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Forest History Today

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Asking the Right Questions

The Forest History Society was in the midst of a strategic planning effort to guide its future when the COVID-19 pandemic began. Thanks to collaboration among the FHS staff, past and current leaders, along with valuable inputs by FHS members and others, we have been able to continue this work remotely during 2020.

The Society's most recent strategic plan was ten years old, and back in 2010, acquiring more or new space was the top priority. If you'd ever seen the old building, that was self-evident. In 2014, the Board of Directors approved the "Building on History" campaign; in January 2019, we moved into our new $7.1 million headquarters.

The new building presents new opportunities and challenges, and all the while, technological changes and the societal needs for libraries and archives are evolving. To properly plan, we would need to harness the intellectual and communal capital of our current leaders, staff, and members, as well as benefit from the perspective of outside experts.

Accordingly, we convened experts in archives, libraries, and digital history from nonprofits, public libraries, and four major universities to examine the Forest History Society as a specialty library. They learned about FHS and its history, toured the new headquarters, met the staff, and made recommendations for the future. When the pandemic hit, our consultant, Association Options, Inc., helped us pivot to an online approach. Throughout, the Society's leaders continued asking questions that pushed us to consider things we didn't know that we didn't know.

We held focus group interviews, and board member Matthew Booker helped compile the results of a dynamic interaction. Brooke Andrade, Library Director for the National Humanities Center, remarked, "I truly enjoyed spending the day with you, your staff, and my fellow panel participants. It was inspiring. Your building is gorgeous, and your staff is beyond impressive. I am blown away by how much work can get done by a handful of smart, hard-working people. I look forward to coming out to an FHS event in the future."

A report on inclusivity, prepared under the leadership of FHS board members Michelle Steen-Adams and Doug MacCleery, was a special focus of the strategic planning discussions. Its recommendations, the result of a two-year board effort with input from members and staff, affirmed the Society's commitment to "documenting the diversity of peoples' relationships and experiences with forests through time, and encouraging all individuals and groups to share their stories and perspectives." Future efforts will build on the Society's strong record of featuring the stories of underrepresented social groups in our scholarly journal *Environmental History*, *Forest History Today* magazine, online resources like the blog *Peeling Back the Bark*, and archival collections.

The first draft of the new strategic plan has identified five primary goals. Led by board members Doug Decker and Dan Christensen, the Strategic Planning Team has named five committees, consisting of board members and FHS staff, to review each goal and identify strategies, tactics, and performance measures by the end of March 2021. After review and reconciliation by the Strategic Planning Team, the new strategic plan should be ready for approval at the April 2021 board meeting.

In advance of this successful output, I want to thank all the FHS members, staff, directors, and outside partners who have participated in the process. You have played a meaningful role in the future direction of the Forest History Society. Your work is an example of great potential that comes when like-minded people deeply connect around a shared sense of purpose and values, ultimately choosing to co-create the future of their organization.

Although 2020 has been challenging, I'm proud of what we have accomplished and am eager to embrace the future. I'll mention just two of our upcoming highlights: in 2021 we'll celebrate our 75th anniversary by hosting a lecture series, and we'll observe the second National Day of Giving for Forest History on June 12. Here's to a bright future for all!

Forest History Today

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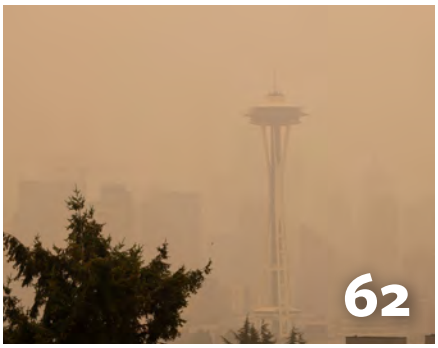

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As I sit here in a medical facility, waiting to be called, surrounded by people wearing masks because of the pandemic, I hear the welcome sound of someone playing a piano. A staffer, dressed head to toe in personal protection equipment, is taking a break from their critical work to play a mix of holiday tunes and standards both popular and classical in an effort to lift the spirits of patients, caregivers, and workers. The music rises up through the five-story atrium and out into the waiting areas on each floor. Every note I hear carries with it the sound of hope and a reminder of our resilient nature in a very dark time in our history.

On any given day, it seems the news about the environment and forests in particular is also overwhelmingly dark. Wildfires are so large that a new term—*gigafire*—has been coined to describe them. New temperature records are being set both locally and globally. Drought, disease, invasives: these and other environmental factors are devastating forests around the world. If the news were a music genre, it would be a dirge.

For decades, the interpretation of forest history has been largely declensionist; that is, telling a tale of degradation and despair, giving a bleak picture of the past, and often offering little hope for the future. But not all forest history is a tragedy, not every song a lament. There have been "composers" of history who instead write of progress. Of course, what is necessary for measuring progress is that one must have a dark period from which to emerge. Think of Beethoven's Sixth, the *Pastoral Symphony*. The fourth movement, "The Storm," evokes thunder and rain before bringing the audience to the last movement, what the composer subtitled "Cheerful and thankful feelings after the storm." To a historian, words are our musical notes. When strung together, sentences combine to create movements; an article documenting progress is a symphony of accomplishment and promise. There are stories of recovery and hope to be found in forest history, just as there are musical works like the *Pastoral Symphony* that take the listener through a dark passage before giving way to music that raises spirits, much as the piano notes heard in that atrium did.

Though it's important to analyze problems, at the same time it's vital to discuss what's working and what's improving. Articles in this issue like Stephen Pyne's can educate us about those problems, even if the ending has yet to be written. What others like Adam Sowards and Gordon Small convey is the value of optimism in the face of long odds. We need such stories to remind us of the transformative powers of hope, so that while we are in the midst of the storm, we know that some day we may again have cheerful and thankful feelings after it has passed.

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ON THE COVERS
Front: Photo courtesy of Raven Environmental Services

Back: Photo courtesy of Ellen Sharp

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“We Were in Love with the Forest”

Protecting Mexico’s Monarch Butterfly Biosphere Reserve

BY ELLEN SHARP AND WILL WRIGHT

PHOTO BY PATRICIO MORENO ROJAS

Illegal logging in the overwintering habitat of monarch butterflies in Mexico threatens their existence. The personal history of some of the rangers who patrol those areas may hold the key to the beloved insect's survival.

"My dad was one of the first to find the butterflies here. In fact, he was the one who found them," Emilio Velázquez Moreno said into the tape recorder.[1] I (Ellen) was seated on a rock across from him on a newly cut path above a meadow called La Lagunita on Cerro Pelón, the site where this discovery had taken place. I hadn't planned on interviewing Emilio. He was a new hire for Butterflies & Their People, a forest conservation nonprofit I cofounded in 2016. But as soon as I finished talking to his more senior coworkers, Emilio tapped my arm. "Aren't you going to talk to me?" And now I knew why: redemption. His family was better known in his community for exploiting the forest, not preserving it. Now that Emilio had a job stopping loggers instead of facilitating them, he wanted to claim this lineage and make sure his late father, the ranger Valentín Velázquez, was included in our butterfly history.

Although people in Mexico, the United States, and Canada have for years delighted in the masses of monarch butterflies they saw every summer, no one comprehended the complexity and scope of this transnational spectacle until the mid-1970s. We now know that in autumn, most of the monarchs living east of the Rocky Mountains migrate southward to central Mexico, where they form

Butterflies & Their People forest guardian Emilio Velázquez Moreno in El Llano de Tres Gobernadores, Cerro Pelón in February 2020.

colonies in a few acres of high-altitude boreal forest. Stands of oyamel fir (*Abies religiosa*) and Montezuma pine (*Pinus montezumae*) in the Transverse Neovolcanic Belt provide an ideal microclimate for overwintering monarchs—if it's too cold, they freeze to death; too warm and they burn up their fat reserves and perish. After clustering on trees for four to five months and then mating, these same insects fly northward toward Texas. Subsequent generations spread out over two million square miles, ranging from Minnesota to Maine, Manitoba to Mississippi, in their search for milkweeds on which to lay their eggs. Offspring keep pushing north until shorter days and falling temperatures cue the hatch of the long-lived super-generation that undertakes the three-thousand-mile journey to Mexico. Whereas summer monarchs only live about a month, migrators can live up to eight months, and it takes three or four generations of varying lengths to complete this annual migratory cycle.

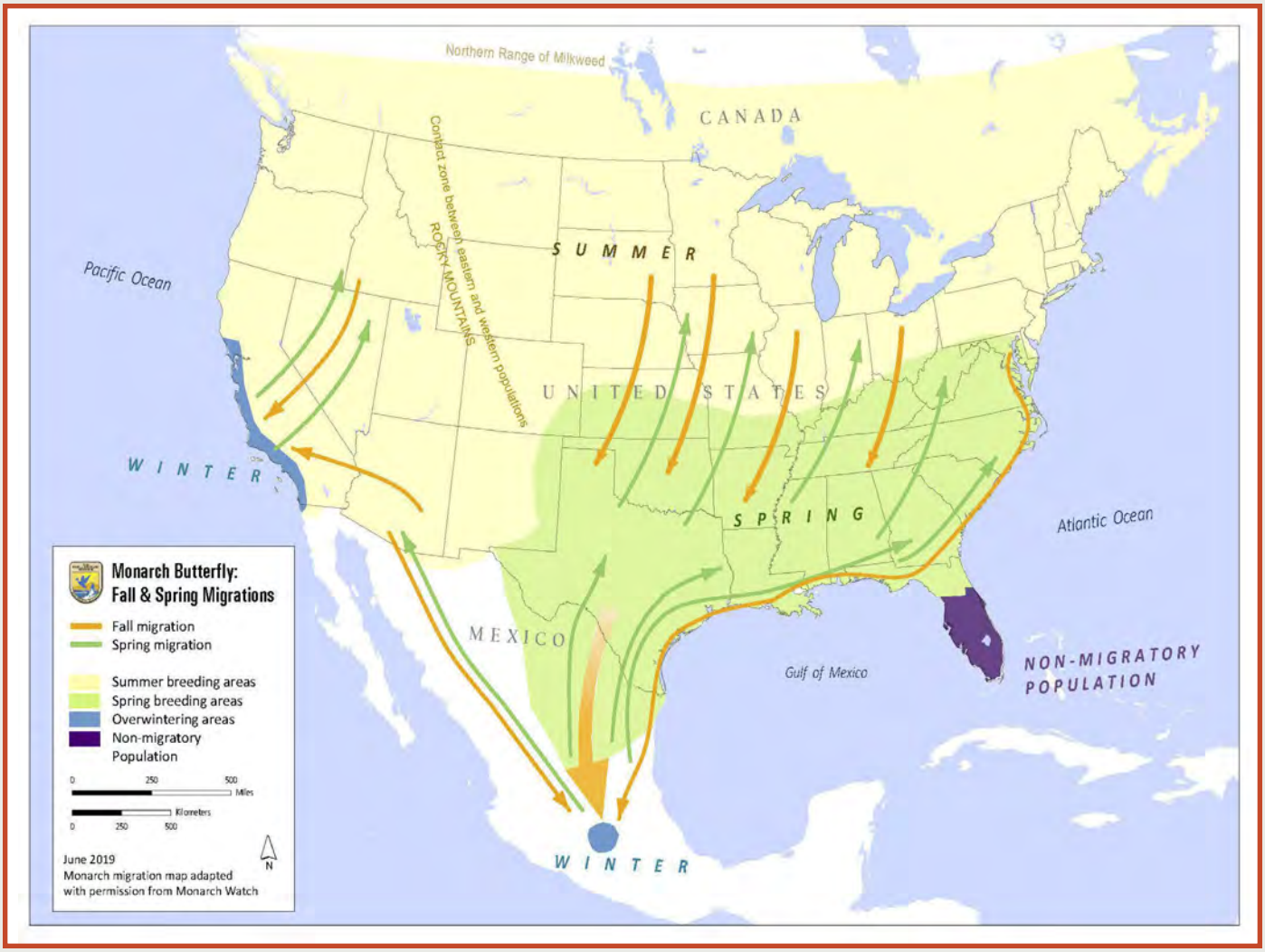
If you're familiar with the story of the monarch butterflies' overwintering sites, a very different narrative emerges if you listen to the monarchs' Mexican neighbors.

If you're familiar with the discovery story of the monarch butterflies' overwintering sites in Mexico, Emilio's father Valentín Velázquez is not a name you would have encountered. In fact, nobody native to the area where the monarchs roost appears in any of the official accounts of this advance in scientific understanding. Outsiders take center stage in both the 1976 issue of *National Geographic* magazine that broke the story and the 2012 IMAX film *Flight of the Butterflies*, which dramatized these events. That's not to say that these accounts are not true, just that they are partial: a very different narrative about what happened and why it mattered emerges if you listen to the monarchs' Mexican neighbors.

Before turning to their stories, we offer a brief sketch of the standard version. In January 1975, a Mexican citizen-scientist named Catalina Aguado and her American husband, Kenneth Brugger, encountered millions of monarchs clinging to the trees below the summit of Cerro Pelón, a mountain on the border of Michoacán and the State of Mexico. The couple had been searching for a colony for more than two years at the behest of the Insect Migration Association, a citizen-science brigade organized by Fred and Norah Urquhart, two Canadian researchers at the University of Toronto. The Urquharts had been investigating the monarch migration since 1937 but were unable to conclusively determine where the winged wanderer overwintered. A few days later, Aguado and Brugger recovered a tagged monarch at another colony, Sierra Chincua, which they sent to the Urquharts. A label the size of a postage stamp, glued to the butterfly's wing, had been attached by one of the Urquharts' volunteers four months prior in Missouri. Tagging data proved that the monarchs that flittered across the United States and Canada every spring and summer were the same ones that clustered every winter in Mexico. In 1976, Fred Urquhart announced this finding to the world in *National Geographic*. Aguado, despite being pictured on the cover, was mentioned only once in the text: "Ken Brugger doubled his field capacity by marrying a bright and delightful Mexican, Cathy." This slight marked the beginning of the erasure of ordinary Mexicans from monarch history.[2]

Exclusion also characterizes subsequent accounts of monarch conservation in Mexico. In 1980, President José López Portillo declared a vague protected area for overwintering monarchs, even though fifty *ejido* and indigenous communities held ownership of these lands, dating back to the post-revolution reforms of the 1930s. Local people continued to exploit forest resources despite this decree. After scientists with the International Union of the Conservation of Nature listed the migration as an "endangered phenomenon" in 1983, famed poet Homero Aridjis organized artists and intellectuals into Grupo de los Cien (Group of 100) to lobby the Mexican federal government for stricter wildlife protections. In 1986, President Miguel de la Madrid issued another decree implementing formal boundaries and regulations for a 60-square-mile federal reserve (later named the Reserva de la Biosfera Mariposa Monarca). In 2000, the Monarch Butterfly Biosphere Reserve was expanded to 217 square miles, enlarging "core zones" where extractive activities were forbidden and "buffer zones" where natural resource use required a government permit. Nevertheless, clandestine logging proceeded, even accelerated, as land-reform beneficiaries (*ejidatarios*) continued to assert their rights to the forest. In 2008, UNESCO declared the butterfly sanctuary a world heritage site to bring attention to this fragile ecosystem of high cultural and biological importance.[3]

The conventional histories about the finding of the colonies, and the cascade of bureaucratic changes intended to protect them, emphasize the actions of political and scientific elites. Yet the people



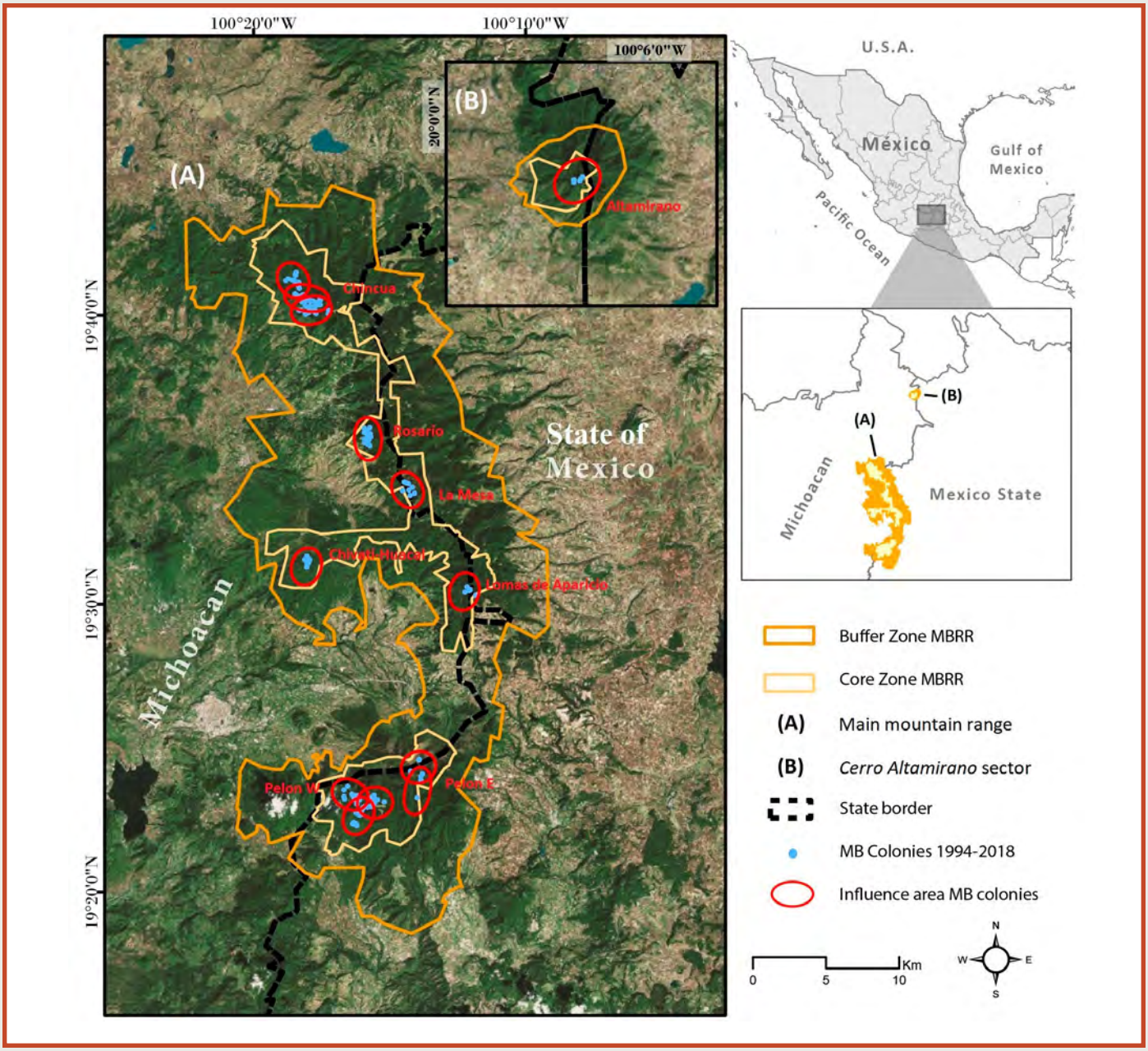
COURTESY OF MONARCH WATCH

A map of the monarch butterfly migration. Four generations gradually migrate northward as milkweeds bloom, laying eggs on their host plant for successive broods. East of the Rocky Mountains, the final "super-generation" returns all the way back to central Mexico, a place that only their great-grandparents had been before.

who have done and continue to do the labor of conservation, as well as the organizations that employ them, are largely absent from these narratives. To provide a more complete picture of monarch conservation history in Mexico and the challenges it faces, we conducted oral history interviews with two generations of foresters working in the Cerro Pelón Monarch Butterfly Sanctuary. We interviewed three rangers who worked for Comisión Estatal de Parques Naturales y de la Fauna (CEPANAF, State Commission of Natural Parks and Wildlife) from the late 1970s until their retirement in 2014; two of them are highlighted below. We also interviewed a CEPANAF ranger who took over the work, along with four of the forest guardians from the nonprofit he helped found, Butterflies & Their People. Taken together, these accounts, now translated and donated to the Forest History Society archives, offer a bottom-up view of the importance of involving local communities in the conservation of their forests.

FROM HACIENDA TO EJIDO

Leonel Moreno Espinoza was a hard man to track down for an interview. Whenever we stopped by his sprawling multigenerational household, Don Leonel was busy: mucking out his sheep pen, planting corn, shopping for his corner store. When we finally did catch up with him, he credited his high energy and longevity—he turns eighty-two in 2020, "God willing"—to his forester job. "We were in love with the forest. I think that all the time we spent in the forest has lengthened our lives,



COURTESY OF M. ISABEL RAMÍREZ, CENTRO DE INVESTIGACIONES EN GEOGRAFÍA AMBIENTAL-UNIVERSIDAD NACIONAL AUTÓNOMA DE MÉXICO

A map of the Monarch Butterfly Biosphere Reserve, which straddles the States of Michoacán and Mexico. The Cerro Pelón colony, where CEPANAF foresters work, is the southernmost location.

because I tell you, I'm getting up there and to date, I still feel good."[4]

Leonel initiated our conversation by reminding us of the history memorialized in the place names that surrounded us. Before the Mexican Revolution began in 1910, Cerro Pelón was controlled by the Hacienda San Bartolo, a large estate whose owners had built railroad tracks deep into the forest to extract what must have been massive amounts of timber. What workers couldn't reach by train, they dragged out with draft animals. Macheros, the village at the entrance to the Cerro Pelón sanctuary, is where they kept their horses, a *machero* being a corral or stable.

Leonel's grandmother came from another town to look for work on the hacienda after her husband died. Soon her three young children were working on the hacienda as well. When they grew up, they took up arms against the system of debt peonage and then petitioned the government for the communally held land that formed the basis of an

ejido. In 1937, a year before Leonel was born, the first wave of applicants received rights for three thousand acres to create Ejido El Capulín. Macheros is one of five villages within this ejido. Leonel recounted:

> When the hacienda later ended, my father and my uncle and other people were the initiators of the ejido, they were among those who fought for them to give them their land, they said that they had suffered a lot. . . . They spent days walking to Mexico City or Toluca for the efforts of the ejido and yes, thank God, they managed to get the government to give them the land, and since then we stayed here, we were born here, and here we are.[5]

Stories about the struggle for a more just system of landownership were something that Leonel learned from his *jefe*, or boss, as people here affectionately refer to their parents. Leonel represents one of the village's last living links to first-hand knowledge of this legacy, one that his grandchildren proudly claim as well. People here fought to reap the benefits of their labor and land, and a bloody ten-year revolution ended with the creation of a more equitable system—at least until the butterflies were discovered and some of these rights were taken from them.[6]

"DISCOVERING" THE MONARCH COLONY

During his 1940s boyhood, Leonel heard elders talk about the origins of the monarch butterflies. "Some older folks said that butterflies were born from the oyamel seeds, others said that there was a cave in Cerro Pelón and that butterflies came from there," Leonel recalled.[7] People may not have known exactly where the monarchs came from, but they certainly saw a lot of them every winter. In an agricultural economy, children herded sheep and cattle on lands farmed by the ejidatarios—properties later expropriated to form the Monarch Butterfly Biosphere Reserve. As Leonel explained:

> We knew about the butterflies since we were boys, up there in El Jaral, because men who lived here had land there. . . . And there is a spring that we called Agua del Jaral, that the landholders diverted into a canal. The canal was filled with water, then the butterflies went down into the water and we played with them and even killed them. . . . There were so many butterflies hanging out there. But in all that time as a child seeing butterflies, I never went to the colony, never.[8]

A cousin, Elidió Moreno de Jesús, looked after animals with Leonel. During our interview, Patricio Moreno asked his uncle when he first saw the colony in the 1970s. Elidió brushed off the question by saying he'd already seen them at El Jaral when he was young: "When we were herding cattle, we would go into the forest to look for the cows that wandered off so we could get the herd back together . . . and there in the forest the branches were loaded with [butterflies]."[9]

Elidió hadn't mentioned this sighting to Leonel, who didn't see the colony until he was an adult and outsiders began asking about it. Leonel sounded a bit frustrated when he described missing out on discovering the colony by a day. According to Leonel, "two Canadians," perhaps Fred and Norah Urquhart, met with the governor of the State of Mexico, who then put his friend, Jesús Ávila, in charge of locating the colony.

> Don Jesús came to us and said, "Go look for the butterflies, it's urgent." . . . Valentín and I went . . . to the meadow [El Llano de Tres Gobernadores] and in the meadow it was like a cloud of butterflies flying from one side to the other. And from there we walked into the forest to look for them and found nothing, so we crossed over to Carditos where there was also a swarm of butterflies, but we did not find [the colony] because it started

COURTESY OF MARALEEN MANOS-JONES

***Hacendado* descendent Jesús Ávila (above) and CEPANAF ranger Valentín Velázquez (below), taken around 1977. According to our interviews, Ávila sent local men from Macheros to search for the monarch butterfly colonies and Velázquez discovered one of them at Cerro Pelón.**

. . . raining really hard, and when it rains the butterflies settle down and stop flying. We sat there under a piece of rubber that I'd brought . . . then the rain stopped, and we no longer saw any butterflies. It was late and we went home, and the next day Elidió and Valentín went back . . . and they found [the colony] right there where we'd been stopped by the rain, there they were.[10]

Valentín Velázquez was killed in a brawl in 1981, when his son Emilio was only six years old. According to family lore, it was his late father who found the butterflies and provided conclusive proof of the colony's existence. As Emilio explained it,

A man named Jesús Ávila, he sent my father to look for them. I think he paid him for the days that he went looking for them, and he found them. He was the one who discovered them here on Cerro Pelón. Yes, he was the first and then later he brought some down in bags. He made some holes for them [in the bags] and he came down [the mountain]. I don't know how many [butterflies], because I don't remember how many, but I do remember he brought down several bags.

