage logging; helped replant the hillsides; upgraded the fire-control organization. When, a decade later, the Missoula office sought to collect the remembered stories of the Great Fires, he declined to contribute. More words didn't matter.

He remained a field man and a man who, as all who knew him remarked, a man who took pride in the things he could make with his hands. Practice, not theory, would decide the future. Tools, not ideas, determined what could actually happen. He had led his crew by example, not by exhortation. Acts not texts revealed his meaning. It was fitting then that, after the burns, he devised a combination tool, half ax and half mattock, to send into the field. There was not much enthusiasm when he first presented the device to forest supervisors. But he persisted, lengthening the shaft, widening the ax, shrinking the mattock, all in his backyard forge. He sent out the tool with smokechasers. Only in the field, he insisted, could its value be tested. The smokechasers soon took it to heart. By 1920 so did the Northern Region of the Forest Service, which ordered commercial companies to manufacture it out of industrial steel. Along with the shovel, the pulaski tool became the basic implement of fire control, and the one tool both universal and unique to wildland fire.

Contemplate that tool. Three parts make it up: the ax, the hoe, the handle. It's a practical not an elegant tool. Cutting and grubbing don't balance easily. It's awkward. It's ungainly. Yet it works, and it embodies the saga of Big Ed and the Big Blowup as nothing

else could. Every time a firefighter hefts a pulaski, he or she is retelling the story of the Great Fires.

So, too, an institution like that which governs America's wildland fires requires three things. It needs practice, poetry, and policy. It needs practice to make things happen on the ground. It needs poetry to inspire people, those within its ranks and the general public both, to make them understand and believe in its purpose. And it needs policy, like a handle, to hold those two opposite-facing edges together.

The Great Fires had it all. They had story, purpose, tools. Modern fire management does not; it holds policy like an empty handle. Fire officers know they cannot continue with the Great Firefight alone. They know fire in the West will return, either wild or by choice; but come it will. If contemporary fire agencies had the chance to replay the light-burning controversy, they would almost certainly choose fire lighting over fire fighting as a basis for wildland stewardship. They know the problem was not fire suppression, but the abolition of controlled burning, that magnificent and misguided attempt at fire's wholesale exclusion. Yet they know by now that an equally scaled reintroduction isn't possible. They should know that the issue is not fire but its regime, that fire synthesizes its surroundings, that it takes its character from its context, that flame is not some kind of ecological pixie dust that, sprinkled over land, can make the bad and ugly into the good and beautiful. Messed-up forests only yield messed-up fires.

The truth is, policy by itself is incompetent. Contemporary fire management has policy aplenty - has had adequate policies for 20-30 years to do what needs to be done without seeing hard results on the ground. Turning existing policy inside out is not likely, alone, to reverse overgrown woods and scrub-infested savannas. Pumping money into controlled fire will do no more good than sluicing money into fire control. Contemporary fire management doesn't need more policy, dumb as an empty handle. It needs a hybrid head of practice and poetry to swing at policy's end. It needs a redesign.

It needs iron, forge, flame, smith, and vision. It needs knowledge bred into the bone by long practice. It needs flames equivalent, catalytically, to those of the Great Fires. It needs someone to stand before those flames. It needs a story to explain them. It needs a site that 90 years hence someone can hack into and know that here Creation occurred. It needs a Pulaski.



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