Of living butterflies?

Yes, for Don Jesús Ávila, to prove that they had been found.[11]

Emilio's family credits his father with the discovery, but others highlight the role of Jesús Ávila. Depending on whom you ask, Jesús Ávila Montes de Oca was either an ex-hacendado (estate owner) himself or closely descended from them. People describe him as big, light-skinned, used to commanding the labor of others and given to wearing a pith helmet while doing so. He was from the county seat, Donato Guerra, and he organized hunting parties and brought them to Cerro Pelón through Macheros, where he hired local men as guides. Leonel, Elidió, and Valentín helped "Don Chucho," as they called him, hunt deer. During one of these excursions, Ávila remembered first seeing a tagged monarch, but he declined to contact the Urquharts. Whether or not he can claim the discovery, he is fondly remembered in Macheros for another reason.[12]

THE RANGER JOBS

Around 1977, perhaps earlier, Jesús Ávila used his political connections in the State of Mexico to secure work for the men from Macheros as *guardabosques* (forest rangers), through what eventually became CEPANAF. With enthusiasm, Don Leonel described the day that changed his life:

On December 12, which is the feast day of the Virgin [of Guadalupe] in El Capulín, my family and I went to the fiesta but we came home when the procession of the Virgin was finished . . . And Don Jesús arrived late and said to me, "I'm here because I need three people. You are one, and who else do you want us to take?"

And I told him Elidió was there at home, he hadn't gone to the party. So, I said to him: "Well, let it be Elidió."

"And who else?" I told him Valentín. "But where is he?" Valentín was still hanging out at the party. "Where is he?"

Margaro [a neighbor] happened to be walking by and I said to him, "We need Valentín, go find him and bring him back." And Margaro took off running to find him in El Capulín and he brought him back and Valentín was in his right mind, not in his cups yet.

And once he got there, Don Jesús says, "Let's see. Take a bath and fix yourselves up. Tonight, you're going to stay at my place, not with your women. I need you!"

He didn't take us to Toluca, he took us to Mexico City . . . We went to what at the time was called the Secretary of Agriculture and Water Resources . . . That was the place, and that was where they wrote down the names of all four of us, including Don Jesús, because he was in charge of us, and they signed us up, and, how cool—the job was taking care of the butterflies.[13]

Valentín's eldest son briefly took over his job after his death but was fired after he got into a fight with men from the Michoacán side of the sanctuary. Elidió's younger brother, Melquiades Moreno de Jesús, joined CEPANAF in 1982. These CEPANAF rangers patrolled the Cerro Pelón butterfly colony on the State of Mexico side of the monarch reserve for some forty years. Not only did their near-constant monitoring improve forest health, which was visibly more intact than on the Michoacán side, but a steady paycheck also pulled their families out of poverty. These three men were among a handful of individuals in an ejido numbering two thousand people who enjoyed full-time work with paid vacation, health care, and a government pension. Although these kinds of jobs are now a rarity anywhere, they were even more unusual in rural Mexico, where fifty-eight percent of the population is informally employed and nearly half live below the poverty line.[14]

WHO'S IN CHARGE?

Throughout these years, designations for what became the protected area were in flux. When the CEPANAF rangers started work, Cerro Pelón wasn't part of the federal reserve, but once it became part of that

ELLEN SHARP

Butterflies & Their People guardians José Carmen Contreras, Joaquin Moreno, and Emilio Velázquez with supervisor Patricio Moreno (seated in hat) in La Lagunita on Cerro Pelón in May 2020.

system, they continued their jobs. As explained above, the protected area came into being in 1986, took over more land in 2000, and became part of UNESCO's Patrimony of Humanity in 2008. When we asked the rangers about how these administrative changes affected their work life, we got blank looks: "Could you repeat the question?" From their perspective, top-down measures minimally affected on-the-ground management.

Other agencies rarely dropped by, but when they did, the CEPANAF workers sometimes came into conflict with them. Elidió told a story of arguing with officials from Procuraduría Federal para la Protección al Ambiente (PROFEPA, Federal Environmental Protection Agency, or the forest police) as the rangers were getting ready to build a firebreak. Elidió recalled:

> Those aggressive PROFEPA guys came with their notebook, and I got scared. I thought those bastards were going to denounce us. They were writing things down and asking, "Why are you doing that?" [I told them] because we don't want the forest to burn down, and if the fire reaches here, this part will burn. What are we going to put it out with? With a hat? With a branch?[15]

The lack of governmental cooperation has made the biosphere reserve a jurisdictional morass for managers. It's an ongoing problem: in early 2020, agents of the new environmental police interrogated the Butterflies & Their People guardians as if they were illegal loggers when they met them on the mountain.

Fighting illegal logging had been a constant on Cerro Pelón. The first generation of rangers saw their jurisdiction as stopping where the state line ended along the crest of the mountain, even though the colony alternated sides of this border every season. They were all from the State

of Mexico, and although they worked for a state agency, they didn't have the authority to fine or arrest people for tree cutting. All they could do was talk to the loggers and make reports to their superiors. Will tried to follow up on these records, but the files had not been kept. There is no accurate record of the logging that did take place, or much credit given to the CEPANAF rangers who spent their lives trying to prevent it.

ORGANIZATIONAL CHANGES

Now there's a new generation of CEPANAF rangers. All three men, including the ones we interviewed, had inherited the positions from their fathers—a fraught transition in families with many sons. And once they had their jobs, their agency sometimes seemed less than committed to keeping the rangers on Cerro Pelón, a sanctuary that was technically the responsibility of other agencies. In the summer of 2017, the new team was sent to work in another CEPANAF installation. Left unpatrolled, the forest was hit hard by loggers, who cut down more than a hundred trees in the core protected area. I (Ellen) launched a Change.org petition, which succeeded in sending the rangers back to their former territory.[16] In our negotiation of their return, the rangers for the first time were in direct communication with Comisión Nacional de Áreas Naturales Protegidas (CONANP, National Commission on Protected Natural Areas), the federal entity overseeing the Monarch Butterfly Biosphere Reserve. CONANP has the authority to call in the police when there is logging. The rangers looked forward to better working relations and more rapid responses to their reports.

Another turning point came when additional workers joined the rangers on Cerro Pelón. Butterflies & Their People was inspired by the CEPANAF model: these jobs made a difference for their families and for forest health. I met a lot of Canadians and Americans involved in monarch conservation through my ecotourism business who cared deeply about the future of the migration. Overwintering numbers have plummeted precipitously since monitoring began in the 1990s. Deforestation in Mexico is one of the factors behind this population decline. Along with Joel and Patricio Moreno, both sons of a CEPANAF ranger, I established an *asociación civil* (nonprofit) in fall of 2017 to look for funds in support of the project. Three years later, we had six full-time workers, half from the State of Mexico and half from Michoacán, making it the first time that people from that side of the sanctuary had been included in forest protection.[17]

Three years later, we had six full-time workers, half from the State of Mexico and half from Michoacán, making it the first time that people from that side of the sanctuary had been included in forest protection.

CEPANAF ranger Patricio "Pato" Moreno Rojas started working on Cerro Pelón in the fall of 2014. When asked what it meant to him to have the same conservation job as his father Melquiades, Pato beamed.

> It is an honor because since I was little, I remember that he always took me with him. Almost right after I was born my dad began to work in what was forest protection. . . . It was nice to follow him, and now you can imagine how it was to be with him, that is, how we were in the forest together, because that fills me with pride and following what he did is the best, continuing to protect the forest.[18]

Before securing the CEPANAF position, the newly married Pato had shuffled from one job to the next and struggled to get together enough money to move out of his parents' house. "Now, the way one lives is very different with the income," he remarked. "It's not much, but it's not little and it's enough to have a good life, especially for being more stable."[19] Pato now lives next door to his parents in a tidy two-story house with his wife and kids.

He spends most of his time on regular patrols of the Cerro Pelón sanctuary. Other duties include maintaining trails, building firebreaks, regulating tourist use, and managing the forest guardians employed through Butterflies & Their People. Pato also paints, films, and photographs the migration; his images have attracted tens of thousands of followers to his Facebook profile. When asked about his job, Pato said, "Oh, the best part is being in the forest. It is the best thing to have a connection with nature. And then being with the butterflies. You imagine the butterfly forest is something unique, it is something special for us."[20] The worst part? He described encountering illegal logging of the butterfly trees: "You go into the forest and see the trees and you think of them as friends who are part of you, then to see a tree that is cut down is very difficult and it's sad seeing the forest cut down."[21]

THE PERSISTENCE OF ILLEGAL LOGGING

Even though park regulations outlaw timber extraction inside core zones, logging in the monarch reserve

PATRICIO MORENO ROJAS

Monarch butterflies roosting on a tree trunk.

remains a problem. Using repeat aerial photographs of the forest on the Michoacán side, scientists have documented that forty-four percent of the habitat was degraded between 1971 and 1999. Thinning the forest removes a protective blanket over the monarchs, exposing them to greater weather extremes and thus higher mortality. Winter storms in 1981, 1992, 2001, 2002, 2004, and 2016 have led to mass die-offs of the colonies, and the number of recorded overwintering sites has fallen from thirty to a dozen over the last forty years.[22]

Conserving a closed canopy of intact forest is crucial to monarch survival. Pato believed that the presence of rangers had made a difference at Cerro Pelón:

> In the case of what is CEPANAF's jurisdiction in the State of Mexico, it has helped a lot. Michoacán's area is clearly marked [by deforestation] compared with the State of Mexico, and that is thanks to the oversight that has been carried out since the butterfly was discovered, because the forests are in much better condition and they are still much better. So, I think that if there were surveillance on both sides, forest conditions would improve.[23]

When asked what he does when he encounters illegal logging, Pato said,

> Even if we find someone, we do not have the authority to detain them, just to report them, and we do it to the agencies that are responsible for following the complaint process for the case. We can't make the complaint, just the report, but they should follow it up as an official complaint about logging.

Although some reports are not taken up by higher authorities, Pato believed that having a physical presence on the landscape was the most effective deterrent. For the past three years, rangers have been coordinating their work with Butterflies & Their People to enhance forest protection for this fragile overwintering habitat. "Above all," observed Pato, "just go to those areas that are affected, spend more time there so that [logging] decreases. That's a way we can help the forest."[24]

Pato viewed the persistence of clandestine logging as a symptom of economic desperation: timber provides cash. Osvaldo Esquivel Maya, a Butterflies & Their People guardian who lives in Comunidad Indígena Nicolás Romero on the Michoacán side of Cerro Pelón, echoed his assessment: "Sometimes it's easy to cut down a tree and take it to sell, but the reason for this is there are no jobs. That's why people do logging."[25]

Retired ranger Elidió Moreno admitted that before he got the CEPANAF job, he used to chop

Recent clandestine logging near La Lagunita, a core protected area, Cerro Pelón. Tree felling threatens the overwintering habitat of monarch butterflies.

down trees and take them to the nearby city of Zitácuaro to sell for firewood. Now that the forests are part of a protected area, people can no longer openly sell wood on the street. These days, "you already have your contacts," Emilio Velázquez explained. "Then when I decide I'm going to cut a tree, I know where I'm going to sell it and what price I'll get for it."[26] Buyers are rarely penalized in this transaction; it's the poor people cutting and hauling wood out of the forest who risk running into the authorities. Emilio, who also used to be involved in illegal logging before working for Butterflies & Their People, recalled an unhappy day a decade ago when one of his logging crew members was caught with a downed tree and fined $80,000 MXN ($3,500 USD). He shook his head, sadly remembering how long this financial catastrophe set his family back: "We took out loans against our land titles, we sold what we had." Emilio concluded, "Now I have a secure job and I will not cut down trees again because it's very dangerous."[27]

When work is available, less pressure is placed on the forest. José Carmen Contreras Meza, a Butterflies & Their People guardian from Ejido Nicolás Romero, recounted how their former commissioner got community funding for three hundred temporary forest jobs. Logging, José Carmen

ELLEN SHARP

said, "had diminished a lot because [Commissioner Darío] gave work to . . . all who came to ask for work. He did not discriminate against anyone and he was the one who stopped logging. But the commissioners who came along later no longer followed suit, nothing more [was given]."[28] Either the next local political leader failed to apply for funds or the money was no longer available. Some nonprofit organizations operating within the monarch reserve do offer workshops on economic alternatives to logging, such as trout aquaculture or handcraft production; others make small annual payments to local people for conserving the forest.[29] But it's inadequate, given the widespread economic need. The result of this underemployment has been "disorder," to use José Carmen's word, in the part of the forest near his ejido, where people have cut down dozens of oyamel firs on the path that leads to the butterfly colony at Carditos.[30]

Administrators of this protected area have blamed "organized crime" for the logging. The workers who spend their days on the mountain find this assertion absurd. Loggers, they say, are not dangerous, just desperate.

In the past, administrators of this protected area have blamed "organized crime" for the logging. The workers who spend their days on the mountain find this assertion absurd. CEPANAF rangers know that loggers are not dangerous, just desperate—and young. "Most [are] twelve- or fourteen-year-old kids who are no longer going to school," Pato said.

> They are not [dangerous] because we have sometimes had experiences of finding some and, no, they are simply scared. When you get there, they are scared and we're wearing our uniform, but it is not a police uniform—it's a uniform of park guards—but people are scared. We know that they are unarmed. There is no organized crime in this place.[31]

The undemocratic structure of land ownership is another obstacle to effective, sustained forest conservation. Although the ejido system vastly improved the lives of the landless peasants who toiled on the haciendas, the land reform was still based on an unequal distribution of resources. The title of *ejiditario* became an inherited position handed down from father to youngest son. In Ejido El Capulín, only 12 percent of the residents are ejidatarios, a title that gives them the right to participate in local governance and receive government aid, including the annual financial incentive that's intended to stop illegal logging of the protected area. Everyone else is excluded from these benefits. Effective forest conservation cannot happen without real economic justice.

LOVE AND HUNGER

You can fall in love with a forest, like Leonel said. You can toddle after your dad like young Pato and grow up to feel the loss of a tree as keenly as the death of a friend. But loving nature is not a given. Like the butterflies every winter, love needs the right conditions to grow. The CEPANAF rangers had a job that took care of them, and so they took care of the forest. Butterflies & Their People has been trying to include more of the monarchs' Mexican neighbors in this reciprocal relationship. But as Emilio admitted, back when he was working as a horse handler, leading tourists up the mountain, he never bothered to hike the few extra feet to see the butterfly colony. He was tired after walking six kilometers up rocky switchback trails. "But now that I've been here, I never get tired of seeing them . . . Every day is different." He smiled as he went on to describe what happens when the sun heats the colony up and thousands of monarchs fly forth from their tree all at once in an explosion. "We have missed very beautiful moments."[32]

Emilio and the other rangers are up against what one of his brothers once said: "It's hard to give a fuck about butterflies when you're hungry."[33] Hunger means looking around to see what you can take to sell, instead of thinking about the future, or appreciating a present moment made beautiful by a burst of butterflies.

The coronavirus pandemic that began in the spring of 2020 has put more pressure on forest resources. Many workers have been laid off and sent back to their villages; and we're already seeing an increase in logging on Cerro Pelón. While Patricio was pleased by the rangers' newfound connection to CONANP, that agency saw its federal appropriation cut by seventy-five percent.[34] Their affiliated community development program, the one whose project José Carmen credited with halting illegal logging in his community, has been eliminated. An austerity budget puts more pressure on Butterflies & Their People and other nonprofits to fill the conservation holes left by a federal government. Yet the governing body of Ejido El Capulín decided to close the Cerro Pelón Monarch Butterfly Sanctuary to visitors for the 2020 season, effectively shutting down the ecotourism industry

that employed over a hundred local people and helped fund this nonprofit in particular. Donations came from sightseers to Cerro Pelón, mostly guests who arrived from far away, and we're unlikely to see that level of transnational travel again anytime soon. Like the CEPANAF precedent, Butterflies & Their People is doing everything within its power to replace hunger with love.

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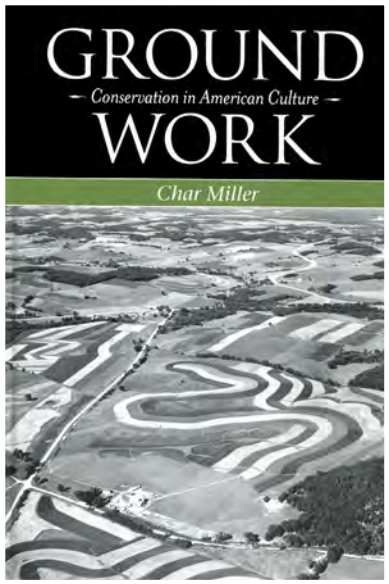
Will Wright is a PhD candidate in history at Montana State University–Bozeman and is working on a dissertation about transnational conservation, including the monarch migration. He was also the 2019 corecipient of the Forest History Society's Rosenberry Graduate Fellowship, which supported this work.

NOTES

1. Emilio Velázquez Moreno, interview by Ellen Sharp, translation by Will Wright, May 9, 2020, Oral History Collection, Forest History Society Library and Archives, Durham, North Carolina (hereafter OH-FHS).
2. Fred A. Urquhart, "Found at Last: The Monarch's Winter Home," *National Geographic*, August 1976, 161–74. For the history of the migration discovery, see Frederick A. Urquhart, *The Monarch Butterfly: International Traveler* (Chicago: Nelson Hall, 1987); Lincoln P. Brower, "Understanding and Misunderstanding the Migration of the Monarch Butterfly (*Nymphalidae*) in North America, 1857–1995," *Journal of the Lepidopterists' Society* 49 (1995): 304–85; Sue Halpern, *Four Wings and a Prayer: Caught in the Mystery of the Monarch Butterfly* (New York: Pantheon Books, 2001); Monika Maeckle, "Founder of the Monarch Butterfly Roosting Sites in Mexico Lives a Quiet Life in Austin, Texas," Texas Butterfly Ranch, July 10, 2012, https://texasbutterflyranch.com/2012/07/10/founder-of-the-monarch-butterfly-roosting-sites-in-mexico-lives-a-quiet-life-in-austin-texas/.
3. *Diario Oficial* (April 9, 1980); Susan W. Wells, Robert M. Pyle, and N. Mark Collins, *IUCN Invertebrate Red Data Book* (Gland, Switzerland: International Union for the Conservation of Nature and Natural Resources, 1983), 463–66; Homero Aridjis and Betty Ferber, *Noticias de la Tierra* (Mexico City: Debate, 2012); *Diario Oficial* (October 9, 1986); *Diario Oficial* (November 10, 2000); "Monarch Butterfly Biosphere Reserve," UNESCO, https://whc.unesco.org/en/list/1290/.
4. José Leonel Moreno Espinoza, interview by Patricio Moreno Rojas and Ellen Sharp, translation by Will Wright, May 22, 2020, OH-FHS.
5. Espinoza interview.
6. "Resolución en el expediente de ampliación de ejidos al poblado El Capulín, Estado de México," *Diario Oficial* (June 19, 1937): 11–13.
7. Espinoza interview.
8. Espinoza interview.
9. Elidió Moreno de Jesús, interview by Patricio Moreno Rojas and Ellen Sharp, translation by Will Wright, April 27, 2020, OH-FHS.
10. de Jesús interview.
11. Moreno interview.
12. Other than the CEPANAF interviews, the only other mention of Ávila is in a children's book by Fernando Ortiz Monasterio and Valentina Ortiz Monasterio Garza, *Mariposa Monarca: Vuelo de Papel* (Coyoacán: Centro de Información y Desarrollo de la Comunicación y la Literatura Infantiles, 1987), 51.
13. Espinoza interview.
14. "Poverty headcount ratio at national poverty lines (% of population)—Mexico," World Bank Data, https://data.worldbank.org/indicator/SI.POV.NAHC?locations=MX. For studies on community-based conservation at the monarch reserve, see Leticia Merino Pérez and Mariana Hernández Apolinar, "Destrucción de instituciones comunitarias y deterioro de los bosques en la Reserva de la Biosfera Mariposa Monarca, Michoacán, México," *Revista Mexicana de Sociología* 66 (2004): 261–308; Catherine M. Tucker, "Community Institutions and Forest Management in Mexico's Monarch Butterfly Reserve," *Society and Natural Resources* 17 (2004): 568–87.
15. de Jesús interview.
16. Monika Maeckle, "Success! Petition spurs rangers' reinstatement at Monarch butterfly roosting forest," Texas Butterfly Ranch, https://texasbutterflyranch.com/2017/07/10/success-petition-spurs-rangers-reinstatement-at-monarch-butterfly-roosting-forest/.
17. "Monarch Population Status," Monarch Watch, https://monarchwatch.org/blog/2020/03/13/monarch-population-status-42/.
18. Patricio Moreno Rojas, interview by Ellen Sharp, translation by Will Wright, 7 April 2020, OH-FHS.
19. Rojas interview.
20. Rojas interview.
21. Rojas interview.
22. Lincoln P. Brower et al., "Quantitative Changes in Forest Quality in a Principal Overwintering Area of the Monarch Butterfly in Mexico, 1971–1999," *Conservation Biology* 16 (2002): 346–59; Lincoln P. Brower et al., "Butterfly Mortality and Salvage Logging from the March 2016 Storm in the Monarch Butterfly Biosphere Reserve in Mexico," *American Entomologist* 36 (2017): 151–64; Javier de la Maza E. and William H. Calvert, "Investigations of Possible Monarch Butterfly Overwintering Areas in Central and Southeastern Mexico," in *Biology and Conservation of the Monarch Butterfly*, eds. Stephen B. Malcom and Myron P. Zalucki (Los Angeles: Natural History Museum of Los Angeles County, 1993), 295–98.
23. Rojas interview.
24. Rojas interview.
25. Osvaldo Esquivel Maya, interview by Ellen Sharp, translation by Will Wright, May 9, 2020, OH-FHS.
26. Moreno interview.
27. Moreno interview.
28. José Carmen Contreras Meza, interview by Ellen Sharp, translation by Will Wright, May 9, 2020, OH-FHS.
29. Sjoerd van der Meer, "The Butterfly Effect: Butterflies, Forest Conservation, and Conflicts in the Monarch Butterfly Biosphere Reserve (Mexico)," (Master's thesis, Wageningen University, 2007).
30. The "disorder" that José Carmen references can be seen in the reporting in "Illegal Logging Inside Mexico Monarch Butterfly Sanctuary," *Voice of America News*, https://www.voanews.com/episode/voa-films-illegal-logging-inside-mexico-monarch-butterfly-sanctuary-4273441.
31. Rojas interview.
32. Moreno interview.
33. As quoted in Ellen Sharp, "Who Gets to Be a Citizen-Scientist? Democratizing Monarch Studies to Save the Migration," https://ellensharp.com/who-gets-to-be-a-citizen-scientist-e7d52a6239d2/.
34. "Recorte del 75% a las Áreas Naturales Protegidas tiene en inoperancia la CONANP," Reporte Indigo, July 4, 2020, https://www.reporteindigo.com/reporte/recorte-del-75-a-las-areas-naturales-protegidas-tiene-en-inoperancia-a-la-conanp/; Tania Islas Weinstein and Milena Ang, "AMLO Can't Fight Poverty through Austerity," *Jacobin*, July 28, 2020, https://www.jacobinmag.com/2020/07/amlo-mexico-cultural-science-workers-coronavirus-austerity.

Ground Work: Conservation in American Culture



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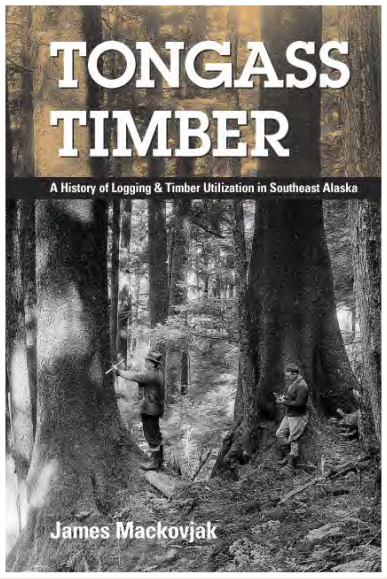

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Firebreak

How the Maine–New Brunswick Border Defined the 1825 Miramichi Fire

BY ALAN MacEACHERN

Wildfires can have a cultural impact that lasts for decades. But what happens when the same wildfire simultaneously hits two cultures divided by an international border?

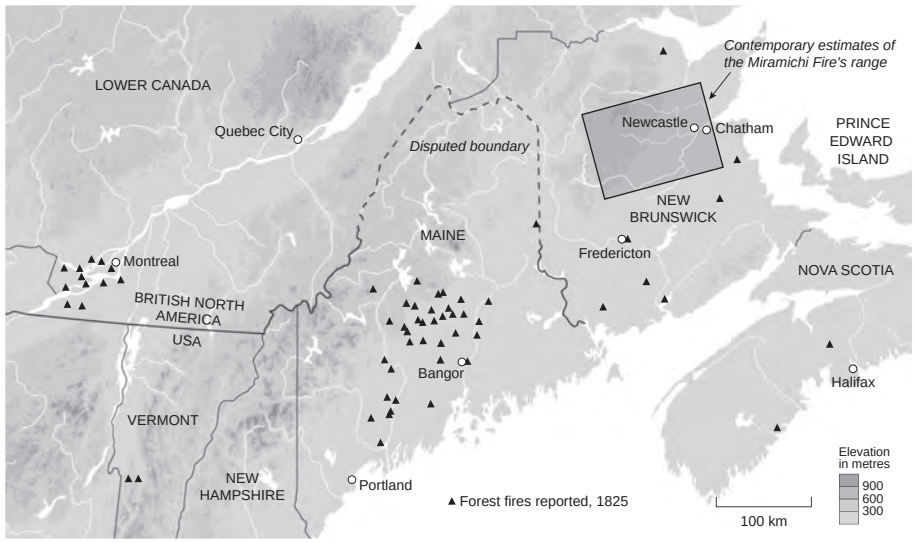
Borders matter—except when they don't. The past year has offered clear evidence of this truth. COVID-19 swept across the globe, utterly unconcerned with political boundaries. Yet different nations—even different states and provinces—reacted differently to the coronavirus, developing their own homegrown policies to repel the virus from their borders and, once inside, to contain it, and consequently have seen different levels of infection and death. Nature and culture are together defining our COVID-19 experience.

This dual character of borders can be seen throughout forest history, too. On 7 October 1825, a massive wildfire swept across the colony of New Brunswick in British North America, destroying communities along the Miramichi River and killing at least 160 people. When the smoke cleared, the true scale of the conflagration became better known. Early reports estimated—and virtually every account over the following generation confirmed—that the Miramichi Fire burned 6,000 square miles (15,500 square kilometers, or 3,840,000 acres) of northeastern New Brunswick, one-fifth of the colony. That would make it the largest wildfire to have occurred

OIL PAINTING BY R. THRESHER, C. 1825; HERITAGE BRANCH, NEW BRUNSWICK, GH 996.9.1

The painting *View of Beaubeirs Island, Miramichi. The Commercial Establishment of John and Alexander Fraser and Co.* was created about the same year as the Miramichi fire. Beaubears Island, once famous for shipbuilding, sits in the Miramichi River just south of Newcastle.

ERIC LEINBERGER



Forest fires in 1825 occurred throughout the northeast at different times, but most have been remembered as one single event. Even the fires around Montreal would later be remembered as the Miramichi Fire.

within the British Empire, one of the largest in North American history, and the largest ever recorded along the Eastern Seaboard.

But the fire was not only burning in New Brunswick. That same day, an estimated 1,300 square miles (3,400 square kilometers, or 832,000 acres) of neighboring Maine was also scorched, making this what is still the most extensive forest fire in that state's history. Not surprisingly, the historical memory of the 7 October 1825 fires in the two jurisdictions have become linked. But never in a straightforward fashion. For example, the fire in Maine also became known as the Miramichi Fire, so the term is now used by Canadian and American writers to refer to the fire in just New Brunswick or just Maine—oftentimes, with no apparent knowledge or acknowledgement of a fire across the border—or both. And yet the 6,000-square-mile figure has become the default estimate of the fire's extent when discussing it in New Brunswick alone and in the two together.

In my recent book about this event,[1] I trace the history of Maine's Miramichi Fire as a means of demonstrating how the international border has distorted understanding of the broader event.[2] Because Maine suffered less devastation than New Brunswick and no known deaths, its experience of the fire has always been overshadowed by that of its neighbor's. But because Canada has in turn long been overshadowed by the United States—nowhere more so than *in* the United States—the Miramichi Fire has received less attention than comparable, strictly American disasters, such as the Peshtigo Fire in 1871, which was less than a third of the size of New Brunswick's Miramichi Fire. The international border ultimately served as a cultural firebreak, dispersing the blaze and diminishing its renown.

SUMMER OF FIRES

The Miramichi Fire is dated to 7 October, but it began well before that in Maine. The summer of 1825 was one of the hottest, if not the hottest, of the nineteenth century in northeastern North America.[3] And this came at the end of an unusually cool period; the 1815 eruption of the Tambora volcano in Indonesia had spread a cloud of ash and dust throughout the global atmosphere, making the late 1810s the single coldest segment of the Little Ice Age.[4] The cool, wet weather checked forest fires and allowed combustible vegetation to accumulate, producing perfect conditions for an eventual conflagration. In the heat of the summer of 1825, fires blazed in patches all the way from Lake Superior to Nova Scotia.[5]

By late August, there were already reports of fire throughout the south-central heart of Maine, in communities from Bowdoinham in the west to Bangor in the east.[6] "In every town and on almost every farm for some weeks past," in the words of an account from Norridgewock in Somerset County, "the woods have presented one continued sheet of fire and devastation."[7] Because there was somewhat earlier and more settlement in Maine's interior than in New Brunswick's, its rural folk were likely more familiar with forest fires. As a result, settlers in the Pine Tree State took more precautions against fire than their New Brunswick neighbors would. Wooden fences were torn down. Swabs were tied to long poles, ready to blot out fires on the roofs of cabins. Barrels of water were stationed outside homes. Spare clothes and bedding were buried, just in case.[8] The Norridgewock article noted that such safeguards had so far prevented the invader from doing much damage, but the danger persisted, "and nothing can remove it but (what we have not seen for a long time) a good wholesome, soaking rain." That did not come, and on 8 September a Bangor reporter—writing as fire ran within his town—told of a 30-mile "sea of fire" burning along both sides of the Penobscot River. The roaring of the flames sounded like thunder and could be heard 15 miles away.[9] Newspapers reported that fires blazed in communities throughout Penobscot and Somerset Counties, centered in what is now Piscataquis

County.[10] Although the fires were said to be "more extensive than ever known before,"[11] they were defined almost exclusively in terms of the towns they threatened, not a more general range.

The fire season then went quiet for a time, before roaring back with a vengeance. "The light rains in September checked the fires," a Maine newspaper would report a month later, "but the hot weather since has dried the ground, and the strong wind on Friday night last [7 October] sent them raging as severely as ever." On 7 October, Maine and New Brunswick were both hit with the winds of what may have been a hurricane's remnants. Smouldering fires flared up all over, worse than ever. A Captain Loring sailing off Portland, in Maine's southwest corner, saw the "reflection of a large fire upon the sky" extending to the north toward Penobscot.[12] There was news out of Kennebec County that the countryside was on fire for more than 100 miles. A whole series of communities throughout Somerset and Penobscot Counties in the center of the state were listed repeatedly in the press as having suffered badly.[13]

Yet the nature of Maine's suffering was fundamentally different from that faced in New Brunswick. Consider a newspaper account of how the fire entered Bangor on 7 October. After describing circumstances identical to those experienced in the Miramichi communities—the wind shifting suddenly (as the storm front passed over) and flames bursting suddenly out of the woods—the author concluded, "But the most distressing part of our relation is yet to come. Twelve buildings with most of their content were totally destroyed."[14] The Maine fires resulted in the loss of pines and property, but not persons. So, when word reached the wider world of the more extensive disaster that had befallen the Miramichi region, the Maine ones were quickly eclipsed. As a result, there was actually less in the North American press that fall about Maine's 7 October fires than there had been about the almost certainly smaller ones earlier in the summer. In public memory, however, Maine's two distinct 1825 fire periods merged, their total ranges all becoming subsumed by 7 October.

PROVIDING RELIEF, PLACING BLAME

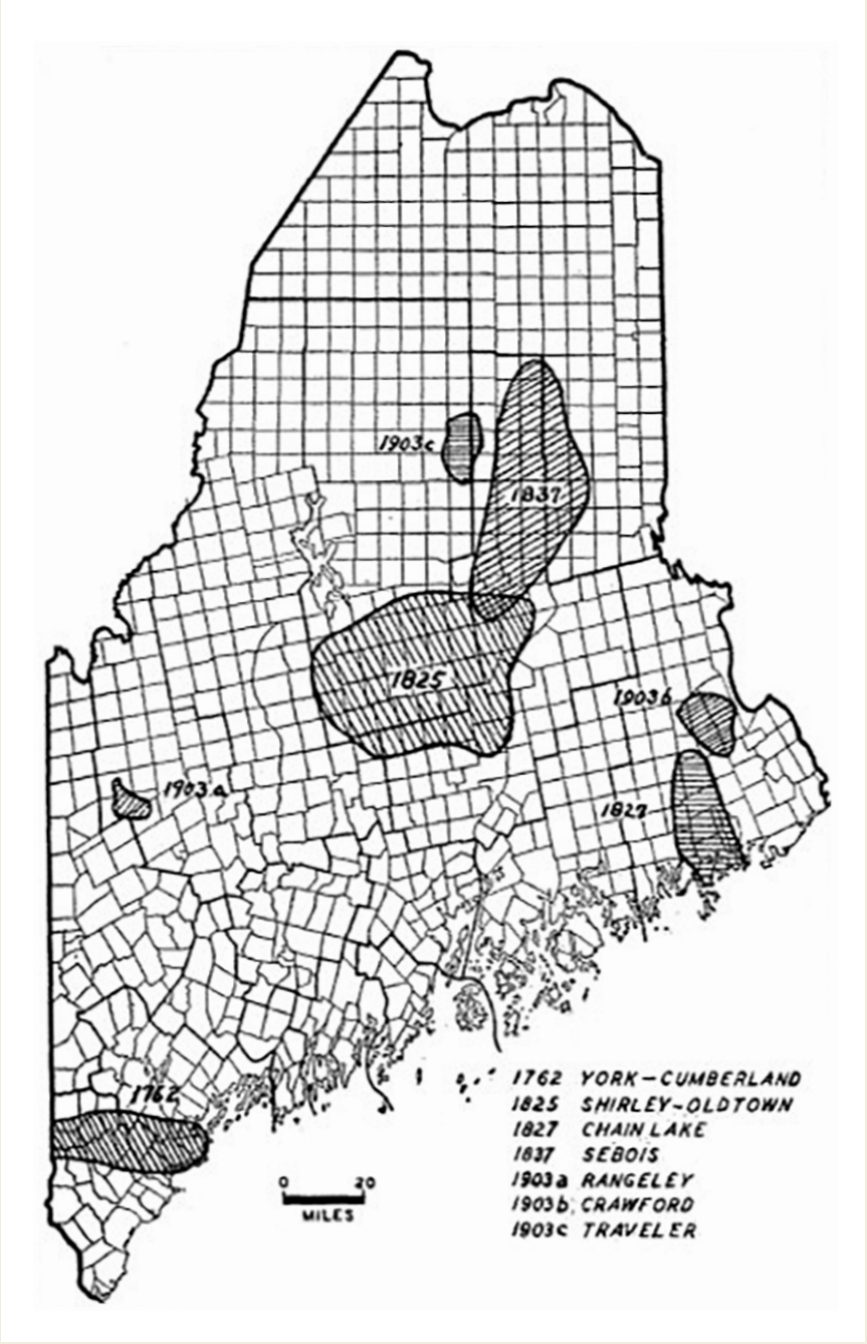
The border played an important part, too, in how people who learned of the forest fires that autumn responded. News of the conflagration in New Brunswick, and the fact that it had left hundreds dead and thousands homeless on the eve of a Canadian winter excited sympathy and generosity across the Western world. An impressive relief effort was born, and Americans were notably generous. Spurred by newspapers' publications of subscription lists, a competition arose among major American cities to see which would give the most. "Boston had done most nobly" and "Philadelphia has at length taken the field," a New York newspaper noted, but it was happy to report that its own city had raised $3,884 in a single day.[15] Thirty-five Boston churches collected money for the Miramichi region, and the schooner *Billows* sailed twice to Halifax with provisions.[16] Besides food, clothing, and supplies, Americans sent at least $20,000 in cash to aid the sufferers in the British colony.[17] This, only a decade after the two nations had fought the War of 1812, and while they were still disputing the Maine–New Brunswick border. In fact, the relief effort in the United States was frequently promoted as a way to confirm and fortify America's close relationship with Great Britain and its colonies.

The *Billows* did not stop in Maine to help victims of the fires there, it should be noted. Although there were Mainers who had lost property, who had been left homeless, no charity drive was organized to help them recover. One U.S. newspaper, after describing aid to the Miramichi, tentatively asked "whether assistance is not more needed by the sufferers in Maine," but no answer was given. This suggestion was the closest anyone came to saying that Americans should care for Americans first.[18] The scope of the disaster in the Miramichi region simply eclipsed that in Maine. Even residents of Eastport, Maine, well aware that forest fires had wreaked havoc in their own state, raised $400 to help the New Brunswick survivors.[19]

Although there were Mainers who had lost property and were left homeless, no charity drive was organized to help them recover. The scope of the disaster in the Miramichi region simply eclipsed that in Maine.

In the weeks immediately after the 7 October conflagration, discussion in the press focused on the suffering. With relief efforts underway, though, talk soon turned to what might have caused the fires. Again, the answers were different on the two sides of the border. In New Brunswick, since the fire had swept eastward from the wilderness interior to the more settled coast, there was really no way of determining its original cause. This did not prevent commentators from casting blame, however. Some pointed to lumberers who burned piles of slash as part of their operation. Others pointed to

CHARLES B. FOBES, "HISTORIC FOREST FIRES IN MAINE," *ECONOMIC GEOGRAPHY* 24 (1948): 270

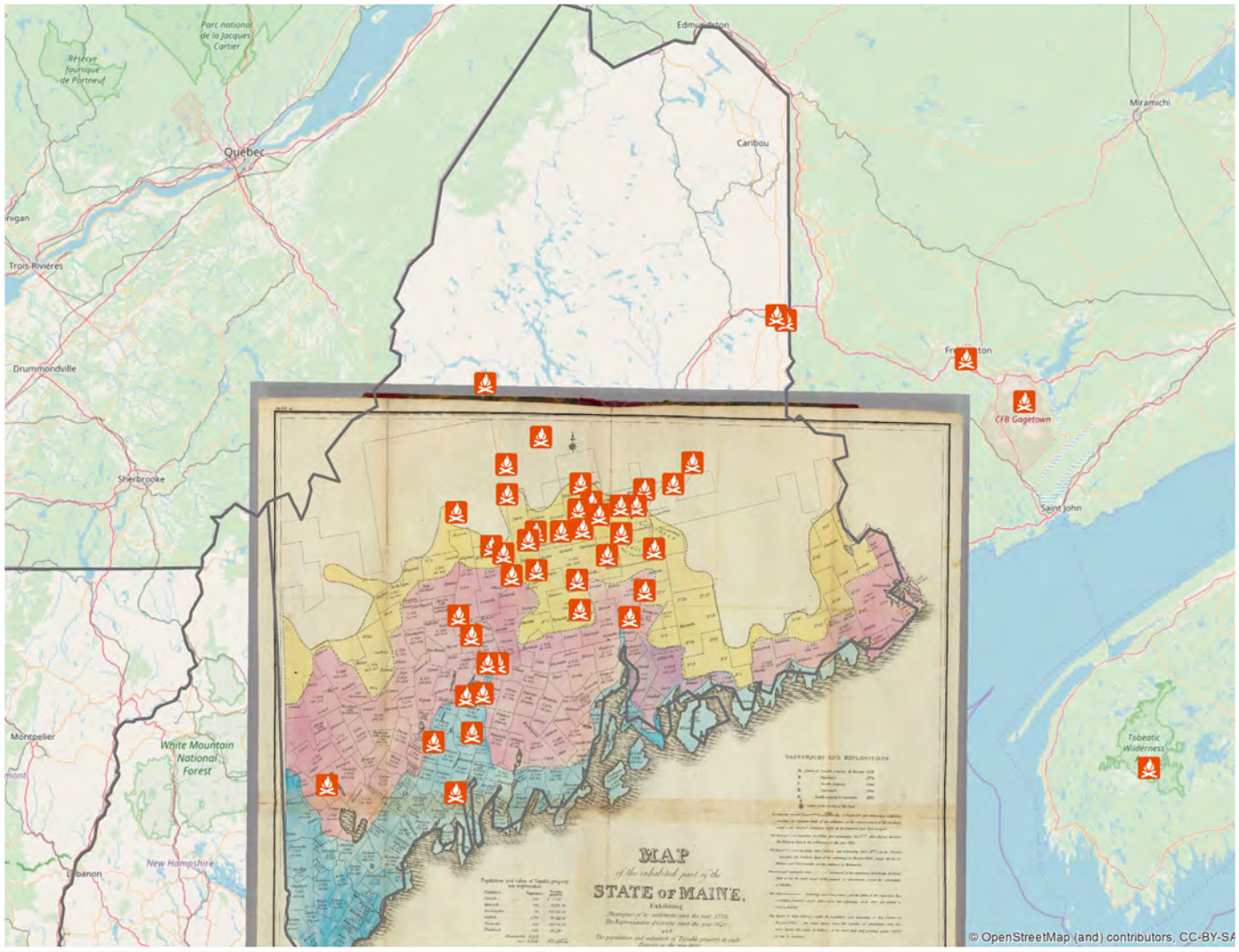


This map of historic fires in Maine, published in 1948, reflects how the memory of the Miramichi fire had changed over eighty years. The fires were shown as being in a compact area. Compare it to the maps on page 23, which shows the actual locations of fires in 1825.

settlers clearing farmland. Others pointed to Mi'kmaw carelessness. (White sources, having ignored how the Indigenous population of New Brunswick had experienced, suffered because of, or died in the Miramichi Fire, only referenced the Mi'kmaq in terms of blame.[20]) Still others pinned the fire on natural causes: lightning, spontaneous combustion, or the Earth having been brushed by the tail of a comet.[21]

But in Maine, much more direct blame was laid. Throughout the summer of 1825, Maine's land agent sent men throughout the state's northern interior in search of unlicensed logging operations. Near such sites they often found cut meadow hay, which was fodder for the lumbermen's draft animals, and as such was fuel for the whole enterprise. So agents burned it. In mid-September—after the state's first wave of fires—a letter appeared in a Bangor newspaper purportedly from Penobscot Indian leader John Neptune, accusing the state's agent and his man Ezekiel Chase, a captain in the Revolutionary War, of causing the fires that had devastated the state: "What meanum states agent send Captain Chase to burnum hay when everything so dry—Indian two township all burn up before rane come —Indian lossum all timber and hay — . . . When indian havum all timber and hay nobody burnum hay — now state gettum all indian land but two township, then he settum fire to drive all indian off."[22] After 7 October, this accusation spread to include the fire of that day. White squatters in eastern Maine charged the state's agents with setting the blaze not to displace Indigenous people but to disrupt their timber operations.

It hardly mattered that the specific agents mentioned had an airtight alibi, having not been anywhere near where the fires burned on 7 October. The idea that the state's own officials had caused the state's worst fires was so delicious that it became woven into public memory. A half-century later, the sprawling *History of Penobscot County, Maine*—a book written by numerous anonymous contributors whose entries utterly contradict one another—took turns confirming and denying the accusation. One author reasoned, for example, "It is very certain that, if it had not been for the lawless acts of the timber and hay thieves, there would have been no occasion of complaint against the Land Agent for burning their hay"—and,



DAVID RUMSEY HISTORICAL MAP COLLECTION; FIRES MAP BY ERIC LEINBERGER

Reported forest fires in Maine, 1825, overlain on Moses Greenleaf's *Map of the Inhabited Part of the State of Maine* (1829). Greenleaf's map shows the northward spread of settlement, the lightest shaded band representing land settled between 1800 and 1820.

regardless, "The utmost care was enjoined."[23] The story's details blurred over time. In 1899, the *New York Times* précised the 1825 Maine fire as an expulsion of Acadians: "two special constables" were bent on evicting "French Canadians" and "after turning the families out, set fire to the houses and haystack." Soon "the biggest forest fire ever known in the State was sweeping north, burning off more than fifty townships of old-growth pine and doing more than $10,000,000 damage to the State lands."[24]

Like so much about the Miramichi Fire, it is impossible to know the truth for sure, whether a small fire set by government officials caused or contributed to the fires that bedeviled Maine that year. But it is striking that no one writing in or about the New Brunswick fire in either contemporary or subsequent accounts ever pointed at Maine's land agents as its cause. Although Maine was to New Brunswick's west, although the winds and fire traveled west to east, the border was too formidable for blame to jump it.

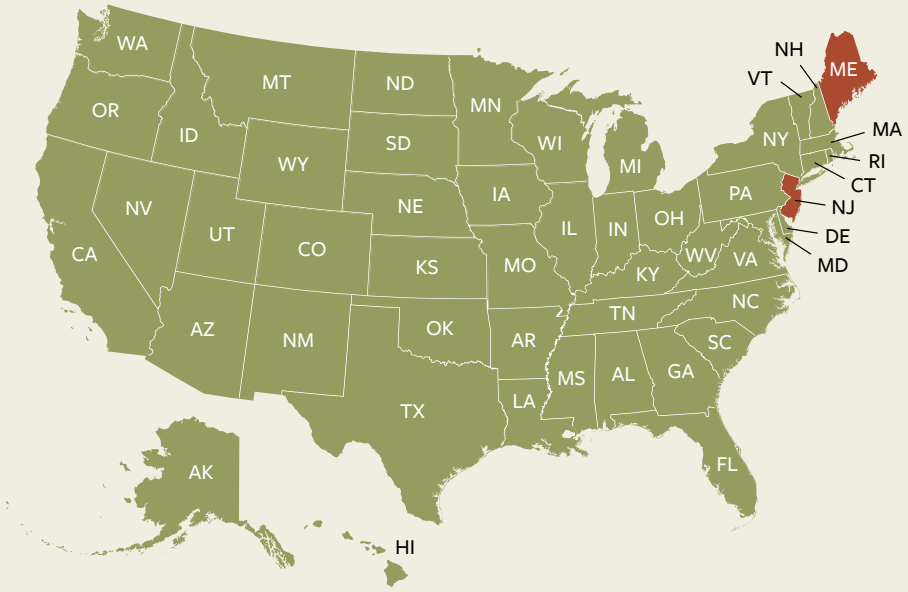
THE MANY MIRAMICHI FIRES

Nonetheless, once it was understood that Maine and New Brunswick had each experienced massive forest fire events on the very same day, it is little wonder that some assumed that they were connected—that they were not fires at all, in effect, but a single fire. "This devastating element," in the words of one newspaper article, "hurried through the wildernesses of Maine on the Atlantic and swept onwards on the blast of the hurricane, until stayed by the waters of the Gulf of St. Lawrence."[25] It became routine in early accounts to mention the fires in Maine when describing the 1825 conflagration as a means of showing the scope of the disaster. But

the death and destruction along the Miramichi River utterly overshadowed what happened elsewhere. As a result, no writer of the day attempted to map the fire's path between Maine and New Brunswick.[26]

The closest anyone came to trying was the writer "W," in a series for the Miramichi newspaper *Chatham Gleaner and Northumberland Schediasma* in 1831. A survivor of the great fire, "W" traced its route back through New Brunswick, all the way to the colony's extreme southwest corner, right on Maine's doorstep.[27] "W" was actually the *Gleaner*'s own reporter, Robert Cooney, who published a history of northern New Brunswick the following year. In that book, Cooney focused strictly on the Miramichi component of the blaze so as to position the fire as the defining event in the history of that part of the colony. He was successful—his book is still the most quoted material on the fire—and so the writer who came closest to connecting New Brunswick's fires with Maine's was also the writer who, more than anyone, solidified its range as principally on the Miramichi.

In the course of my research, I documented contemporary reports of fires throughout northeastern North America that late summer and fall—including around Montreal, where, remarkably, the fires of 1825 would also be remembered as the Miramichi Fire. (See page 20) In New Brunswick, the reports were focused on the colony's northeast, and in Maine, in the state's very center. That was how history has come to understand the fires. (See page 22) Renowned Maine forester Austin Cary, for example, noted seventy years later that though the blaze in the state was named for a Canadian location, it was "a different fire, being separated from the other by many miles."[28] Mid-twentieth century American logger-turned-historian Stewart Holbrook downplayed it as "a Canadian fire," before discussing it solely in terms of its impact in Maine.[29] Fire historian Stephen J. Pyne is unusual in writing about the fire on both sides of the border—although it is worth noting he does so separately, in two distinct national histories.[30]



This American Red Cross map of the Miramichi Fire, c.2000, highlighted Maine and the state of New Jersey instead of the province of New Brunswick, Canada, unintentionally illustrates how the fire has been both remembered and forgotten.

But the belief in discrete Maine and New Brunswick fires may be a product more of reporting than of reality. There is a lovely 1829 map by Maine cartographer Moses Greenleaf showing the northeastward progress of colonization of the state after the American Revolution. (See page 23) Superimposing reported 1825 fire locations on this map reveals that most of the burns occurred in settled territory and that there were relatively few reports of fires beyond. These findings are only to be expected, for two reasons. First, land clearing, timber cutting, wood heating, cooking, and other trappings of human settlement all increase the potential for fires that get out of hand; generally speaking, where there are fewer people, there are fewer fires. But second, places that are more settled, particularly those with newspapers, are more likely to record their experiences; where there are fewer people, there are fewer reports of fire. Since the entire region between Maine's and New Brunswick's fire zones was lightly populated and had no newspapers, we may reasonably wonder if fire burned parts of it and went unreported. We may also reasonably wonder if two massive fires that burned in the same environmental and climatic conditions on the very same day less than 200 kilometers apart were not, in fact, connected.

Natural disasters, and perhaps all historical events, undergo a process of spatial and temporal consolidation as they move into the past: boundaries become firmer. But because the Miramichi Fire was centered in two core areas—central Maine and northeastern New Brunswick—and because these were on two sides of an international border, the areas drew apart and consolidated separately. The fact that the fire resulted in far more deaths and damage on the Canadian

side meant it became known by a Canadian name. Rather than sharing memory of this natural disaster, both nations lost track of its dimensions on the other side of the border, diminishing its memory in both.

In the early twenty-first century, the American Red Cross's website disasterrelief.org contained information about historical natural disasters. (See previous page) Its list of forest fires began, as most such lists do, with the 1825 blaze. There was even a helpful accompanying map of the United States, with Maine and New Jersey singled out. The site's creators presumably believed that a fire that torched the state of Maine and the neighboring British colony of New Brunswick had instead torched Maine and the town of New Brunswick, New Jersey, some 400 miles to the south.[31] This error seems a fitting illustration of how the Miramichi Fire, a forest fire that joined two nations, has been simultaneously remembered and forgotten.

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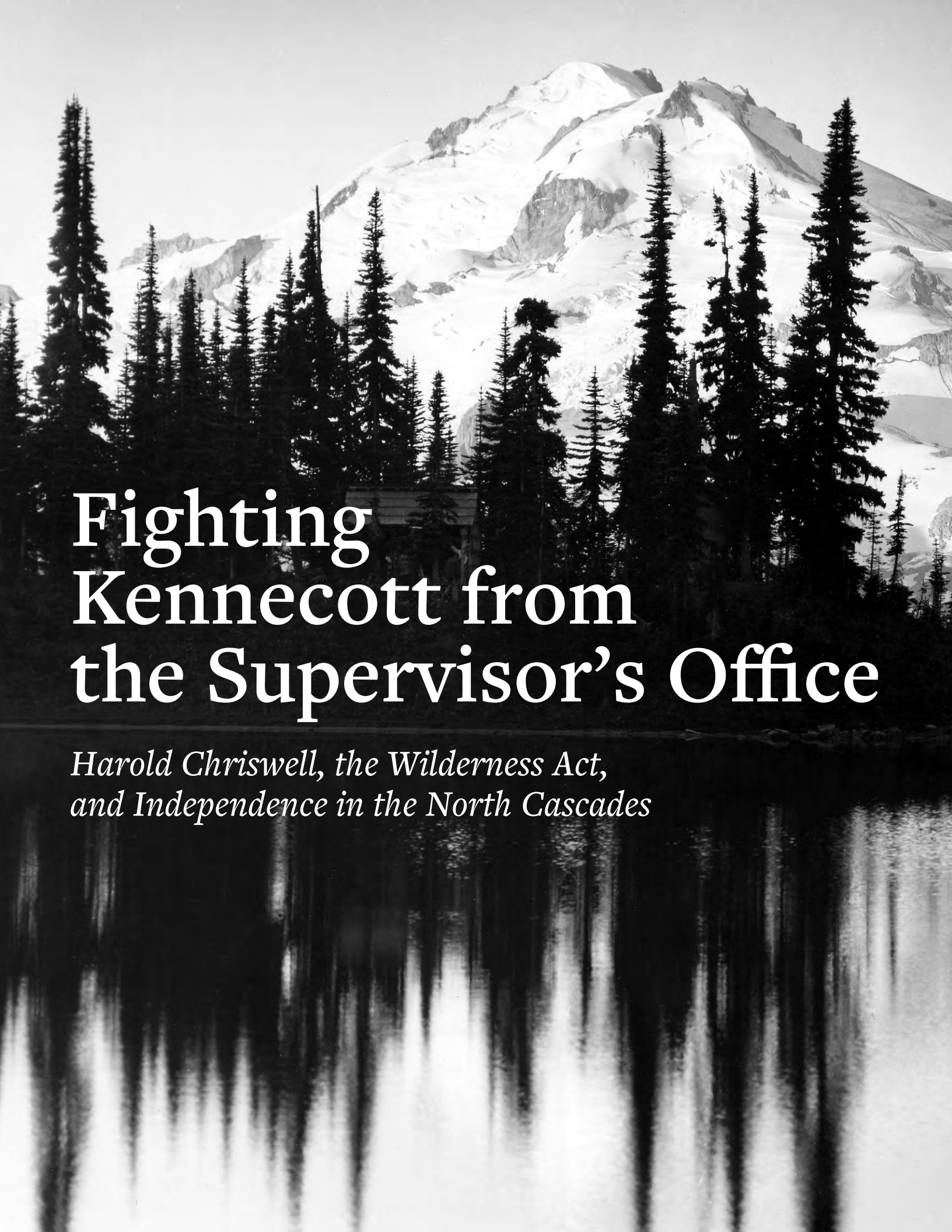
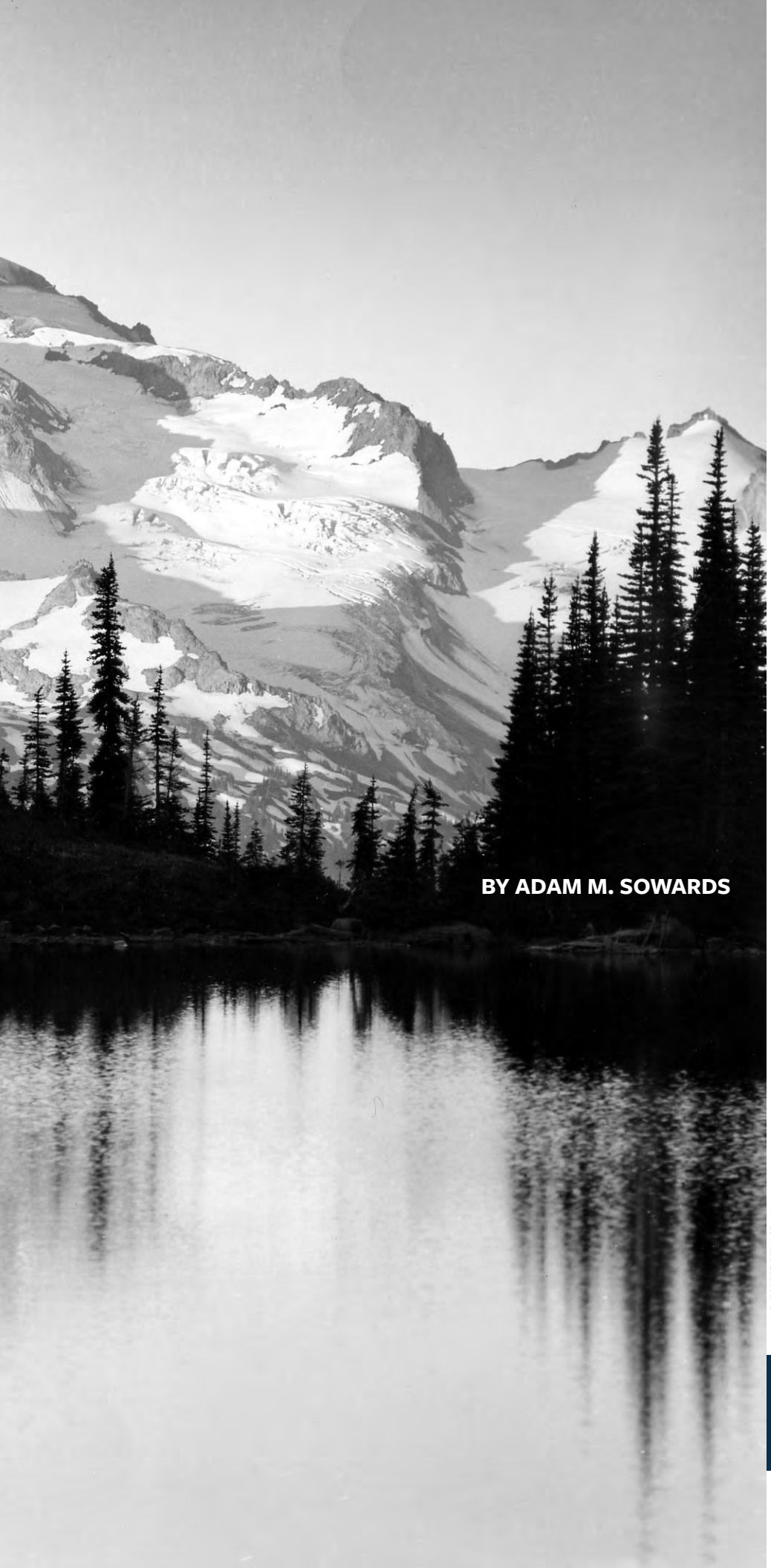
NOTES

1. The essay that follows is derived from my *The Miramichi Fire: A History* (Montreal and Kingston: McGill-Queen's University Press, 2020).
2. On New England and the Maritime provinces as an integrated region, see John G. Reid, *Essays on Northeastern North America, Seventeenth and Eighteenth Centuries* (Toronto: University of Toronto Press, 2008); Stephen J. Hornsby and John G. Reid, eds., *New England and the Maritime Provinces: Connections and Comparisons* (Montreal and Kingston: McGill-Queen's University Press, 2005).
3. David Ludlum, *The Country Journal New England Weather Book* (Boston: Houghton Mifflin, 1976), 63. See also United States, Meteorological Register for the Years 1822, 1823, 1824, and 1825, from *Observations by the Surgeon of the Army at the Military Posts of the United States* (Washington, DC: E. DeKrafft, 1826).
4. C. R. Harington, ed. *The Year Without a Summer? World Climate in 1816* (Ottawa: Canadian Museum of Nature, 1992), esp. 127, 255–56, 266–78; and K. R. Briffa, P. D. Jones, F. H. Schweingruber, and T. J. Osborn, "Influence of Volcanic Eruptions on Northern Hemisphere Summer Temperatures over the Past 600 Years," *Nature* 393, no. 6684 (1998): 450–55.
5. *Charleston* (South Carolina) *Courier*, 12 December 1825.
6. Hallowell report, August 31, 1825, in *Portsmouth New Hampshire Gazette*, September 6, 1825; *Providence Rhode-Island American*, September 9, 1825.
7. Norridgewock report, September 6, 1825, in *Newport Rhode-Island Republican*, September 15, 1825; and William Collins Hatch, *A History of the Town of Industry, Franklin County, Maine* (Farmington, ME: Press of Knowlton, McCleary & Co., 1893), 218.
8. Rev. Amasa Loring, *History of Piscataquis County, Maine, from its Early Settlement to 1880* (Portland, ME: Hoyt, Fogg, and Donham, 1880), 400.
9. Bangor report, September 8, 1825, in *Middletown* (Connecticut) *Sentinel and Witness*, September 21, 1825. The 30-mile figure was repeated in, for example, *Saint John New Brunswick Courier*, October 1, 1825.
10. *Augusta* (Maine) *Chronicle*, September 28, 1825; *Baltimore* (Maryland) *Niles' Weekly Register*, September 24, 1825; and *Halifax Novascotian*, 26 October 1825.
11. *Baltimore Niles' Weekly Register*, September 17, 1825.
12. *Kennebec Gardiner* (Maine) *Chronicle*, report, October 11, 1825, in *Boston* (Massachusetts) *Columbian Centinel*, October 15, 1825. On Maine's September weather, see *Boston Columbian Centinel*, September 17, 1825; and *Danville* (Vermont) *North Star*, October 4, 1825.
13. *Baltimore Niles' Weekly Register*, October 22, 1825; *Quebec* (Lower Canada) *Gazette*, October 27, 1825; *Hallowell* (Maine) *American Advocate*, October 29, 1825; *Canadian Courant and Montreal* (Lower Canada) *Advertiser*, November 2, 1825.
14. *Concord* (New Hampshire) *Patriot*, December 12, 1825.
15. *N.Y.* (New York) *Albion*, reprinted in *Canadian Courant and Montreal Advertiser*, December 10, 1825.
16. *Montreal* (Lower Canada) *Herald*, November 30, 1825; and Merle Curti, *American Philanthropy Abroad* (New Brunswick, NJ: Rutgers University Press, 1963), 13–14.
17. *Report of the Commissioners for Ascertaining the Losses Occasioned by the Late Fires in New Brunswick* (Fredericton, NB: G. K. Lugrin, 1826), 21.
18. *Salem* (Massachusetts) *Gazette*, November 18, 1825.
19. *Eastport* (Maine) *Sentinel*, 22 and 29 October 1825.
20. "Mi'kmaq" refers to the Indigenous people. "Mi'kmaw" serves as both the singular of Mi'kmaq and as an adjective when preceding a noun (e.g. "Mi'kmaw treaties").
21. Survivors did not know then that in windy conditions embers can carry up to one mile or farther and that fires can travel up to 6 miles per hour in forests, which would have helped spread the fire.
22. *Bangor* (Maine) *Register*, September 15, 1825. Neptune was said to have dictated his letter to a "St. Johns indian" and the *Register* published it "verbatim et literatim." For broader context on this episode, see Jacques Freland, "Tribal Dissent or White Aggression?: Interpreting Penobscot Indian Dispossession between 1808 and 1835," *Maine History* 43 no.2 (August 2007): 124–70, esp. 150–51.
23. *History of Penobscot County, Maine* (Cleveland, OH: Williams, Chase, & Co., 1882), 622.
24. "How Maine Got Birch Trees," *New York Times*, August 14, 1899.
25. *Halifax Acadian Recorder*, reprinted in *A Narrative of the Late Fires at Miramichi, New-Brunswick* (Halifax: P. J. Holland, 1825), 32. See also *New York Albion*, November 5, 1825, reprinted in *Canadian Courant and Montreal Advertiser*, November 12, 1825.
26. Late in the century, Maine forest commissioner Charles E. Oak argued that the Maine and New Brunswick fires were distinct and, in the words of historian John Francis Sprague, "spread from opposite directions." Sprague, "Forests, Forest Fires, Fish and Game," *Sprague's Journal of Maine History* 11, no. 3 (1923): 117.
27. "W," "Forests of New-Brunswick, No. 4," *Chatham* (New Brunswick) *Gleaner and Northumberland Schediasma*, September 20, 1831.
28. Austin Cary, "Early Forest Fires in Maine," *Report of the Forest Commissioner of the State of Maine, 1894*; reprinted in *Report of the Forest Commissioner of the State of Maine, 1902* (Augusta, ME: Kennebec Journal Print, 1902), 32.
29. Stewart Holbrook, *Burning an Empire: The Story of American Forest Fires* (New York: The MacMillan Co., 1943), 59.
30. Stephen J. Pyne, *Fire in America: A Cultural History of Wildland and Rural Fire* (Princeton, NJ: Princeton University Press, 1982), 56–7; and *Awful Splendour: A Fire History of Canada* (Vancouver: UBC Press, 2007), 127–32.
31. This American Red Cross website no longer exists but is archived with the map link broken at the Internet Archive: http://web.archive.org/web/20050310050329/http://www.disasterrelief.org/Library/WorldDis/firestuff/imagepages/fire32.html.



Fighting Kennecott from the Supervisor's Office

Harold Chriswell, the Wilderness Act, and Independence in the North Cascades



U.S. FOREST SERVICE, 484197

Glacier Peak, as seen from Image Lake, photographed in 1955.

When an unremarkable forest supervisor took on a multinational company in the name of wilderness preservation, his dogged independence showed the possibilities and limitations of wilderness management.

BY ADAM M. SOWARDS

In the mid-1960s, a U.S. Forest Service forest supervisor found himself in the middle of what seemed a local fight. Harold C. "Chris" Chriswell was not willing to stand idly by while one of the most scenic places on his turf, the Mt. Baker National Forest, snug against the Canadian border in Washington's North Cascades, was destroyed. The Kennecott Copper Corporation had proposed to establish and operate an open-pit mine in the middle of Glacier Peak Wilderness Area, one of the first places protected by the recently signed Wilderness Act of 1964.[1] The local conflict quickly became the first national test of the law.

To gain congressional support for the Wilderness Act, especially among western members of Congress, conservationists had accepted a series of compromises. The most important focused on mining. The law allowed prospecting in wilderness areas until 1984 and could not prohibit bona fide mining within designated ones. Wilderness advocates disliked the so-called mining exception, but they were pragmatic and acquiesced to get the Wilderness Act signed into law.[2]

This conflict in the North Cascades was shaping up to be the first high-level test of the legislation between mining companies and wilderness advocates. Kennecott was within its legal rights to open the mine, but the idea seemed preposterous to conservationists. Mining companies aimed to establish their right to mine

in designated wilderness, hard won during the negotiations that produced the Wilderness Act. Meanwhile, regional and national conservation groups, such as the North Cascades Conservation Council and the Sierra Club, wanted to stop any such plan, arguing that wilderness and mining were incompatible. That left the U.S. Forest Service, charged with managing wilderness areas within national forests, caught in the middle.

AN UNREMARKABLE HERO

Enter Chris Chriswell, an otherwise unremarkable forest supervisor. The Forest Service's famously decentralized structure gave Chriswell, a midlevel administrator, some room to maneuver. But the agency's hierarchy limited a supervisor's power.[3] Chriswell certainly felt pressure to conform and follow orders from the regional office in Portland, Oregon, and the national headquarters in Washington, but agency leaders at these two levels did not stop his efforts. Chriswell's actions ended up being one of several small-scale events that disrupted and slowed Kennecott's momentum. Understanding how Chriswell tried to thwart a multinational corporation and work independently within the agency provides an understanding of the opportunities and limitations forest supervisors of the era faced. He is one of dozens of Forest Service employees who, throughout the agency's history, tried to alter or at least redirect the historical currents swirling around them, only to have their efforts forgotten by history.

Chriswell's professional biography does not read like that of a hero in a wilderness story, but rather represents a fairly typical account of a forest supervisor career. A graduate of the University of Washington's forestry program, he started with the Forest Service in 1935, then bounced around Region 6 in Oregon and Washington in forests on both sides of the Cascade Mountains, learning how to manage grazing, timber, and recreation. He was appointed supervisor of the Mt. Baker National Forest in 1957.[4]

There were hints here and there of his independent streak. As supervisor, he showed a willingness in certain circumstances to lower commercial timber harvest goals, controversial in those days when "getting out the cut" drove the agency's agenda and western Washington's economy, as well as an employee's rate of promotion in the timber-focused agency. But if occasionally Chriswell might alter timber production targets, he typically supported Forest Service practices. He didn't hesitate to punch roads up river valleys to enable timber operations.[5] But the threat of an open-pit copper mine brought out Chriswell's appreciation for wilderness and protectiveness of Forest Service prerogatives.

COPPER FOR A PATRIOTIC CAUSE

In the early 1950s, Kennecott had acquired a relatively small claim within what became Glacier Peak Wilderness Area at a place called Miners Ridge. The copper deposits had been located at the turn of the twentieth century, but their relative isolation and comparative low quality (less than 1 percent) meant they had remained unprofitable. During World War II, the Forest Service reluctantly approved a road to the mine site, but the war ended before it was built. Never dying down after this near-miss, rumors that the mine would be developed continued to circulate in Northwest conservation circles. When the war in Vietnam began escalating in the mid-1960s and an apparent copper shortage alarmed American strategists, Kennecott believed it was time to develop its claims for capitalistic and patriotic reasons. Meanwhile, hikers and especially photographers had continued to seek out Miners Ridge, a premier location in the Cascades where they could record the stunning beauty of Glacier Peak's perfectly conical volcano reflected in the calm water of Image Lake. Backpackers reported increasing mining activity—test drilling and the like—in the years leading up to the company's public announcement.[6]

The next chapter in the history of Kennecott's copper mine opened in Chriswell's Bellingham, Washington, office in November 1966. Chriswell prepared for an upcoming meeting with Kennecott and contemplated ways to reduce its disruption to the wilderness. He intended to require the company to use block cave mining—a less intrusive but more expensive method that takes place underground—rather than open-pit mining, and to segregate the workers' housing, mill, and certain processing activities outside the wilderness area and even outside the national forest if possible. In short, Chriswell searched for ways to minimize the mine's harm, even suggesting that Kennecott be required to bury power lines and move ore through a pipeline.[7]

Chriswell's was a strong opening move, but his legal advisers in Portland told him that he likely lacked authority to carry out this plan. Wilderness values, an attorney in the regional office reminded him, "must here be weighed versus costs." Such advice had little specificity but was fully consistent with the Forest Service's longtime efforts to balance use of all resources on a national forest. The attorney's final words, though, revealed the weightiness of the upcoming meeting with Kennecott representatives: "You may wish to submit this matter to the Chief since precedent-making decisions seem to be involved." The frank acknowledgment that this was new territory for the agency indicated that Miners Ridge sat at the center of national forest management questions. And Kennecott's meeting with Chriswell was the first hurdle the company needed to clear.[8]

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Forest supervisor to retire in April

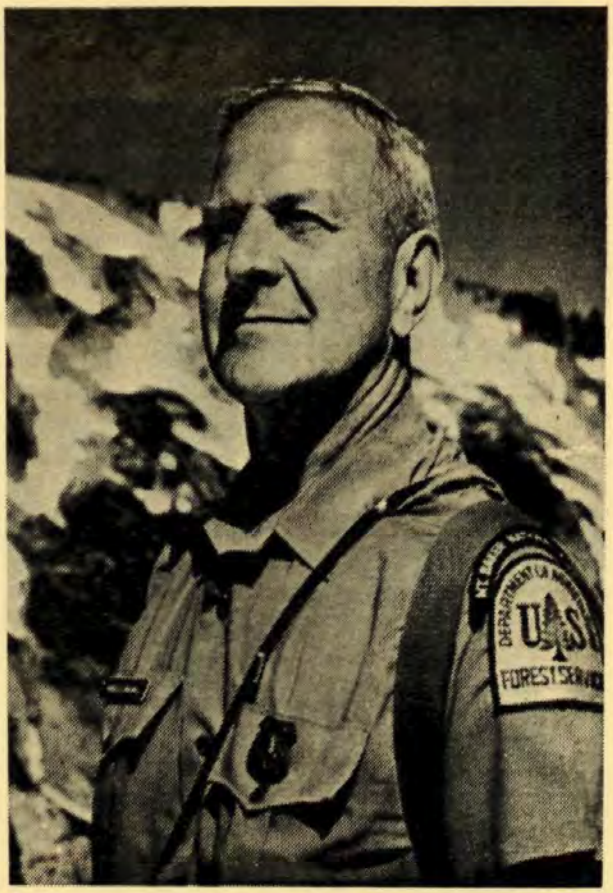
Harold C. (Chris) Chriswell, supervisor of the Mt. Baker National Forest since 1957, will retire April 9.

Before being promoted to supervisor, he served five years on the Mt. Hood National Forest, Portland, and was district ranger on the Umatilla, Olympic, Gifford Pinchot and Rogue River National Forests prior to that.

A longtime outdoorsman, Chriswell is intimately acquainted with the rugged North Cascades of Washington. In a recent special assignment he served as the Forest Service representative in a joint study with the National Park Service to develop management plans for the North Cascades National Park complex and adjacent lands of the Mt. Baker, Wenatchee, and Okanogan National Forests.

A graduate of the University of Washington, he has served on National Forests in Washington and Oregon since 1935, when he received his initial appointment on the Malheur National Forest, John Day, Oregon.

His successor has not yet been chosen, Regional Forester Charles A. Connaughton, U.S. Forest Service, said.



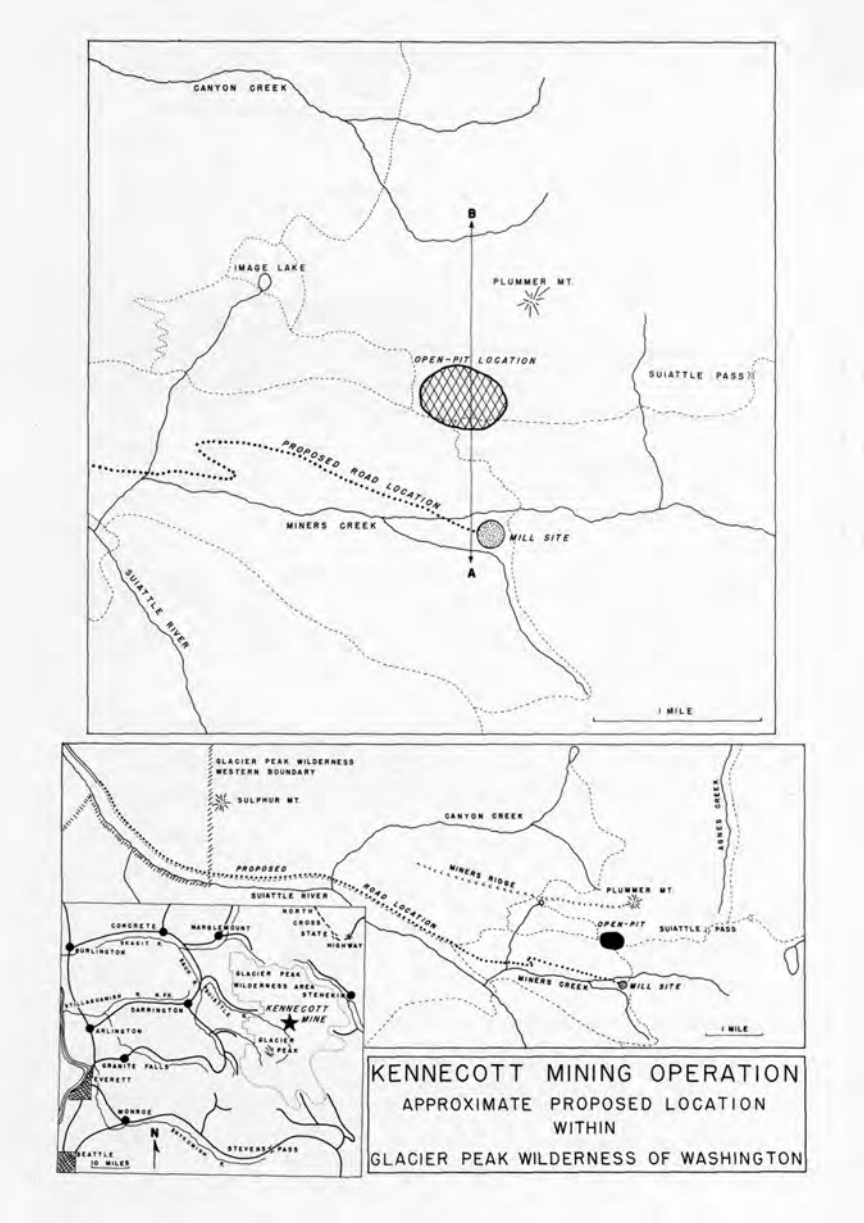
HAROLD C. CHRISWELL
Shown with outdoors he loves

A local newspaper published this photo of Harold Chriswell alongside an article announcing his retirement in 1971. The caption read, "Shown with the outdoors he loves," but the short article made no mention of the Kennecott fight. It was reprinted in the April-May 1971 issue of the North Cascades Conservation Council's newsletter *The Wild Cascades*.

Kennecott representatives left the meeting at the Mt. Baker supervisor's office prepared to move forward but did not make a formal proposal or file any paperwork. In December 1966, when Kennecott announced its plans to start an open-pit mine on Miners Ridge, Chriswell acknowledged that the courts might ultimately decide the rules, but in the meantime he assured the public of the agency's power to "control things," saying, "We have told Kennecott it would have to bring in all possible alternatives if, as and when it makes a formal application. . . . We will exercise all control possible within the law to protect wilderness values."[9] Chriswell promised nothing specific and stuck to promoting wilderness values, asserting that he would control Kennecott as much as the law and courts would allow. Such public statements from Chriswell, as ambiguous as they were, might have encouraged conservationists.

Conservationists got what they wanted from Chriswell's boss, the regional forester, J. Herbert Stone, who was quoted in local papers as saying that an open-pit mine was not compatible with wilderness. Local conservationists agreed and pressed the Forest Service to take a stand. Correspondence flew from offices in the Northwest to politicians in the nation's capital before Arthur Greeley, an associate chief in the agency, doused their enthusiasm. Writing to the local member of the U.S. Congress, Greeley pointed out that although the Forest Service could exercise some control of mining activity—as Chriswell had already promised—it could not "nullify the law by imposing regulations that would make mining not possible." Greeley's statement might have been the official agency line, but differing opinions appeared across the Northwest.[10]

Supervisor Chriswell became dogged—and independent. He met with Snohomish County officials and learned that Kennecott needed county permits for an open-pit mine. If that happened, county officials



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This map showing the proposed mine location was published in the December–January 1967 issue of *The Wild Cascades* and came out shortly after Chriswell met with Kennecott officials in his office. The entire 23-page issue was devoted to the controversy.

explained, the Forest Service would be called as an expert witness at a hearing. Informing the regional office of these developments, Chriswell used the opportunity to advance a strong position for the Forest Service, one that seemed inconsistent with Greeley's directions from Washington and earlier instructions from Portland.[11]

Kennecott controlled eleven potential mines in wilderness areas across the nation. In some places, Chriswell explained to the regional forester, they could mine with few problems, but in other places, "conflict with wilderness values will be so severe, as in this case, that our restrictions would make mining uneconomical except in a national emergency." This position differed little from previous utterances, but then Chriswell pushed further: "But we need to *establish our right* [emphasis added] to determine this and to take the lead as the agency best qualified to protect these areas." To assert its right to regulate mining moved the Miners Ridge issue into national prominence and precedents, for it would establish—rightly, in Chriswell's mind—the agency's prerogatives and responsibilities.

If the county planning commission held a hearing, the Forest Service, in Chriswell's view, needed to be unequivocal and state that Kennecott's open-pit plan was "completely incompatible" and that accordingly, the agency would impose "tighter" restrictions than in "other areas where wilderness values [were] not as great." Even more, the Forest Service ought to use the hearing to educate the public about the "basic weakness" in the Wilderness Act, a weakness that hampered its raison d'être: to protect wilderness. Presumably this strategy aimed to build public support, perhaps even to call for legislative adjustments to bolster Forest Service power.

How should we interpret Chriswell's ideas, which seem inconsistent with the statements from the agency's Washington and regional offices? In part, Chriswell sought to maintain bureaucratic prerogatives and power in a situation quickly leaving the agency's control. In part, he recognized a fundamental weakness in the wilderness legislation and aimed to operate somewhat independently to advocate a stronger Forest Service position. And Chriswell was just getting started.

A SHOW-ME TRIP TO GLACIER PEAK

If winter was the season of meetings and correspondence, summertime meant field activity. In the summer of 1967, Chriswell again showed initiative by taking a prominent group into the

mountains on a show-me trip. Forest supervisors had used this tactic before as an effective way to show interested parties the conditions firsthand and generate support for agency initiatives. Sometimes the strategy backfired, as when foresters in Oregon offered an informational tour in the Three Sisters Primitive Area in 1951 that, in the end, galvanized wilderness activists against the agency.[12]

Chriswell, however, executed the trip with political and public relations precision by including members of the regional press and Seattle mayor Dorm Braman. A man with longtime experience in the lumber industry and a love for the outdoors forged as a Boy Scout leader, Braman was a lifelong Republican who readily worked across political lines.[13] Chriswell expertly used the opportunity to vaunt the area, explain the Forest Service's position, and break the news of agency restrictions on Kennecott's operation.

One of the region's leading daily newspapers, the *Seattle Post-Intelligencer*, carried the story on the front page with a beautiful color photograph. Besides framing the controversy visually, the newspaper reported the latest developments and agency perspectives. During the three-day pack trip, Chriswell had announced agency regulations, the most severe of which would require Kennecott to dispose of mine waste so that it would "not affect stream flow or otherwise adversely affect land or water." According to the newspaper, Chriswell asserted that most Forest Service employees opposed Kennecott's mine "on general principles," noting the basic incompatibility of mining and wilderness.[14]

The Wilderness Act allowed what it termed "reasonable regulations" on mining, but Chriswell understood and explained the rub: "What we think is reasonable might not appear reasonable at all to the Kennecott people." Such statements, delivered within view of Glacier Peak, helped the Forest Service pitch itself as the responsible protectors of wilderness—an image that seemed a far cry from the truth to conservationists who had seen the agency exclude timbered valleys from wilderness areas. Kennecott's plans gave the Forest Service an opportunity to rehabilitate its regional image to conservationists, and Chriswell seized it.[15]

A feature in the glossy *Seattle* magazine followed in the fall, in which Chriswell's summer tour group was referred to as "the North Cascades exploratory party," a rather grandiose characterization. The story, "Ride-In to Glacier Peak," outlined Kennecott's plan and expressed outrage and disgust. A Forest Service ranger, Calvin Dunnell, had briefed the party after a dinner of T-bone steaks and salad—not exactly rustic trail fare. Following the agency's developing script, Dunnell

Also published in the December–January 1967 issue of *The Wild Cascades* was this diagram showing the location and depth of the open pit mine. The pit was estimated to be 2,000 feet wide.

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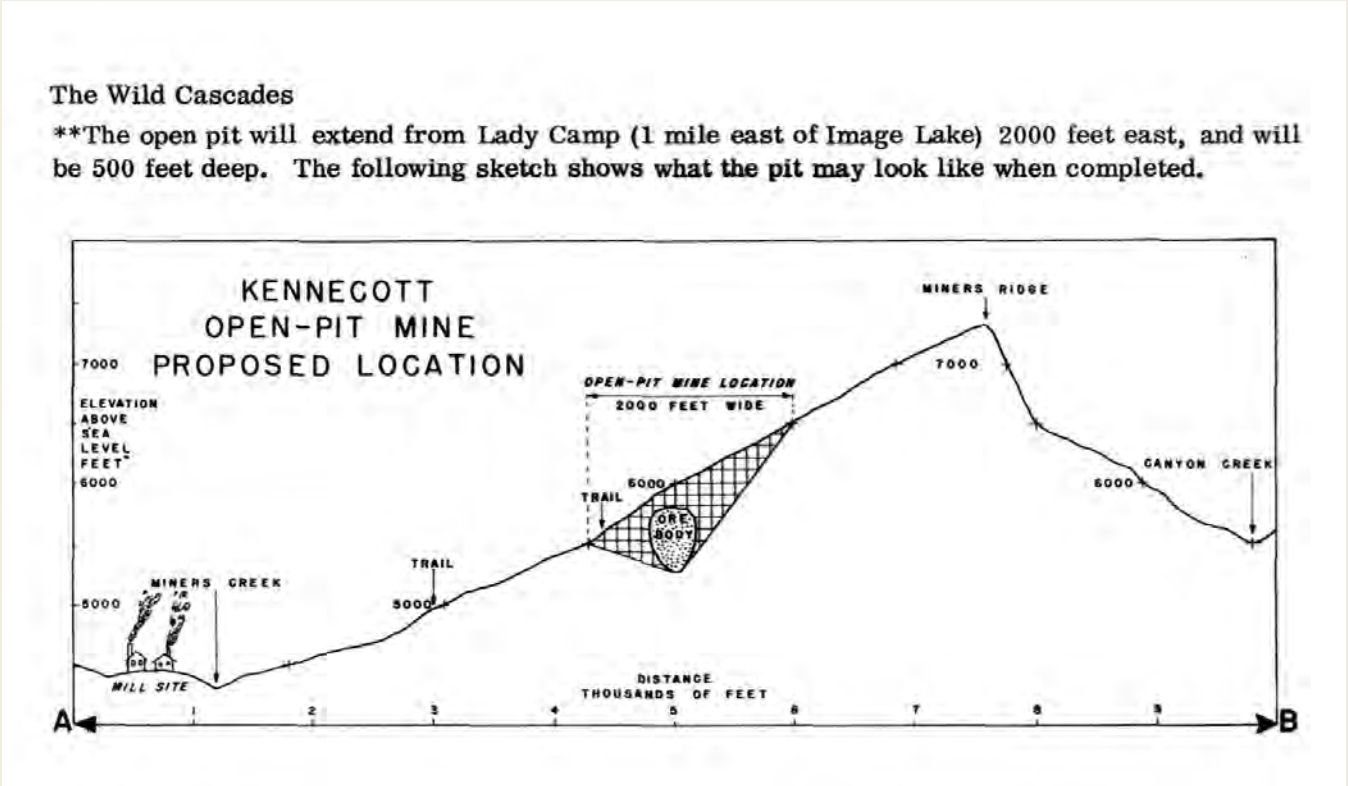

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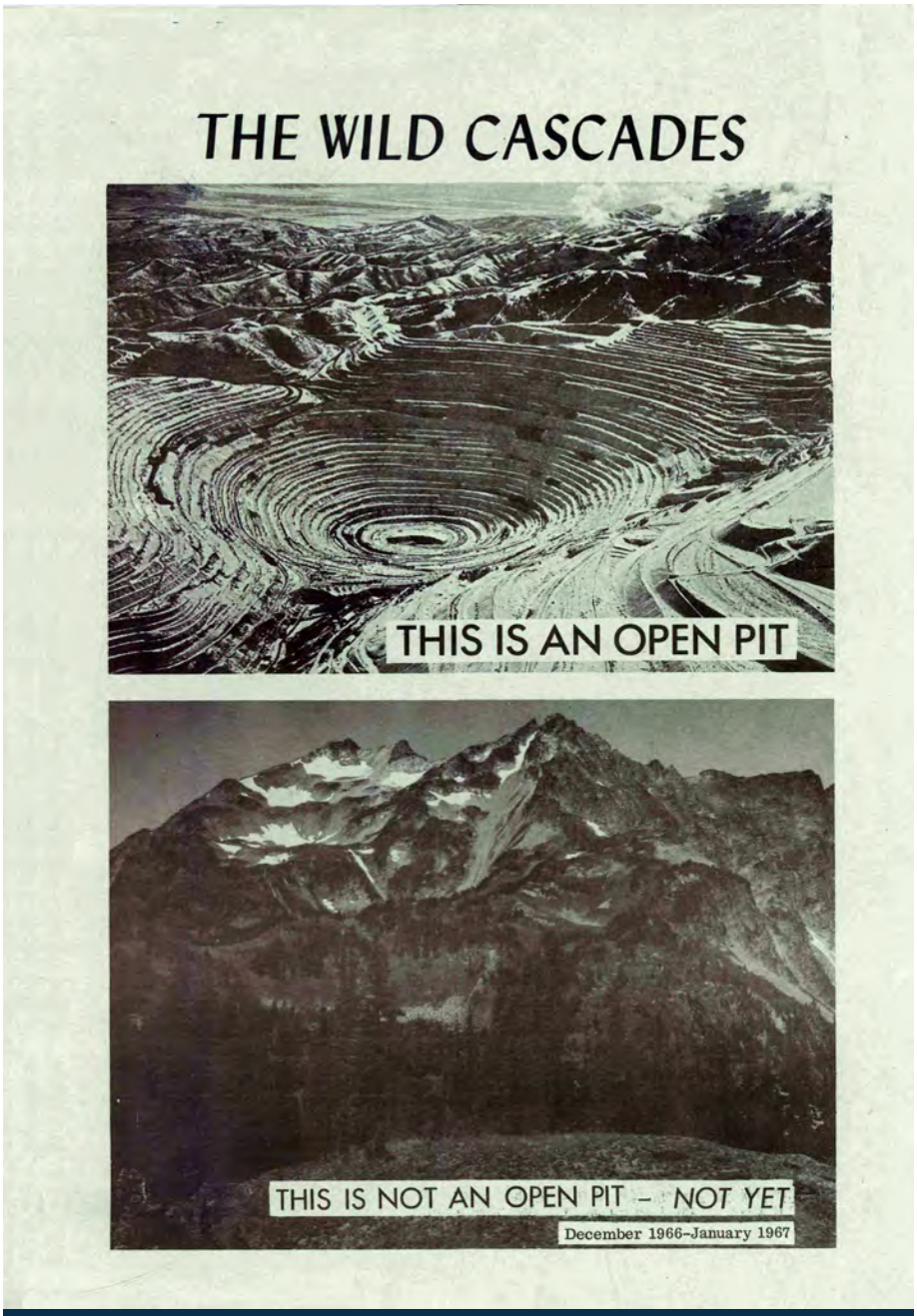

The cover of the issue of *The Wild Cascades* showed Kennecott's open pit copper mine at Bingham, Utah, and contrasted it with a photo of Plummer Mountain, the site of Kennecott's proposed mine in the Glacier Peak Wilderness Area.

emphasized the Forest Service's regulatory demands, including close attention to controls on tailings, and shared what he saw as the best- and worst-case scenarios. The worst case would be that Forest Service regulations would "diminish the havoc Kennecott would wreak." The best case would be that restrictions would force corporate reconsideration and effectively prevent Kennecott from digging its pit. Dunnell's confidence that one or the other outcome would transpire reflected a common trait of agency staff, a sometimes-overweening sense of their ability to rule their world, directly at odds with reality in the mid-1960s.[16]

According to the magazine article, the last night of Chriswell's show-me tour for Forest Service officials and journalists "turned out to be nearly as spectacular as the day had been." After winding their way up countless switchbacks, they saw the site of the proposed mining operation. They also felt watched by Glacier Peak, always standing guard over the other mountains and valleys. They saw a tree carving, famous among Northwest hikers, and camped in full view of Image Lake's beauty. "The moon was all but full," the writer described, "and perhaps under its influence, the horses, grazing nearby, ran amok, frisking and whinnying and almost trampling the campers who had shunned the stuffy confines of a tent." This image of horses running free under the wild moon symbolized what might be lost—and why some were fighting for it.[17]

At this point, Chriswell mostly disappears from the historical record. He faded so quickly that when the North Cascades Conservation Council reprinted an article from a local newspaper in its newsletter announcing his retirement in 1971, neither the newspaper nor the newsletter's editor mentioned his involvement in obstructing Kennecott four years earlier.[18] Perhaps his supervisors in Portland or back in Washington, tired of having to placate Kennecott, let Chriswell know that he needed to drop the issue. At the same time Chriswell was contesting Kennecott, the Forest Service became preoccupied with fending off the National Park Service and its allies in the public and in Congress, who were ultimately successful in shaking loose some 670,000 acres of national forest land and placing it into North Cascades National Park.[19] But during the months Chriswell searched for ways to stymie Kennecott, he demonstrated a strong determination to make the Forest Service assert its power under the Wilderness Act

to regulate mining. He showed the possibilities for independence within the agency and, ultimately, the limits of the Forest Service, or a forest supervisor, in stopping a multinational corporation empowered under the law.

EPILOGUE

Although the open-pit mine was not developed, it was not Chriswell but factors beyond his control that derailed the enterprise. The forest supervisor was one of several things that stood in Kennecott's way, each one drawing public attention and slowing down Kennecott's momentum. National leaders, such as Secretary of Agriculture Orville Freeman and the Supreme Court Justice (and environmentalist) William O. Douglas, weighed in with speeches at events that opposed the open-pit mine. College students held rallies and protests; one student in Ohio launched a petition campaign and ultimately met with Kennecott leaders. A local doctor bought shares of corporate stock so that he could speak at Kennecott's national shareholder meeting and object to its actions. Such actions and activities produced national press that generally supported wilderness preservation and castigated Kennecott's short-term plans. Meanwhile, a volatile copper price made Kennecott's investment always seem marginal. What had seemed a near-certainty in late 1966 was all but forgotten as the 1970s started; the moment had passed, even if the shadow still hung over the decade. Kennecott sold its claims in 1986 to the Chelan County Public Utility District. The Wild Sky Wilderness bill, signed in 2008 to establish a new wilderness area adjacent to the Glacier Peak Wilderness, included a land swap between the public utility district and the Forest Service, resulting in a conservation easement that foreclosed the possibility of the mine and ended forever the threat.

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NOTES

1. Wilderness Act, Public Law 88-577, *Statutes at Large*, 78 (1964): 890–97. Full citations are available in the book.
2. For specifics on passing the Wilderness Act, the mining exception, and compromise, see Mark Harvey, Wilderness Fore*ver: Howard Zahniser and the Path to the Wilderness Act* (Seattle: University of Washington Press, 2005), 204, 237; Steven Schulte, *Wayne Aspinall and the Shaping of the American West* (Boulder: University Press of Colorado, 2002), 115–62; and Doug Scott, *The Enduring Wilderness: Protecting Our Natural Heritage through the Wilderness Act* (Golden, CO: Fulcrum, 2004), 47–55.
3. For more on forest supervisors, see Herbert Kaufman, *The Forest Ranger: A Study in Administrative Behavior* (reprint ed., Washington, DC: Resources for the Future, 2006); Grant McConnell, *Private Power and American Democracy* (New York: Knopf, 1966).
4. "Forest Supervisor to Retire in April," *Skagit Valley Herald*, March 19, 1971, reprinted in *The Wild Cascades* (April–May 1971), 13, http://npshistory.com/newsletters/the-wild-cascades/april-may-1971.pdf.
5. Harold C. Chriswell, *Memoirs* (Bellingham, WA: H. Chriswell, 1989); Gerald W. Williams, *The U.S. Forest Service in the Pacific Northwest: A History* (Corvallis: Oregon State University Press, 2009), 148, 153, 181–82; Harvey Manning with the North Cascades Conservation Council, *Wilderness Alps: Conservation and Conflict in Washington's North Cascades* (Bellingham, WA: Northwest Wild Books, 2007), 124.
6. An overview that captures most of this material appears in Manning with the North Cascades Conservation Council, *Wilderness Alps*.
7. Forest Supervisor, Mt. Baker, Bellingham, Washington, to Regional Forester, September 26, 1966, Box: Region 6, Division of Recreation and Lands Recreation Studies (095-76B2307 Box 3-1990), Folder: Wildernesses and Primitive Areas Glacier Peak Wilderness, Folder #3B Mineral Prospecting and Mining, Records of the US Forest Service, Record Group 95, National Archives, Seattle, WA.
8. C. C. Carlson, Portland, Oregon, to Philip L. Heaton, October 6, 1966, Box: Region 6, Division of Recreation and Lands Recreation Studies (095-76B2307 Box 3-1990), Folder: Wildernesses and Primitive Areas Glacier Peak Wilderness, Folder #3B Mineral Prospecting and Mining, RUSFS.
9. Walt Woodward, "Open-Pit Copper Mine Possible in Proposed Park," *Seattle Times*, December 22, 1966.
10. "Wilderness Act Bars Pit Mine," *Bellingham Herald*, January 17, 1967; M. Brock Evans to Herbert J. Stone, Portland, Oregon, January 20, 1967 (Evans mistakenly reversed the J. and Herbert in his name); Patrick D. Goldsworthy, Seattle, to Orville L. Freeman, Washington, DC, March 9, 1967; A. W. Greeley, Washington, DC, to Lloyd Meeds, February 10, 1967; all in Box 8, Folder: Kennecott Mine General Correspondence 1967, North Cascades Conservation Council Records, Special Collections, University of Washington, Seattle, WA.
11. This paragraph and the next two draw from a letter, Forest Supervisor, Mt. Baker, to Regional Forester, March 13, 1967, Division of Recreation and Lands Recreation Studies (095-76B2307 Box 3-1990), Folder: Wildernesses and Primitive Areas Glacier Peak Wilderness, Folder #3B Mineral Prospecting and Mining, RUSFS.
12. Kevin R. Marsh, *Drawing Lines in the Forest: Creating Wilderness Areas in the Pacific Northwest* (Seattle: University of Washington Press, 2007), 21–23, 27.
13. His son composed a useful biography: Jim Braman, "Braman, James d'Orma (Dorm), (1901–1980)," HistoryLink.org, September 10, 2002, http://www.historylink.org/File/3919.
14. "Stage Setting for an Open-Pit Copper Mine," *Seattle Sunday Post-Intelligencer*, August 27, 1967; "Restrictions Announced on Open Copper Mine," *Seattle Post-Intelligencer*, August 27, 1967.
15. "Restrictions Announced on Open Copper Mine."
16. "Ride-In to Glacier Peak," *Seattle: The Pacific Northwest Magazine*, October 1967, 23–27, quotations from 26, 27.
17. "Ride-In to Glacier Peak," 27.
18. "Forest Supervisor to Retire in April."
19. According to "Forest Supervisor to Retire in April," Chriswell's last job before retiring was serving as Forest Service representative in a joint study with the National Park Service to develop management plans for the North Cascades National Park complex and adjacent national forests, including Mt. Baker.

Our Future Has Its Roots in the Past

Using Century-Old Working Plans for Pine Management at Cook's Branch Conservancy

In 1911, Yale Forest School students developed management plans for land in southeastern Texas. These plans are now foundational documents for an ecological restoration project.

In 1909 and 1911, Yale School of Forestry students prepared forest management plans for virgin stands of upland shortleaf and longleaf pine in southeastern Texas, and one of their professors published the students' data. The reports were intended to promote scientific forestry and enable timber companies to achieve sustained yields in the future. Although the management plans were largely ignored in an era of cut-and-get-out lumbering, the records of these old-growth forests, including age-class distribution and species composition, are now being used to guide the conservation and ecological restoration of a 5,784-acre mixed forest of 100-year-old shortleaf and loblolly pine named Cook's Branch Conservancy in Montgomery County, Texas. The conservation effort is expected to protect a sub-population of more than twenty-five breeding pairs of the endangered red-cockaded woodpecker, a species that only excavates its nest and roost cavities in living old-growth pine trees infected with red heart fungus, which are generally older than 80 years.

1909 FIELDWORK

In spring 1909, the Yale School of Forestry took the senior class, as second-year master's

RAVEN ENVIRONMENTAL SERVICES

Amy Brosi, a field technician with Raven Environmental Services, inspects a red-cockaded woodpecker nest cavity at CBC during the non-breeding season in 2017. This population is carefully monitored annually for population size, health, and reproductive success. If this was breeding season, she would be on the ground using a telescoping peeper scope so as not to disturb the birds.

BY JOE HAMRICK

degree candidates were called, to southeastern Texas for ten weeks of field training near Doucette, Texas. Twenty-nine students and four professors pitched their tents in a longleaf pine (*Pinus palustris*) forest owned by the Thompson Brothers Lumber Company. Supervising the Yale students were Professors Herman H. Chapman and Ralph C. Bryant, each of whom made important early contributions to forest research. The goal of forestry professionals at the time was to persuade lumbermen to "regulate" their forests by leaving some twenty-five percent or more of superior young trees for a future harvest in about twenty years. The residual pines would meanwhile serve as the seed source for the next naturally regenerated forest. The students, at least, absorbed the lesson. Noted one in his working plan, "The chief object of lumbering should be to cut the forest to insure a good reproduction and not to cut for commercial purposes only."[1]

Based on work conducted during the Doucette field school, Chapman published "A Method of Studying Growth and Yield of Longleaf Pine Applied in Tyler Co., Texas" in the 1909 *Proceedings of the Society of American Foresters*.[2] In this paper, he described how his students measured longleaf pine in nine scattered forty-acre plots to determine the "average or actual yields." Their data produced a "somewhat remarkable result," in that "Great uniformity was obtained in the figures from the different plots and by different students, and there can be no question that the figures shown actually represent the average production of the species in this locality." Chapman further concluded that "longleaf pine is found in pure stands but seldom even-aged. The natural form of this forest constantly trends toward small, even-aged groups of a few hundred square feet," confirming that this uncut longleaf pine forest was unexpectedly an all-aged, or uneven-aged, forest.

Combining three of Chapman's tables describing average age, diameter, and distribution, and using his age-class names, Table 1 summarizes the structure of the Doucette longleaf pine forest.

Chapman's 1909 article thus preserves age data on virgin longleaf pine stands before the species was virtually extirpated across its entire range, which stretched from Texas across the Southeast and up into Virginia.

1911 FIELDWORK

Two years later, the Yale master's degree candidates studied a virgin shortleaf pine (*Pinus echinata*) forest. The 1911 field school session began on April 14, when most of the forty-two students and four instructors arrived by train in Trinity, Texas, to begin ten weeks of hands-on training. The host was once again the Thompson family and the J. M. Thompson Lumber Company, which owned and leased some seventy-eight thousand acres along the Trinity, Houston, and Walker county lines. A new J. M. Thompson lumber mill, with a thirty-acre millpond, had been built close to Trinity and had produced more than 119,000 board feet of lumber since its two steam-powered bandsaws and planer first whirred to life just four months prior to the students' arrival.

The Thompson forest holdings around Trinity in 1911 were mostly untouched by logging crews, but they were not untouched by humans. The agriculture census in 1910 for Trinity County reports fourteen hundred farms averaging eighty-six acres, with 19,165 cattle, 27,170 swine, and 8,955 horses, mules, sheep, and goats, for a grand total of 55,290 grazing, browsing, and rooting livestock—nearly all of which were free-ranging in the forest.[3]

Three Yale students—Arthur F. Fischer, Arthur F. Kerr, and Louis

Table 1. Doucette Forest Composition, 1909

Classification (Names Assigned by H. H. Chapman)	Age (Years)	Diameter at Breast Height (Inches)	Distribution by Area (Percentage)
Immature Unmerchantable	—	—	25.0
Young Merchantable	109	14.8	25.0
Mature	183	20.6	33.5
Veteran	301	28.5	16.5

Roemer Stadtmiller—wrote working plans with recommendations for forest management.[4] The plans variously describe forest use as including grazing; farming; hunting; harvesting trees for structures, fencing, and firewood; and cutting bolts from large trees for straight-grained wood for roof shingles. The students also noted scattered abandoned forest clearings they called old-fields. Each also commented on fire. Arthur Fischer stated, "Fire is a yearly occurrence," and "Burning over stands every one or more years, as needed, prevents serious damage." Stadtmiller concurred: "As soon as reproduction is well started and out of fire danger, the forest should be burned over every year." Arthur Kerr, however, disagreed: "In the matter of fire protection, the most important factor is to prevent fires," and "fire should be kept out absolutely."[5]

CORROBORATION

The Yale students' records largely dovetail with a detailed description of the J. M. Thompson Lumber Company's Trinity holdings that was published three years earlier in the September 26, 1908, issue of *American Lumberman* magazine. The writer observed,

> While the undergrowth is abundant, as is the case in every shortleaf yellow pine region, it is not unduly heavy and mostly runs to small bushes rather than to large saplings . . . while it is almost entirely virgin pine, the proportion of 'ripe' trees [those infected with red heart fungi (*Phellinus pini*)] is not large. The timber is generally of good size, as is evidenced by the estimate of 5,000 [board] feet to the acre, but it is still growing and shows no indication of decay, so that whether it is manufactured into lumber at once or left for the future the results will be satisfactory. In these second bottoms [of non-riverine perennial streams] the large bodies of hardwoods and much of the larger timber are found. . . . The company's holdings of timber have fifteen miles of frontage extending along the [north bank of the] Trinity river.[6]

Table 2. Trinity Forest Volume Estimates by Species, 1908

Species	Estimated Board Feet	Percentage of Total
Shortleaf pine (*Pinus echinata*)	375,036,000	84.29
White oak (*Quercus alba*)	9,230,000	2.07
Red oak, water oak (*Q. falcata, Q. nigra*)	15,250,000	3.43
Post oak (*Q. stellata*)	15,495,000	3.48
Ash (*Fraxinus* spp.)	2,585,000	0.58
Hickory (*Carya* spp.)	25,000	0.01
Linn [linden] (*Tilia* spp.)	190,000	0.04
Elm (*Ulmus* spp.)	1,585,000	0.36
All gums (*Liquidambar, Nyssa* spp.)	25,565,000	5.75

ADAPTED FROM *AMERICAN LUMBERMAN*, SEPTEMBER 26, 1908, 77.

The various Thompson lumbering interests in Texas as of 1908: Thompson & Tucker Lumber Company, Willard; Thompson Brothers Lumber Company, Doucette; and Thompson & Ford Lumber Company, Grayburg. The Yale forestry students worked on the J. M. Thompson Lumber Company at Trinity. The ✠ marks the location of the CBC property, which was acquired in 1964.

Soil and topographical conditions would be favorable for both logging and future regrowth, the writer observed: "In few places is reforestation more practicable than here, as illustrated by the few places in this section where small mills had operated fifteen and twenty years ago, for there already is a fine growth of merchantable timber more than twelve inches in diameter."[7] (Three years later, the Yale students would similarly write of conditions being conducive for "seedling reproduction.") On the whole, *American Lumberman* concluded, "the wisdom of the late John M. Thompson in the purchase of the valuable tract is readily seen."

The article also lists the estimated total board feet, by species, across Thompson's entire holding (Table 2). The species composition and volumes by percent of the total comport with the students' working plans, which describe almost pure shortleaf uplands, with some "post oaky" areas. Interestingly, loblolly pine is not included in the list while each working plan describes loblolly as present along streamsides and in the bottoms.

PUTTING THE PIECES TOGETHER

Taken together, the 1911 working plans, the 1908 *American Lumberman* article, and the 1910 census help us reimagine this virgin shortleaf pine forest's structure, composition, and use. One important question that is not directly answered, however, is the age-class distribution. Arthur Kerr's 1911 plan states that "veteran" shortleaf pines are 150 to 200 years old and grow in small, clear (i.e., homogeneous) stands or are scattered throughout the "mature" class, defined as 60 to 100 years old. Stadtmiller wrote that the average age of veteran shortleaf was 180 years and that mature pines averaged 79 years. Fischer lumped veteran and mature pines together and assigned a combined average age of 100 years.

Another resource for age-class distribution in a virgin, mixed shortleaf-loblolly pine forest is a study by Chapman, "Prolonging the Cut of Southern Pine: Part I. Possibilities of a Second Cut," published in 1913 and based on work during the 1912 Yale field school, which was held on Crossett Lumber Company lands in Ashley County, Arkansas, some 250 miles northeast of Trinity. Chapman described this forest's age-class distribution: "Much of it is approximately even-aged, but seldom continuous over very large areas. It is more likely to be broken up into different age classes, clumps of large, overmature trees being interspersed among groups of young timber, small poles or seedlings."

Chapman's 1913 article does not provide detailed tree age data, however: the Crossett forest was "composed of shortleaf and loblolly pine in almost equal mixture," which may have influenced his decision to lump both

TOP PHOTO: IMAGE P90T_143, EAST TEXAS RESEARCH CENTER; BOTTOM PHOTO: RAVEN ENVIRONMENTAL SERVICES

species together, using the average age of longer-lived shortleaf and shorter-lived loblolly. His summary of tree age simply states, "The age of the pine timber in this vicinity rarely exceeds 150 years, although occasional very old trees may reach 200 years." Notably, he also described extensive shallow soils with a hardpan across the entire forest and surmised that these soils would reduce tree longevity.[8]

The Yale field reports and later publications about the Trinity and Crossett forests generally agree that the age range for veteran shortleaf pines in those forests was 150 to 200 years old. However, more recent information suggests that shortleaf can live far longer. Eastern Oldlist, an online database of ancient trees in eastern North America, documents eleven shortleaf pines in seven southeastern states ranging from 254 to 324 years old, with an average age of 291 years; the oldest loblolly is

At top, an unknown Thompson Lumber Company employee, photographed three miles southeast of Trinity, around 1908. Below is a prescribed burn unit on the CBC property. The photos, taken about 110 years apart, though not at the same location, illustrate the objectives of the CBC's restoration project as well as the value of prescribed fire as a management tool for achieving them.

246 years old, and the oldest longleaf is 458.[9] Craig Loehle assigns a "typical age of mortality" for shortleaf pine at 200 years and assigns a "maximum longevity" of 300 years.[10] Cerny et al. increase Loehle's age range significantly, stating that "shortleaf pine has a documented longevity of 350–400 years."[11]

Chapman's 1909 and 1913 articles and the 1911 working plans also generally agree on the age-class structure and distribution in the three virgin forest types: pure longleaf (Doucette), mostly pure shortleaf (Trinity), and evenly mixed shortleaf-loblolly (Crossett) were all uneven-aged by virtue of having large and small groupings of even-aged pines, with those groups being of various ages, scattered throughout the forest.

MODERN APPLICATION

The Yale students' forest management plans and recommendations went mostly unheeded, in part because twenty years of taxation before a final harvest would have eaten into the timber companies' profits, and meanwhile, a post-harvest catastrophic fire could destroy all the residual timber. There was simply more money to be made by selling clearcut land to settlers and farmers.

Today, however, the students' work is no longer being ignored. About fifty miles south of Trinity is a 5,784-acre conservation area, Cook's Branch Conservancy (CBC), where the desired future condition is a forest that represents the pre-Anglo settlement, old-growth, forested grassland ecosystem. The Yale working plans are not presettlement, but they are the first known descriptions of a local virgin shortleaf pine forest, and they were written by soon-to-be professional foresters. The Chapman articles, 1910 U.S. Census, and American Lumberman are likewise presumed trustworthy. The information in these sources provides new insights for CBC's natural resource management plan.

CBC will now consider the typical age of mortality for shortleaf pine to be 200 years old, with a maximum longevity of 300 years. If timber harvests are necessary to achieve desired future conditions, small group-selection harvests (two to five acres) will be used to mimic natural processes, with single-tree selection as a second alternative. No clearcutting will be allowed unless forest health is considered to be in extreme jeopardy. Preferred upland tree species are shortleaf pine, post oak, and southern red oak. Preferred streamside (mesic) species are loblolly pine, white oak, and water oak. The desired prescribed fire entry interval for upland stands is one year, with all other stands on an average interval of no more than three years. Frequent prescribed fire reduces woody understory and midstory while promoting herbaceous groundcover, and when combined with managing for old-growth pine trees, creates ideal habitat for the red-cockaded woodpecker and many other old-growth forested grassland specialists. CBC has recently enrolled in the California Air Resources Board carbon offset program, an action that should provide an alternative or supplemental revenue stream to timber harvests.

Perhaps the most important conclusion for the CBC or any landowner wishing to conserve and restore an old-growth southern pine forest ecosystem, is that the commitment and effort must continue for at least ten generations—250 or more years. CBC's management plan will continually change as new information appears and new knowledge is gained, but these century-year-old records are a good foundation.

Transcriptions of all three working plans may be found at foresthistory.org/yale-working-plans. Many thanks to Yale University for permission to publish them.

Joe Hamrick is a senior project manager with Raven Environmental Services, Inc.
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NOTES

1. L. R. Stadtmiller, "Working Plan for Thompson Bros. Lumber Co., Trinity, Texas" (Master's thesis, Yale University School of Forestry, 1911), 10.
2. H. H. Chapman, "A Method of Studying Growth and Yield of Longleaf Applied in Tyler Co., Texas," *Proceedings of the* Society *of American Foresters* IV, no. 2 (1909): 207–20.
3. U.S. Census Bureau, *Thirteenth Census of the United States, Volume VII: Agriculture, 1909 and 1910*, Texas, Table 1, Farms and Farm Property, by Counties: April 15, 1910 (Washington, DC, 1910), 652.
4. The three plans have been transcribed and are available at www.foresthistory.org/yale-working-plans/.
5. A. F. Kerr, "Working Plan Thompson Bros. Lumber Company, Trinity, Texas" (Master's thesis, Yale University School of Forestry, 1911); Stadtmiller, "Working Plan for Thompson Bros. Lumber Company"; and A. F. Fischer, "Working Plan for Trinity Holdings of Thompson Bros. L. Co." (Master's thesis, Yale University School of Forestry, 1911).
6. "Lone Star Pine," *American Lumberman*, September 26, 1908, 114.
7. "Lone Star Pine," 114.
8. H. H. Chapman, "Prolonging the Cut of Southern Pine: Part 1. Possibilities of a Second Cut," *Yale Forest School Bulletin* 2 (1913): 5, quote on 6. The same bulletin contains Ralph Bryant's "Part II. Close Utilization of Timber," 23–32, which examines "the need for the exercise of more care in felling and log making" to reduce waste.
9. Eastern Oldlist, http://www.ldeo.columbia.edu/~adk/oldlisteast (accessed October 25, 2020).
10. C. Loehle, "Tree Life History Strategies: The Role of Defenses," *Canadian Journal of Forest Research* 18, no. 2 (1988): 209–22.
11. K. C. Cerney, D. W. Stahle, and D. C. Bragg, "A Frontier Shortleaf Pine Stand in the Old-Growth Cross Timbers of Oklahoma," *Journal of the Torrey Botanical Society* 143, no. 3 (2016): 233.

BY CHAR MILLER

Reclamation Project

Rediscovering W. W. Ashe and the Origins of Watershed Stewardship

A forgotten figure in the history of U.S. federal watershed protection is the subject of a reclamation project for his reputation.

William Willard Ashe, a senior forest inspector for the U.S. Forest Service, had no idea when he scheduled a trip to the Lone Star State in late summer 1921 that his hypotheses about forest stream dynamics would receive a shocking real-world test. Shortly after arriving in central Texas, where he was to speak to the State Board of Water Engineers, he witnessed one of that region's most devastating floods, courtesy of a hurricane that stalled over the Balcones Escarpment and Edwards Plateau, pounding the high ground above San Antonio and Austin with more than two feet of rain in twenty-four hours.[1] Yet however unnerved Ashe may have been by the resulting loss of life—officially, 224 people died, and many more went missing—the level of destruction provided eerie confirmation of the results of his career-long investigation into the consequences of poor land management in riparian headwaters.

On learning that the forester had been stranded, a reporter for the *San Antonio Express* sought him out for a big-picture perspective on why the city was so vulnerable. Under a front-page bold headline—"Cities Will Continue to Be Devastated Unless State Acts"—Ashe drew parallels between the physical geography of the Edwards Plateau and his home ground in the Southeast: "The streams of Texas are erratic and exhibit the same character of flow as those at the southern end of the Appalachian Mountains," a consequence of "the enormously heavy rainfall at irregular intervals and rapid run-off on account of steep slopes."[2] What complicated these natural processes and drove the devastating floods that wracked each region was the human impress. In central Texas, "greed for land" had pushed flood-control works so close to streambeds that floodplains lost the ability to act as a sponge, thereby intensifying downstream damage. Upstream, excessive grazing had compacted the ground and stripped it of vegetation so that even modest storms generated major floods. It was no wonder that the deluge on September 9–10 had produced such horrific consequences.[3]

The solution, Ashe advised, was to act at a landscape scale. Engaging with the watershed as a watershed, he assured readers of the *San Antonio Express*, would provide quantifiable and long-term benefits, as the Forest Service had demonstrated in its watershed management across the country. Just as in North Carolina, the Mississippi River valley, and Colorado, the key to controlling floods in central Texas was the "protection of the forest cover in the central portion of the State in gorges, along the flood plains, on mountain slopes and in ravines." To achieve this end required rigorous regulation of the region's overworked, hardpan rangelands that were suffering from extreme soil erosion—conditions that had energized the recent floods. "By these means," Ashe predicted, "storm waters, in place of being an agency of calamity and destruction . . . will become one of the most potent and permanent of the resources of the state."[4]

San Antonio would not heed his advice. Instead of developing a master plan to mitigate flooding in the watershed, the Anglo power elite opted for the construction of a flood-retention dam on the main branch of the San Antonio River to defend their downtown businesses and properties. Left unprotected were the low-lying, impoverished west-side neighborhoods where the city's Hispanic residents lived. For the next fifty years, floods repeatedly tore through these areas; it was not until the 1970s that Ashe's watershed-wide prescription for effective flood control, which bound together natural systems and human structures, began to be adopted. His more sustainable solution, born of two decades of research and analysis, was the result of a sustained and immersive approach that was one of the hallmarks of his conservation career.[5]

NATURE AND NURTURE

That Ashe found himself in Texas during a major flood confirmed another defining feature of his life: he had a remarkable habit of being at the right place at the right time. Even in childhood. True, he had no control over when he was born (June 4, 1872), to whom (Samuel A'Court Ashe and Hannah Emerson Willard), or where he grew up (on the family's estate, known as Elmwood, on the western outskirts of Raleigh, North Carolina). But those details aside, young Ashe, the oldest child of nine, took full advantage of his site and situation. That was obvious to his sister Elizabeth, who after her brother's death in 1932 wrote lovingly of his childhood spent in nature. "The environment of his birthplace," she observed, "with its pretentious surroundings, its ancient trees and various shrubs; its nesting places of many birds in its almost forest-like protection, probably had much to do with the early molding of Willard's character." If by character she meant his future career, then she was on to something: Ashe spent so much time exploring the local woods, meadows, streams, and fields—botanizing every step of the way—that his collection of specimens overwhelmed the family homestead.

The memorial marker at the W. W. Ashe Forest Nursery in Mississippi, taken in 1939, three years after it was installed.

So large had it grown by 1891, when he graduated from the University of North Carolina, that Ashe had to construct a two-story building to house everything; no sooner built than it had to be expanded, a vast archive that continued to grow and ultimately formed the basis for the University of North Carolina Herbarium.[6]

Ashe collected mentors with the same ease and alacrity that he spotted new, rare, or endangered species. The first two came with his natal terrain: his mother and a great-aunt home-schooled him, sharing their academic interests and scientific knowledge with their eager charge. The great-aunt in particular came to the 15-year-old student's rescue when he learned that a missing credit meant he had to take an entrance exam before being admitted to the university. Over a three-month period, she tutored him in the natural sciences, giving him an intensive immersion that seems akin to an SAT prep course. A quick study, Ashe aced the university's entrance exam and gained a new mentor. Joseph A. Holmes, renowned professor of geology and natural history and one of the readers of Ashe's test, reportedly was astonished at the breadth and depth of the teenager's proficiency. Taking Ashe under his wing, Holmes proved an able adviser, guiding his talented student through an interdisciplinary curriculum; urging Ashe's parents to send their son to Cornell University for graduate school, where he specialized in geology and botany and received a master's in 1892 in one year; and then luring Ashe back to North Carolina that same year for his first job—as a forester for the state's Geological Survey, for which Holmes served as director.

It was through Holmes that Ashe met his next mentor, Gifford Pinchot, who was developing forest management plans for George W. Vanderbilt's Biltmore Estate in Asheville, North Carolina (named for one of Ashe's progenitors). Out of his conversations with Holmes, Pinchot recalled, emerged the idea of a regional system of national forests. Sitting around a fire "one night in the winter of '92 or '93," Holmes "suggested that the Federal Government ought to buy a big tract of timberland in the Southern Appalachians and practice Forestry on it. It was a great plan and he and I never let it drop. Nearly twenty years later the Weeks Law was passed, Holmes' dream came true, and today Eastern and Middle Western National Forests which cover 18 million acres owe their origin to his brilliant suggestion."[7]

Pinchot was indebted to Holmes for another bright idea: to have his protégé, W. W. Ashe, help Pinchot prepare an exhibit about Biltmore forestry for the 1893 World's Columbian Exposition in Chicago.[8] The two young men worked easily together, and would do so again on another Holmes-brokered venture: writing the first compendium of the state's forest resources, which the Geological Survey ultimately published in 1897. The Pinchot-Ashe collaboration was more than a little one-sided, however—a fact Pinchot acknowledged in his preface to the report: "The second part of the Bulletin is contributed entirely by Mr. Ashe, whose acquaintance of the woodlands of North Carolina is so much more extensive than my own that I thought it best not to attempt to edit his MS. in any way."[9] Pinchot did more than give Ashe credit. He gave him his second job. In 1899, shortly after Pinchot became the fourth head of the U.S. Division of Forestry, he hired Ashe as a consultant, a "special agent." Six years later, Pinchot turned that temporary assignment into a permanent position as a forester in the newly created U.S. Forest Service.

POSTHUMOUS PROMOTION

Privileged on many levels, Ashe was a well-off, well-educated white male in an impoverished, poorly schooled, patriarchal, and segregated South. He also benefited from the related emotional encouragement and professional guidance that his dense social network provided. Yet in the emerging forestry profession at the turn of the twentieth century, replete as it was with young white men with undergraduate and graduate degrees in this new academic discipline, Ashe was something of an outlier. Pinchot alluded to this status when tallying the forestry-specific training of his first hires in the Division of Forestry. Ashe, he noted, was one of three new colleagues who did not have the requisite pedigree, but "just the same they pulled their weight."[10] Although not a backhanded compliment exactly, Pinchot's comment hints that had Ashe been better credentialed, had he served as a line officer in a western national forest or, even more consequentially, fought the Great Fires of 1910 as did so many of the agency's subsequent chiefs and upper-level administrators, he might have held leadership positions.[11]

The fulsome praise his Forest Service colleagues heaped on Ashe in their 1932 eulogies thus may be compensatory. Certainly, they were unstinting in their admiration for his encyclopedic knowledge, administrative skill, prolific writing, and intense work ethic. That he was humble, retiring even, only added to his merit. For fellow forester Leon Kneipp, Ashe's definitive virtue may well have been his keen vision. "A motor trip through a forest with Ashe was a unique experience. With the car moving at a speed of forty miles an hour, wayside plants to the average eye were somewhat blurred. But not so Ashe," Kneipp remembered. "Absorbed in thought, apparently half somnolent, he would suddenly see something of interest and his exclamation would bring the car to a skidding stop. Walking back fifty to a hundred yards, he would turn off into

FOREST HISTORY SOCIETY PHOTO COLLECTION

W. W. Ashe, in an undated portrait.

the brush to emerge shortly with a specimen of a plant needed to supply a certain deficiency in his collection."[12]

Although some in the agency described Ashe's lifelong passion for botany as a hobby, something lesser than a professional or technical achievement, Forest Service ecologist William A. Dayton took exception.[13] In an extensive biography and bibliography of Ashe's career that Dayton self-published in 1936, four years after Ashe's death at age 59, he tried to convey what this modest polymath had achieved in his too-short life. Not just a student of botany, dendrology, economics, forestry, hydrology, and soil science, Ashe was a "true seer," an innovator in each of these fields and their complex intersections. "He planted one of the first commercial stands of longleaf pine in North Carolina, and discovered the secret of its successful transplanting," Dayton wrote, and he is "credited with introducing the modern cupping system in the American naval stores industry."[14] Dayton then shared what he perceived to be Ashe's precedent-setting accomplishments: "His monograph on loblolly pine has long been looked upon as a model. He is one of the real fathers of the forest acquisition policy for the federal government. He was among the first to recognize the need for forest research and pioneered the study of the relationship of forests to the potability of streams. He was an authority on logging costs, forest economics, erosion, forest types, and the taxonomy of southeastern woody plants."[15]

For his admirers, Ashe's impressive intellectual range offered a counternarrative to the increased specialization that by the early twentieth century had gained traction in the academy and in public land agencies.[16] He was memorialized as that rare individual who knew the forests *and* the trees, and seemingly every species that inhabited American woodlands and grasslands. Blessed with a botanist's focus on the particular, which is how he managed to publish 510 plant names in his career,[17] he benefited as well from a conservationist's perspective on the larger systems in which specific species flourished. In this facility, Kneipp argued, Ashe was unlike his forestry colleagues who were "apt to think of the Appalachian hardwood and southern pine forests in terms of a score or two of the tree species of greatest utility and commercial importance." By contrast, Ashe conceived of this region *as* a region because he knew it "intimately, lovingly and well—knew its ecology, associations, and its habits of growth. To him the forest was not so much a potential source of boards, timbers, or pulpwood, as it was an intricate biological complex."[18] Perhaps out of step with his time, a century later Ashe's interdisciplinarity seems strikingly modern.

WATER WORKS

Just as prescient was Ashe's growing realization of the complicated interplay between forests and rivers. His expertise in watershed dynamics grew incrementally, a matter of gathering evidence and gaining experience to recognize what that evidence revealed. Consider what Ashe described in his contribution to the North Carolina Geological Survey Report of 1897. On one level, it offered

a snapshot survey of the state's forest health and wealth. But even as he detailed its ecological diversity and economic prospects and cataloged changes in soil cover and tree type from coastal wetlands and the Great Dismal Swamp west to the Blue Ridge and Great Smoky Mountains, Ashe took note of environmental damage that resulted from exploitation and mismanagement. In the "Level Pine Woodland," he attributed the shifting mosaic of tree species to natural and human causes. Here the "cover of pine has been broken by frequent windfalls and culling; in many places browsing cattle have suppressed the broad-leaf trees, or they have been killed by fires." An interrelated set of problems also characterized the "Table Mountain Pine Division," in the state's western mountains. In each case, Ashe's prescription for improving the condition of land was the same. "The first and absolute prerequisite before any attempt can be made" to restore what had been damaged "is the entire exclusion of cattle and hogs, and complete protection from fire." There was another issue evident in the "deep and narrow hollows that indent the eastern slopes of the Blue Ridge," where fire and grazing were less manifest. Although farms there "are few and confined almost entirely to the narrow alluvial bottoms," Ashe observed, "a few clearings have been made on the more gentle slopes or broader rounded crests. Some bottoms have been permanently damaged by washing during flooding and the deposition of a heavy mud sediment on the surface of the loams." This, the only reference to flooding in the voluminous report, suggests that Ashe saw what was happening but did not yet comprehend the direct link between high-country despoliation and downstream inundation.[19]

Within five years, Ashe had developed that connection to such a degree that it would deeply inform his subsequent research and profoundly shape Forest Service perspectives and policies. His newfound knowledge was manifest in a 1902 report, "Forests and Forest Conditions in the Southern Appalachians," coauthored with H. B. Ayres of the U.S. Geological Survey. Its first photographic plate signals the document's larger argument: the image depicts what is described as the "original forest" cover in the Great Smoky Mountains, but the caption tells a more ominous story: if "the forests are destroyed the soils will be rapidly washed down into the river channels; and the terrible floods will destroy everything along the great river valleys."[20] Fires were also implicated: "The damage by fire causing a loss of the earth cover does not end with erosion, for it also prevents water from penetrating and being stored in the earth." Ayres and Ashe held that an impoverishment of soil health further destroys woodland regeneration and intensifies the "violence of floods."[21] That violent outcome was seen in river basin after river basin. One example was the Nolichuky, which drains nearly 570,000 acres in eastern Tennessee and western North Carolina before joining the French Broad River. "The floods of the Nolichucky are well known. They may be partly due to the topographic configuration of the area, by reason of which a rise of the three main tributaries at one time may cause a flood in the river. There is no room for doubt, however, that the large amount of cleared land in this basin greatly increases the floods" and, seemingly counterintuitively, was also responsible for a noticeable if episodic decline in streamflow: "Every resident who has known the river ten years or more states very positively that the volume of water is now much less constant than in former years."[22] For Ashe, the cycle of drought and deluge now signified poor management at the landscape scale.

Over the next seven years, Ashe would expand on this insight in a series of agency reports and articles in professional journals and popular magazines. He studied the forest devastation in the Potomac River basin and western Pennsylvania and assessed the related connections between forest resilience, public health, and agricultural productivity.[23] This array of contingencies found fuller expression in his 1909 report, "Special Relations of Forests to Rivers in the United States," first presented to the Inland Waterways Commission in 1908. His coverage is continental in scope; the sweep of land and subject reflects Ashe's expanded understanding of the physical characteristics of these large watersheds and their systematic influence on social development and economic opportunity. His analysis also went granular, containing assessments of each basin's record of erosion and silt burden, navigable waters, current uses, and flooding potential. The Connecticut River, with its headwaters in New Hampshire's White Mountains, was one of many problematic watersheds. Because "large areas in the White Mountains . . . have been stripped of their forests, and subsequently burned," and in the process "the deep humus and duff, which in many places beneath the spruce formed practically the only soil . . . storm waters pass quickly and unchecked into the river." He found similarly disturbing evidence along the Tennessee River, from source to mouth: extensive farming, logging, and grazing in its headwaters had accelerated erosion, silting, and the frequency of punishing floods. The solution that Ashe proposed for the East was consistent with what he witnessed in and advocated for western river basins: more aggressive protection and restoration of their mountainous headwaters. No surprise, given his federal employer and his professional predilections, Ashe was convinced that the establishment of national forests across the western

high country, and the regulatory controls that the Forest Service was applying to logging, mining, and grazing, would aid in the regeneration of forest cover and soils, reduce the damage from erosion, silting, and flooding, and increase water quality and quantity. The same results would accrue in the East, once similar protections were enacted. With this comprehensive argument, Ashe had found his voice and the agency had found its agent.[24]

WHAT THE WEEKS ACT WROUGHT

Ashe was an agent whose scientific conclusions reinforced a political end that Progressive Era conservationists in and out of government had been pursuing since the late nineteenth century: federal legislation that would establish national forests in the eastern half of the nation. In New England and the South, local activists had propelled the movement from the bottom up, slowly bringing along public opinion, wooing media outlets, and securing the endorsement of chambers of commerce, local public officials, and influential industrialists, ministers, and scientists on both sides of the Mason-Dixon Line.[25] On board, too, was the conservationist-in-chief, President Theodore Roosevelt, who in his 1907 message to Congress made the larger case for conservation: "We should acquire in the Appalachian and White Mountain regions all the forest lands that it is possible to acquire for the use of the Nation. These lands, because they form a National asset, are as emphatically national as the rivers which they feed, and which flow through so many States before they reach the ocean."[26]

Congressional leaders were not immediately moved to action. It would take another four years before the Weeks Act of 1911 authorized the federal purchase of headwater acreage from willing sellers.[27] Aptly enough, the first two eastern national forests—

Erosion gullies on spruce-fir lands cut and burned on the slopes of Mt. Mitchell, North Carolina, in 1915, photographed in 1923. Scenes like this led Ashe to argue for more aggressive protection and restoration of river headwaters throughout the Appalachian Mountains.

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the Pisgah (1916) in western North Carolina and the White Mountain (1918) in central New Hampshire and western Maine—were in the epicenters of support for the Weeks Act (and Ashe had written about them both). In time, another fifty national forests were established to protect more than twenty million acres of rugged mountains, upcountry watersheds, and coastal wetlands from the far north to Florida and west to the Mississippi. As its proponents had predicted, the Weeks Act was transformative.[28]

Count W. W. Ashe among those also transformed. Because he had helped craft the intellectual foundation for the Weeks Act and therefore contributed to the evolving political calculations that led to the legislation, the Forest Service tapped him to serve as secretary to the National Forest Reservation Commission, a position he held from 1911 until 1928. Congress had authorized the commission, whose members included two representatives, two senators, and three members of the cabinet, to evaluate and purchase acres offered for sale.

But the real workhorse of this body was Ashe, for whom the position seemed ready-made. It drew on his organizational talent and indefatigable commitments, according to E. A. Sherman, who had worked for Ashe early in his career and was later, as associate chief of the Forest Service, his supervisor. Ashe's most important quality, though, was his tenacity as a negotiator. "More than once," Sherman recalled, "I have seen 'Acquisition men' almost in tears because Ashe had recommended against the purchase of some particularly desirable tract at a price which he believed to be too high, although the examiner considered it a bargain at that price and believed the Service, in rejecting it, would be overlooking an opportunity it never would have again." In the end, it was the owner who usually buckled, "accepting the price which Ashe had indicated as representing fair-going value of the property under existing market conditions." Sherman was among those who took their cues from Ashe's considered judgment: "I never once recommended the purchase of a tract of land at a cent higher than Mr. Ashe had indicated."[29]

Ashe's work as the secretary of the National Forest Reservation Commission contributed greatly to the transformation of the map of the eastern United States. This map shows the national forests created under the Weeks Act at about the time of his death in 1932.

ONE FINAL PROJECT

After seventeen years on the commission, Ashe stepped down in time to throw himself into one final, and related, project. In the aftermath of the massive flooding that swamped the Mississippi River valley in 1927, the Forest Service produced a tributary-by-tributary report of what had happened and why, and what could be done to minimize future loss of lives, property, and soil. In his foreword to the report, E. A. Sherman set the 1927 inundation in historical context. Acknowledging that the basin had always flooded, "even before the white man had disturbed the heavy forests of the Mississippi River Basin," that situation changed radically "with the settlement of the country." The resulting "forest fires, overcutting, and the abuse of forests and other lands have served to increase the possibility of floods and their severity and the amount

and extent of erosion." To counteract these damages, Sherman argued, required a "program of sound forestry development" that would permit the "forests of the Mississippi River Basin to exert their greatest influence on the regulation of water flow." As Ashe had in 1921 for the smaller watersheds in Texas, Sherman advocated for a massive, basin-wide intervention on the Mississippi that "should include protection of all forest lands against fire, the reforestation of all denuded lands unsuited for agriculture, the extension of proper forest practices to all forest lands, the public ownership of particularly critical areas, the continuance of existing public forests, and placing public grazing lands under management." Worried that this expansive strategy might provoke a turf war with the powerful U.S. Army Corps of Engineers, Sherman inserted a meaningful caveat: "It is not proposed that forestry should supplant engineering works in flood control, but that forestry should supplement whatever means of artificial control may be adopted by the engineers."[30]

Ashe toed that same line in his chapter on the Arkansas–White River basin, agreeing that the "possibility of developing reservoir sites with the flood-control engineers" would have multiple benefits, including augmenting "flood-control works" and storing water "to further irrigation enterprises."[31] Yet his report on this particular watershed, which drains 188,342 square miles from the Rocky Mountains east nearly fifteen hundred miles to the Mississippi River southeast of Pine Bluff, Arkansas, centers not on concrete solutions (dams, channels, and levees) but on conservation measures (reforestation, rangeland management, and increased public ownership). On private land in the basin's upper reaches, clearcut forests, like overgrazed grasslands, had destroyed the capacity of the land to regenerate naturally. In its middle and lower reaches, where agriculture predominated, once-forested terrain had been slicked off. Deforestation, when combined with generations of poor farming practices, had robbed the land of its absorbing power and stripped the soil of its nutrients. Caved-in riverbanks, erosion-cut grasslands, and deep gullies and gashes were captured in black-and-white photographs that illustrated Ashe's text, images that prefigured photographs of environmental devastation during the Great Depression. In the late 1920s, these photographs and related text were emblematic of the manifold and pressing challenges facing this specific river basin and southern watersheds generally, challenges that no amount of concrete alone could fix.[32]

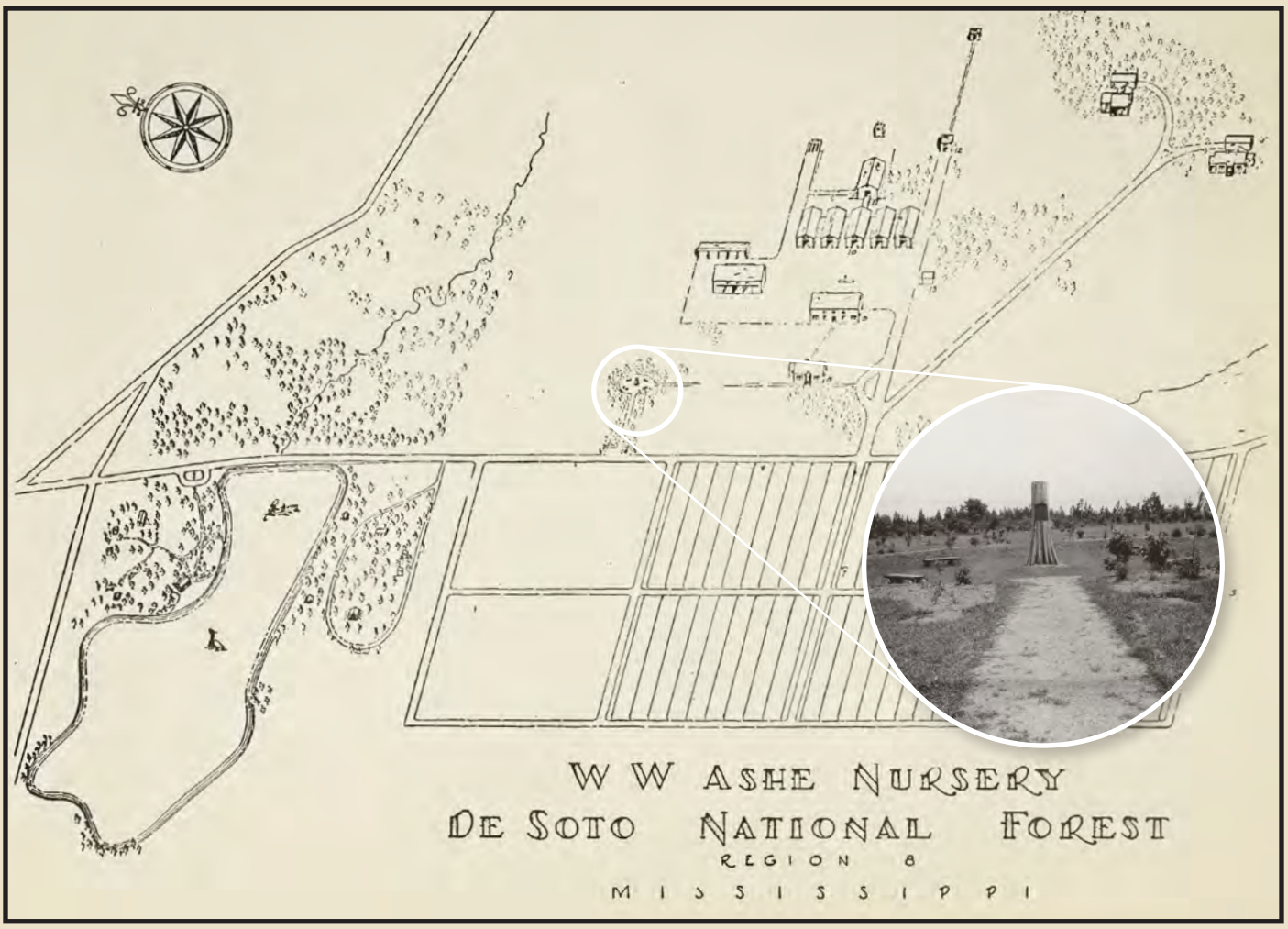
Reviving this battered land and associated riparian ecosystems required instead long-term strategies for effective land management. Regenerating forest cover would take decades, Ashe asserted, but was essential to help stabilize soil and combat flooding. Reseeding rangeland would take just as long and was every bit as essential, and for the same reasons. Recovering agricultural productivity—a matter for landowners, states, and county extension agents—called for an array of interventions, including changes in how farmers plowed and what they planted. If, as was happening, farmers abandoned their degraded properties, which Ashe dubbed "naked lands," there was evidence that nature would reclothe them, returning these acres to forest and increasing the land's resilience.[33]

To expedite this basin-wide reclamation project, Ashe indicated, would require a permanent presence that only federal stewardship seemed capable of guaranteeing. To that end, and drawing on his considerable experience in organizing, evaluating, and negotiating Weeks Act–funded land purchases, he recommended sweeping acquisitions in the Arkansas–White River watersheds. In their Rocky Mountain headwaters, Ashe proposed the addition of six hundred square miles to what is now the Pike and San Isabel national forests. In the Ozarks, public forests should be increased by "not less than 3,000,000 acres," a recommendation that came coupled with another to expand federal ownership in Oklahoma's Ouachita Mountains ("not less than 1,000,000 acres") and still another one million acres downstream in Arkansas.

His proposals, broad though they were, dovetailed with the larger report's subtext: for foresters and forestry to mitigate flooding in the Mississippi River valley, the number, size, and location of national forests had to increase. At the time, neither Ashe nor any other agency forester could have predicted that the Great Depression would boost the perceived need for enhanced public land ownership that they advocated just a few years earlier; they could not have envisioned that Franklin D. Roosevelt would become president and that the New Deal would provide funding to purchase more than fourteen million acres of national forest in twenty states. But one critical reason that the Forest Service was able to respond so quickly and identify and acquire so much land was the agency's (and Ashe's) analysis of flooding in the Mississippi River basin.[34]

RESTING PLACE

Ashe would not live to see this outcome, dying on March 18, 1932, "after an operation resultant from an old injury incident to field work for the Forest Service." To honor its late employee, in November 1935 the agency established the W. W. Ashe Forest Nursery in Brooklyn, Mississippi, site of a once-healthy longleaf pine forest. The land's status was anything but resilient: since the late nineteenth century, repeated,



heavy harvests had left behind a few longleaf relicts and saplings, a thick stand of wire grass, and an estimated "two to three hundred old stumps per acre." On this exhausted terrain, the Forest Service erected a commemorative marker, a twelve-foot-tall cypress stump with a bronze plate inscribed with Ashe's name, dates, and expertise: Dendrologist, Botanist, Author.

But the real monument was the nursery itself, which was tasked with producing thirty million seedlings annually to restore what Representative William M. Colmer described in his dedicatory speech as "the forest wealth of Mississippi." The first beneficiary of this new growth was the newly created De Soto National Forest, purchased from willing sellers with Weeks Act funding and formally designated in June 1936. The site and its continued operation deftly evoke Ashe's life-affirming commitment to landscape restoration and environmental stewardship.[35]

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The W. W. Ashe Nursery on the Mississippi National Forest near Hattiesburg, Mississippi, was dedicated on November 17, 1936. The tidewater cypress tree with the memorial plaque was set in the center of a sunken garden in the nursery grounds at left. Around this memorial in concentric circles were placed pine trees representing the first crop to be grown in the Ashe Nursery. More than 2,000 people joined in the celebration.

NOTES

1. On the 1921 flood, see Char Miller, *San Antonio: A Tricentennial History* (Austin: Texas State Historical Association, 2018), 93–98; and "Streetscape Environmentalism: Flood Control, Social Justice, and Political Power in Modern San Antonio, 1921–1974," in *The Nature of Hope: Grassroots Organizing, Environmental Justice,*

MAP FROM *THE DIXIE RANGER*, DEC. 1936 | ISSUE, 9; INSET PHOTO: U.S. FOREST SERVICE, #381063

and Political Change, ed. Char Miller and Jeff Crane (Louisville: University Press of Colorado, 2019), 100–19.

2. "State Control of Flood Waters is Needed, Says Ashe," *San Antonio Express*, September 16, 1921, 1.
3. "State Control of Flood Waters is Needed, Says Ashe."
4. "State Control of Flood Waters is Needed, Says Ashe." In "Financial Limitation in the Employment of Forest Cover in Protecting Reservoirs," U.S. Department of Agriculture, *Department Bulletin no. 1430* (August 1926), 24, Ashe expands on the ideas in his interview with the *San Antonio Express* about how to better manage the headwaters of the region's rivers: "The woodland and herbaceous cover of this region is too light, on account of the limited rainfall, to protect the surface from erosion, but it is possible, by adequate regulation of grazing, and by better protection of stream banks if not to reduce erosion at least to prevent its further increase."
5. "State Control of Flood Waters is Needed, Says Ashe"; Miller, "Streetscape Environmentalism," 100–19.
6. Elizabeth Emerson Ashe Drake, "Biographical Sketch of W. W. Ashe," in *William Willard Ashe (1872–1932)*, William A. Dayton, ed. (Washington, DC: n.p., 1936), 1–2. According to the University of North Carolina Herbarium's entry on Ashe, as of 2014, the database included "over 2,850 specimens collected by W. W. Ashe," and "many more remain to be catalogued"; Laurie Stewart Radford, *The History of the Herbarium at the University of North Carolina at Chapel Hill, NC, 1908–1998*, 1–2, http://www.herbarium.unc.edu/history.htm, accessed August 8, 2019.
7. Gifford Pinchot, *Breaking New Ground, Commemorative Edition* (Washington, DC: Island Press, 1998), 56.
8. Harold K. Steen, ed., *The Conservation Diaries of Gifford Pinchot* (Durham, NC: Forest History Society, 2001), 58.
9. Gifford Pinchot and W. W. Ashe, *Timber Trees and Forests of North Carolina*, North Carolina Geological Survey, Bulletin 6 (1897), 13.
10. Pinchot, *Breaking New Ground*, 143. Though Ashe was a member of the Society of American Foresters from 1907 on, and even served as vice president in 1919, his lack of a forestry degree disqualified him from being named a SAF Fellow, its highest career honor.
11. Ashe's chances for advancement were decreased in part because he was outside the normal path for promotion identified by Herbert Kaufman in *The Forest Ranger: A Study in Administrative Behavior*, Special Reprint Edition (Washington, DC: Resources for the Future, 2006), 176–83. Leon Kneipp added another reason why Ashe, who "was not an impressive personality nor was he efficient as a self-advertiser," did not rise through the ranks as high as he might have done: "The fact that his academic training had not been wholly orthodox inspired attacks on his findings—attacks which deterred him from making other contributions he might well have made." L. F. Kneipp, "W. W. Ashe," *American Forests*, May 1944, 240.
12. Kneipp, "W. W. Ashe," 240.
13. "Unique Memorial for Forest Scientist," *Forest Service Bulletin* 20, no. 26 (December 21, 1936), 7.
14. Dayton was not entirely correct about who introduced the modern cupping system. Ashe had begun a limited experiment in 1894 with a system used in France but didn't complete the work. When a chemistry professor named Charles Herty contacted him in 1901, Ashe encouraged him and shared his data. Herty's cup-and-gutter system was widely adopted by 1904, transforming the naval stores industry. Consequently, Herty is widely acknowledged as introducing the cupping system. Gerry Reed, "Saving the Naval Stores Industry: Charles Homes Herty's Cup-and-Gutter Experiments, 1900–1905," *Journal of Forest History*, October 1982: 171–72.
15. Dayton, *William Willard Ashe*, 1–2.
16. A. Hunter Dupree, *Science in the Federal Government: A History of Policies and Activities* (Baltimore: Johns Hopkins University Press, 1986); Samuel P. Hays, *Conservation and the Gospel of Efficiency: The Progressive Conservation Movement, 1890–1920* (New York: Atheneum, 1969).
17. "William Willard Ashe," http://www.herbarium.unc.edu/Collectors/ashe.htm, accessed August 8, 2019.
18. Kneipp, "W. W. Ashe," 240.
19. Pinchot and Ashe, *Timber Trees and Forests of North Carolina*, 156–60, 211–12.
20. Plate XXXVII in H. B. Ayres and W. W. Ashe, "Forests and Forest Conditions in the Southern Appalachians," in Senate Document 84: Message from the President of the United States Transmitting a Report of the Secretary of Agriculture in Relation to the Forests, Rivers, and Mountains of the Southern Appalachian Region, 47, http://npshistory.com/publications/usfs/region/8/sen-doc-84/appa1.htm, accessed August 8, 2019.
21. Ayres and Ashe, "Forests and Forest Conditions in the Southern Appalachians," 55–56.
22. Ayres and Ashe, "Forests and Forest Conditions in the Southern Appalachians," 74–75.
23. W. W. Ashe, "Relation of Soils and Forest Cover to Quality and Quantity of Surface Water on the Potomac Basin," U.S. Geological Survey Water Supply and Irrigation, 1907, Paper 192, 299–335; "Soils Damaged More Than Half a Million Dollars by Erosion during the Recent Heavy Rains," North Carolina Geological and Economic Survey, Press Bulletin 13 (September 28, 1908); "Relation of Forests to Public Health," *Bulletin of the North Carolina Board of Health*, October 1908; "Effect of Forests on Economic Conditions in the Pittsburgh District," *Charities and Commons* 21 (February 6, 1909), 827–36; "The Waste of Soil Erosion in the South," *Review of Reviews* 39, no. 231 (April 1909), 439–43; "Mr. Ashe on Forest Management," *Progressive Farmer*, October 21, 1909, 2.
24. W. W. Ashe, "Special Relations of Forests to Rivers in the United States," *Report of the Inland Waterways Commission* (Washington, DC: Government Printing Office, 1909), 514–34.
25. Christopher Johnson and David Govatski, *Forests for the People: The Story of America's Eastern National Forests* (Washington, DC: Island Press, 2013), 66–70.
26. Theodore Roosevelt, Seventh Annual Message, December 3, 1907, http://www.presidency.ucsb.edu/ws/index.php?pid=29548#axzz1PsQsLb00, accessed August 12, 2019.
27. James G. Lewis, ed., *Lands Worth Saving: The Weeks Act of 1911, the National Forests, and the Enduring Value of Public Investment* (Durham, NC: Forest History Society, 2018); see also Johnson and Govatski, *Forests for the People*.
28. *The National Forest Reservation Commission: A Report on the Progress in Establishing National Forests* (Washington, DC: USDA Forest Service, 1961), 9.
29. E. A. Sherman, quoted in W. C. Coker, J. S. Holmes, and C. F. Korstian, "William Willard Ashe," *Journal of the Mitchell Society*, October 1932, 44–45.
30. "Relation of Forestry to the Control of Floods in the Mississippi Valley: Message from the President of the United States, Transmitting Communications from the Secretary of Agriculture Submitting Reports with Reference to the Relation of Forestry to the Control of Floods in the Mississippi Valley" (Washington, DC: U.S. Government Printing Office, 1929), 1.
31. Ashe, "Forest Conditions in the Arkansas–White Basin," in "Relation of Forestry to the Control of Floods," 243. On page 211, Ashe references his 1909 report's caution that "the work of the engineer to protect and develop the large river becomes useless unless it is protected by the forest. In the Appalachians, in the Rocky Mountain region, and in the Southwest, and indeed wherever forest influences are high, the river engineer and the forester must work hand in hand." Ashe, "Special Relations of Forests to Rivers," 534. He had made that same point in his interview in the *San Antonio Express News*, September 16, 1921.
32. Ashe, "Forest Conditions in the Arkansas–White Basin," 205–40.
33. Ashe, "Forest Conditions in the Arkansas–White Basin," 205–40.
34. Ashe, "Forest Conditions in the Arkansas–White Basin," 242.
35. "William W. Ashe Accorded Honors," *Raleigh News and Observer*, February 21, 1937; "Unique Memorial for Forest Scientist," *Forest Service Bulletin* 20, no. 26 (December 21, 1936), 7.

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of the National Association of State Foresters

BY NATIONAL ASSOCIATION OF STATE FORESTERS STAFF

Established in 1920, the National Association of State Foresters (NASF) is a nonprofit organization comprised of the directors of forestry agencies in the states, U.S. territories, and the District of Columbia. State foresters manage and protect state and private forests, which together encompass two-thirds of the nation's forests. Through public-private partnerships, NASF seeks to discuss, develop, sponsor, and promote programs and activities that will advance the practice of sustainable forestry, the conservation and protection of forest lands and associated resources, and the establishment and protection of forests in the urban environment. State foresters deal with the gamut of forestry-related issues, including wildfire mitigation, private landowner assistance, forest research, community forestry, and forest health.

Cooperation between state foresters predates NASF by a decade. In 1910, a devastating white pine blister rust outbreak in New York led the state foresters from New York, Pennsylvania, New Jersey, Maryland, and Delaware to join with those from all of the New England states to form the Association of Eastern Foresters. The Weeks Act, passed the following year, created a framework for federal-state cooperation on fire control and other issues, but state foresters around the country did not speak with a single, unified voice on issues affecting them as a whole. In 1920, William Greeley, chief of the U.S. Forest Service (USFS), realized the potential for a working relationship with state forestry agencies and requested an appropriation of $1 million for cooperative forest fire protection and reforestation programs. This new funding made nationwide representation essential. Gifford Pinchot, founding chief of the USFS who was then chair of the Pennsylvania Forest Commission, organized the first national meeting of state foresters in December of that year, at which the Association of State Foresters was founded. In 1964, the name was changed to the National Association of State Foresters.

Since its founding a century ago, the number of issues state foresters and NASF as an organization face has grown, but the goal of healthy forests for all has not changed. Landscape-scale tree mortality from disease and pests and forest fire protection—two of the problems that led to the formation of the association—remain atop the NASF docket as foresters face new issues such as the pressures of development and forest fragmentation, threats to watershed health, and the impact of climate change on forests. They cooperate with each other and with their federal counterparts. But state foresters also work with private landowners to ensure sustainability on private land. They also invest time and money into education programs like My Tree—Our Forest campaign and the popular Smokey Bear campaign. After one hundred years on the job, NASF has accomplished much. But NASF leadership and every state forester know there is always more to be done.

1920
Gifford Pinchot, chair of the Pennsylvania Forest Commission, arranges a conference for 17 state foresters and representatives of the U.S. Forest Service (USFS). As a result, the Association of State Foresters (ASF) is established to include all state foresters.

The first logo was used until the 1960s.

1924
The Clarke-McNary Act expands the Weeks Act of 1911 by authorizing the USFS to enter into agreements with states for the protection of state and privately owned forestland from fires, and to support seedling nursery and tree distribution efforts on private lands.

The organizing meeting of what would become the National Association of State Foresters was hosted in 1920 by Gifford Pinchot. He is fifth from the left, first row.

1930
Annual dues are raised from $5 to $10.

1933
State foresters seek assistance from the federal Civilian Conservation Corps for men to work on state lands.

1935
The Fulmer Act authorizes the federal government to purchase private lands and convert them into state forests.

1938
The Norris-Doxey Farm Forestry Act provides for increased technical aid to farm owners to manage their wood lands. Responsibility for oversight is given to state foresters during World War II.

1940
ASF contends that federal regulation of logging on private lands, if deemed necessary, should be a state matter.

1942
For the duration of World War II, ASF annual meetings are cancelled.

1944
The Smokey Bear Wildfire Prevention Campaign is launched.

1945
ASF formally approves sponsorship of the Forestry Conservation Communications Association, which works with radio engineers and technicians managing forestry radio frequency use throughout the country.

1946
ASF members resolve the long-festering dispute with the Soil Conservation Service over that agency's operation of forest tree nurseries. SCS agrees to procure tree seedling stock from those states capable of supplying its needs.

1948
The Cooperative Forest Fire Prevention Committee (USFS, ASF, and the Advertising Council) is established to manage the popular Smokey Bear campaign.

1949
Congress approves an interstate forest fire protection compact between five northeastern states to promote effective prevention and control of forest fires. Congress will authorize similar compacts for the Southeastern, South Central, and Middle Atlantic States over the next few years.

1950
The Cooperative Forest Management Act (CFM) allows federal funding passed through the USFS to state foresters to provide professional and technical assistance to private forestland owners. This supersedes the Norris-Doxey Act of 1937.

1954
Under the Watershed Protection and Flood Protection Act, a program further expands forest management services to private owners by involving a state forester and their staff in those watershed projects established under the law in their state.

1958
Congress revises the law governing the disposal of federal excess property to give those state foresters in fire control activities the same priority to obtain such equipment as other federal agencies.

1964
The organization's name is changed from the Association of State Foresters to the National Association of State Foresters (NASF).

1966
The first Cooperative Forestry Memorandum between the USFS, Soil Conservation Service, and Federal Extension Service provides for interagency coordination in furthering forestry objectives of the Department of Agriculture and the respective state agencies.

1968
Congress authorizes the Urban and Community Forestry Program for funding under the CFM. It permits federal cost-sharing for urban forestry projects underway in many states.

1969
NASF membership approves a Uniform Fire Reporting System for use nationwide. This improves and standardizes reporting on the causes and occurrences of forest fires.

1972
Kenneth Pomeroy, NASF's first Washington Representative, begins representing the association in DC on a part-time basis (1972–1975).

1975
Boyd Rasmussen is hired as Washington Representative (1975–1982).

1978
The Cooperative Forestry Assistance Act consolidates into one law all of the federal-state cooperative forestry programs for better stewardship of non-federal lands.

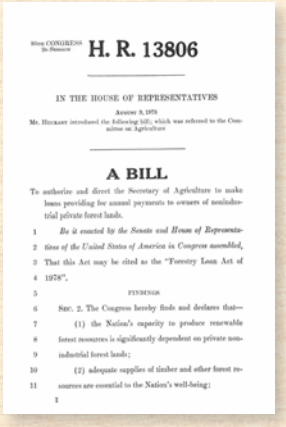
1950 | 1960 | 1970

Founded 1920

NASF's second logo

NATIONAL ASSOCIATION OF STATE FORESTERS
FOUNDED 1920

NASF's third logo



94TH CONGRESS 1ST SESSION **H. R. 13806**

IN THE HOUSE OF REPRESENTATIVES

AUGUST 9, 1975

MR. HECKLER introduced the following bill; which was referred to the Committee on Agriculture

A BILL

To authorize and direct the Secretary of Agriculture to make loans providing for annual payments to owners of nonindustrial private forest lands.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act may be cited as the "Forestry Loan Act of 1975".

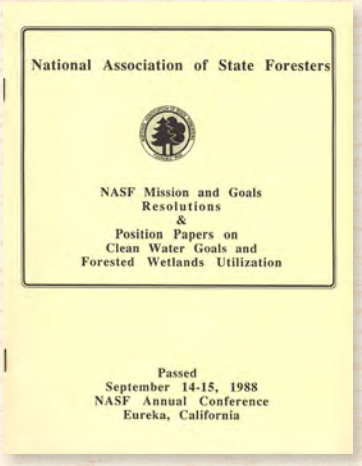
FINDINGS

SEC. 2. The Congress hereby finds and declares that—

(1) the Nation's capacity to produce renewable forest resources is significantly dependent on private nonindustrial forest lands;

(2) adequate supplies of timber and other forest resources are essential to the Nation's well-being;

NASF often contributes language and ideas to federal forestry legislation.


National Association of State Foresters

NASF Mission and Goals
Resolutions
&
Position Papers on
Clean Water Goals and
Forested Wetlands Utilization

Passed
September 14-15, 1988
NASF Annual Conference
Eureka, California

Annual meetings give members a chance to discuss issues and speak with one voice on them.

1980

NASF endorses, and Congress passes, the Forest Investment Tax Credit to encourage private landowners to regenerate forestlands.

1982

Hank DeBrun is hired as Washington Representative (1982–1984). NASF opens its first office in Washington, DC.

1984

Melinda Cohen hired as the first full-time Washington Representative (1984–1989).

1985

The Federal Farm Bill contains a Conservation Reserve provision, which boosts tree planting, especially in the South. To be closer to Capitol Hill, the NASF office moves from the American Forestry Association Building to the Hall of States Building.

1986

The National Association of State Foresters Foundation (NASFF) is formally established to promote and advance state and private forestry through educational initiatives. Annual dues increase from $1,500 to $2,000.

1989

Terri Bates is hired as NASF's Washington Representative (1989–1996); staff grows to two part-time and two full-time employees. NASFF endowment fund exceeds $100,000 and is generating enough income to allow support of forestry projects.

1990

The first Forestry Title of the Farm Bill authorizes Forest Stewardship, Urban and Community Forestry, and Forest Legacy programs. Colorado provides the first tree planted in the National Grove of State Trees at the National Arboretum.

1996

Bill Imbergamo is named NASF Executive Director (1996–2001). NASF's newsletter, "The Washington Update," is made available to the general public through the Internet.


The National Association of State Foresters

Press Release

October 7, 1988
Washington, D.C.

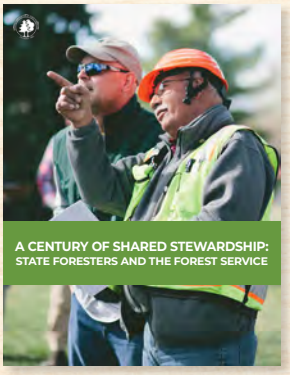
Contact: Melinda Cohen
202/624-5415

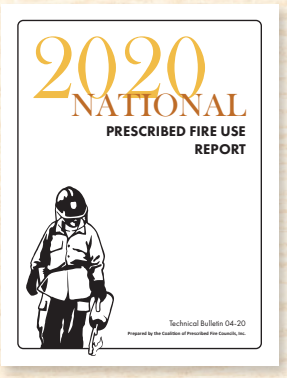
STATE FORESTERS CRITICAL OF FEDS LET BURN POLICY

The National Association of State Foresters (NASF) passed a resolution critical of the Federal government's policy on wild fires. The state forestry agencies are responsible for protecting the public from wildfires burning on state and private lands. State fire fighters from forty state forestry agencies across the country have assisted federal forces battling fires that have ravaged millions of acres in the West including Yellowstone National Park. "We will continue to experience record setting fire years like the past four years, without a proper fuel management program. Yellowstone and many other areas are dynamite waiting to be set off," explained Jim Roberts, President of NASF. "Once they explode its too late."

(more)

As part of its communications effort, NASF issues press releases.





Booklets like these are designed for different audiences and are made available through the NASF website.

2001
Anne Heissenbuttel is appointed NASF Executive Director (2001–2006).

2002
NASF supports a new Forestry Title in the 2002 Farm Bill, creating the Forest Land Enhancement Program (FLEP) and repealing the Stewardship Incentives Program and Forestry Incentives Program. The Community and Private Lands Fire Assistance Program is included to enhance community fire protection.

2007
C. T. "Kip" Howlett is appointed NASF Executive Director, quickly succeeded by Jay Farrell (2007–current). NASF, USFS, USDA Natural Resource Conservation Service, and the National Association of Conservation Districts establish the Joint Forestry Team to enhance interagency support for delivery of forestry assistance to private landowners. NASF joins 30 leading forestry and conservation groups to establish the Forest Climate Working Group coalition.

2000 — 2010

2003
NASF supports enactment of the Healthy Forests Restoration Act of 2003 to address the risk of wildland fire to communities and watersheds and to support adoption of a Watershed Forestry Assistance Program. Language about the program was authored by NASF.

2005
NASF hosts three regional meetings to discuss the environmental and economic contributions of non-federal, privately owned forestlands to the American people. The meetings are held in cooperation with the USFS.

2008
NASF publishes "State and Private Forestry: Redesign Report Card," with the USFS, to outline strategies for enhancing public benefits from private lands. The 2008 Farm Bill includes significant recommendations from the Forests in the Farm Bill Coalition, co-led by NASF. Under the Farm Bill, for the first time, national priorities for private forests were established and state forestry agencies were charged with assessing forest resources and developing strategies to address the national priorities.

2009
Congress passes the Federal Land Assistance, Management, and Enhancement Act of 2009 (FLAME). NASF is coleader of a coalition of 114 environmental, industry, outdoor recreation, and forestry organizations, which argues that the establishment of a FLAME fund would help provide a sustainable suppression funding mechanism to deal with the escalating costs of fighting wildfires.

2010
The Statewide Forest Resources Assessments and Strategies (rebranded as Forest Action Plans by NASF) is completed, which collectively serves as a strategic plan for America's forests. Congress passes an appropriations bill that includes direction to establish a Cohesive Wildfire Management Strategy, which NASF is a part of.

NASF's 2019 meeting

2011
In partnership with the USFS, NASF convenes partners and establishes a communications campaign for the official U.S. celebration of the International Year of Forests. NASF establishes its first e-commerce store.

2012
NASF adds staff, achieving professional support for all committees for the first time.

2013
Six states pass legislation or executive orders consistent with NASF's green building and forest certification positions.

2014
The Farm Bill institutes the Good Neighbor Authority, which allows the USFS to enter into agreements with state forestry agencies to keep forests healthy and productive.

2015
NASF publishes "Protecting Water Quality through State Forestry Best Management Practices" and creates a web-based interactive map linked to state BMP programs.

2016
Through research commissioned by NASF, Virginia Tech scientists publish a compendium of studies documenting the effectiveness of state BMP programs in "Forest Ecology and Management." The U.S. Environmental Protection Agency cites NASF's 2015 report in ruling additional regulation of forest roads is not needed.

2018
After a multi-year advocacy effort by NASF and partners, Congress passes an appropriations bill that includes a wildfire funding fix to halt borrowing from non-fire program budgets to cover wildfire suppression costs.

2019
NASF launches its Centennial Challenge campaign; publishes "A Century of Shared Stewardship: State Foresters and the Forest Service." The Smokey Bear campaign marks its 75th anniversary.

2020
NASF holds its first-ever virtual annual meeting due to the COVID-19 pandemic; postpones its centennial celebration to 2021.

2020

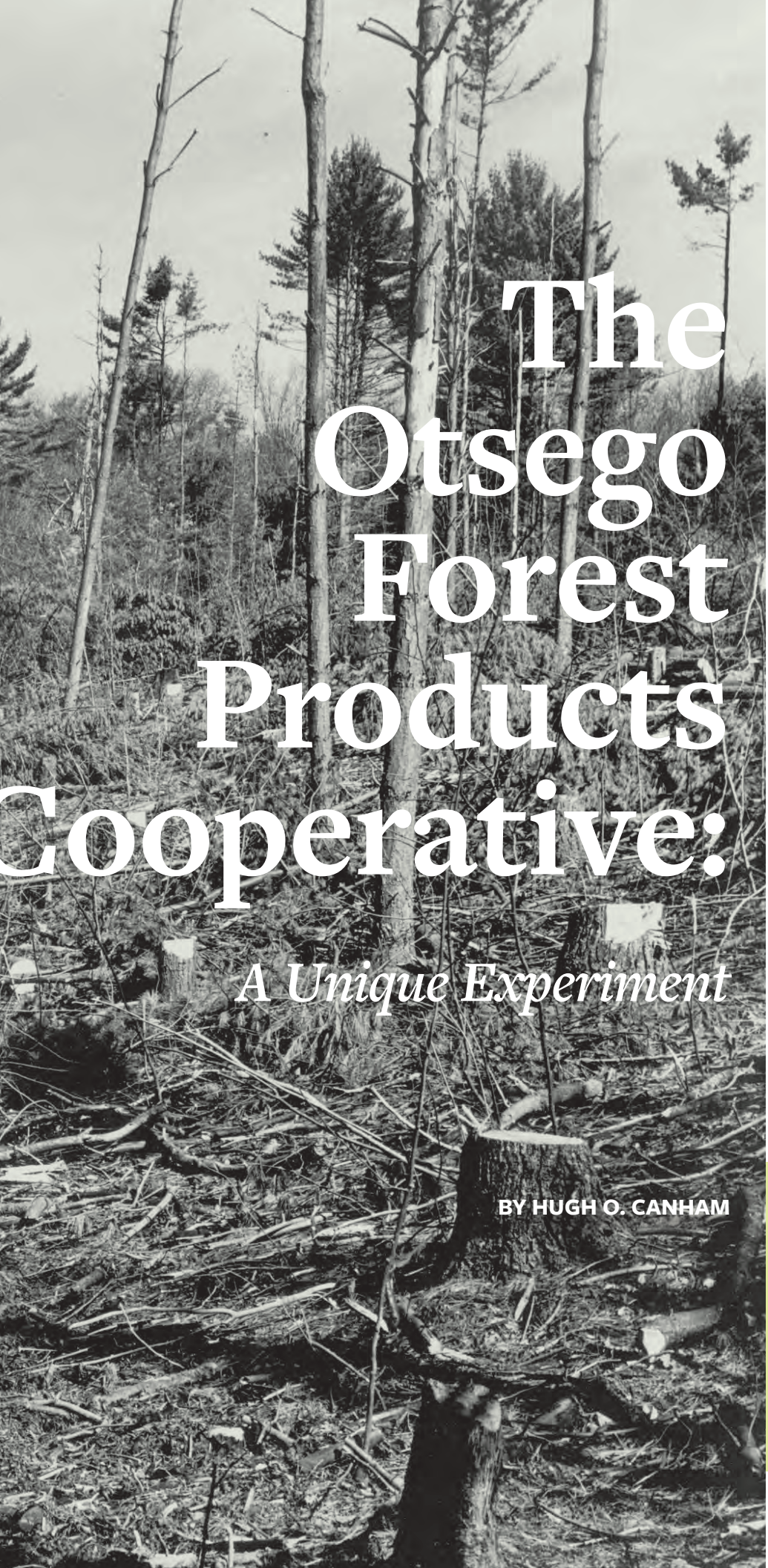
NASF's current logo

The NASF website hosts the Forest Action Plan published by each state and territory.

The Otsego Forest Products Cooperative:

A Unique Experiment

BY HUGH O. CANHAM



FHS2443, USFS 449926

Forming a forestry cooperative at the height of the New Deal to help farmers better manage their woodlots and provide them extra income was an experiment worth trying. How well did the experiment work?

In the 1930s, like many others across the country, farmers in the southern tier of central New York State were suffering from the ongoing effects of the Great Depression. Agriculture was the predominant economic activity in Otsego County.[1] A typical farm consisted of tilled fields, some pasture, and woodlots on land unsuitable for agricultural production. Typical tree species included maple, beech, birch, pine, and hemlock. Farmers often turned to their woods for firewood, fence posts, and lumber for on-farm construction, or to sell to local sawmills.

Several landowners around Cooperstown became concerned that the condition of farm forests was declining and sought a better arrangement to provide income to farmers while ensuring that timber harvests sustained and improved the woodlots. R. H. Rogers, a young forester working for a private landowner, made note of the deteriorating forest conditions in the area and secured a grant from the Charles Lathrop Pack Forestry Foundation to study the possibility of establishing a cooperative.[2] The Cooperstown Chamber of Commerce

The objective of the cooperative was to avoid a scene like this one on Charles Holbrook's farm in West Oneonta in 1948. The original caption read in part: "This is a good example of how NOT to cut a woodlot. This was a 30-acre white pine woodlot which was sold for logs for a lump sum. The operator stripped it of everything and now the owner of the land has no hope of ever harvesting another crop."

also became interested and, along with area farmers, joined with Rogers and submitted a proposal to the New York State Rural Rehabilitation Corporation. They called for the establishment of a sawmill and other lumber-processing facilities, and the hiring of field foresters to educate and aid farmers in harvesting their timber. In November 1935, the Otsego Forest Products Cooperative Association formed in Cooperstown.

Their timing was excellent. The U.S. Forest Service was interested in forming forest cooperatives for farmers and others who owned woodlots, modeled after the highly successful agricultural cooperatives. This was also the era when the U.S. Department of Agriculture was setting up rural electrification cooperatives (the one set up in Otsego County still exists today).

As part of the funding deal accepted by the Otsego Forest Products Cooperative, farmers had to do some of the construction work on the sawmill. The requirement put the mill's opening behind schedule.

The basic purpose of the Otsego cooperative was "to promote the better care of woodlands and provide for the orderly marketing of forest products through cooperation to eliminate waste." It was organized to "engage in marketing or selling of forest products and in connection therewith to engage in the production, processing, manufacturing, grading, sorting, or shipping of forest products and to finance said activities."[3] Membership was limited to owners or tenants of land used for the production of forest products. Members had to purchase one share of common stock and had voting rights, a setup similar to any other cooperative. When landowners sold logs to the cooperative, five percent of the receipts was withheld to finance the operation, with dividends anticipated as the operation became established.[4]

SETTING UP OPERATIONS

The Forest Service's Northeastern Forest Experiment Station assigned personnel to draw up plans for the processing facility and to perform timber cruises of members' woodlots. It was estimated that 542 million board feet, of which 5 million board feet was merchantable timber, stood within a fifteen-mile radius of Cooperstown.[5] The plan was to build a sawmill capable of producing about 2.7 million board feet of lumber annually. A 17-acre site just south of Cooperstown, adjacent to the Delaware and Hudson Railroad, was selected for the mill. New York's Conservation Department commissioner, Lithgow Osborne, laid the mill's cornerstone in 1937 and praised the unique setup of the cooperative. Two years later, a local newspaper asserted that the Otsego Forest Products Cooperative was the only setup of its kind in the country.[6]

The Great Depression meant that struggling members could not

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The farm of John Holling, a member of the Otsego Forest Products Cooperative, was fairly typical of those who joined: a small, modest house, barn, and pasture lands with a woodlot.

put up capital to finance the mill's construction, however. The federal government's Rural Resettlement Administration took over the functions of the New York State Rural Rehabilitation Corporation and agreed to lend the money. This agency was empowered to lend money for industrial operations that would help struggling farmers. One of the stipulations of the loans was that local farmers had to be employed for constructing the mill, but not all farmers were skilled at construction. It took much longer than planned to build the mill and get it ready for operation. Meanwhile, interest was coming due on the loans. The original plans called for paying the federal minimum wage of twenty-five cents per hour. However, the Rural Resettlement Administration asked the cooperative to pay workers forty cents per hour. By 1938 no loan repayments had been made and more money was needed. Further federal loans were secured. A small circular mill was put in operation and some lumber was produced, but it was not until the end of 1940 that a bandsaw mill was operating, fully five years after the formation of the cooperative.[7] During World War II, Quaker conscientious objectors housed in a nearby camp were engaged to operate the mill and work on other public projects in the area. Although some residents considered them "slackers," most seem to have accepted them.[8]

Management was a problem, as was competition from other for-profit mills in the area. However, with the hiring of J. Leith Violette, a competent manager, in the spring of 1941 and the rising demand for lumber fueled by World War II, the operation moved ahead. Membership rose from 430 in June 1940 to 631 in December, and by 1949 there were 1,026 members.[9] All were landowners who had agreed to sell logs to the mill and purchased at least one share of common stock. In the local press, the U.S. Forest Service praised the cooperative as being the only noteworthy forest products cooperative with integrated forest management, marketing, and processing.[10]

When the mill began flourishing after the war, the cooperative drew some international attention. In October 1951, a group of Norwegian foresters visited the cooperative and toured members' woodlands. Norway had a history of producer cooperatives but especially wanted to see how the U.S. experiment was working out and what they could learn.

A MIXED EVALUATION

About a year before that visit, the Forest Service had published an evaluation, written by two federal forest economists, that praised the success of the cooperative. Forest Service Chief Lyle Watts wrote in the foreword that it was "one of the most successful cooperatives in this field" because of its "unique feature": the Otsego co-op "eliminates the perennial conflict of interests between the small woodland owner and the processor of forest products. The cooperative does its own processing and thus provides the basis for an integration of forest management with forest utilization."[11]

The report also documented the financial struggles of the cooperative and its mill in the previous decade, foreshadowing what was to come.[12] Financial difficulties had always plagued the mill, the authors noted, and the difficulties still "hung like a black cloud over the Otsego cooperative."[13] The problems stretched back to the beginning, starting with excess capitalization, and in hindsight, a bandsaw mill was a poor choice for the time. Government loans could not be repaid on time. The Cooperstown

Chamber of Commerce, which had supported the concept of the cooperative, in 1946 agreed to help by refinancing it through bank loans. In 1948, for the first time in its twelve-year history, the cooperative paid stock dividends, made possible largely because price controls on lumber had been lifted in 1946 and the price of lumber subsequently shot up.

But twelve years is a long time for a farmer to wait for a profit. The cooperative's organizers failed to appreciate that typical family or farm forest owners do not actively engage in management of their woodlots every day, not in the same way that they tend to the agricultural part of their operations or work in nonfarm jobs. It was more difficult to sustain a high level of interest in the cooperative, compared with dairy and other agricultural cooperatives. At the same time, farmers were getting a better return from their labor by concentrating on dairy operations than from doing their own logging. Log deliveries slowed. In time, the cooperative began employing logging crews to obtain logs.

At the co-op's 1954 annual meeting, manager Violette stated that nationally, too much lumber was being produced and many mills were closing. The cooperative decided that instead of buying all logs that landowners wanted to sell, it would purchase only those species and grades that could be sold above production costs.[14] This was a reversal of the original objective of working to improve the long-term productivity of the region's woodlots.

In October 1953 a fire at the mill site destroyed the boiler room, machine shop, and piles of slab wood, though the main sawmill building and inventory of lumber were saved. In 1959, Violette left to take a position with Catskill Craftsman Company in Stamford, New York. At the 1960 annual meeting, the cooperative's president, Adelbert Blencoe, and the new manager, Marshall Green, stressed the need to replace worn and obsolete machinery.[15]

As other for-profit mills became more efficient and modern in operations, interest in the cooperative as a market for logs declined. Landowners did not see the benefit of getting shares in the business instead of a higher price for logs elsewhere. Over the years the cooperative paid out very little. In addition, landowners were turning to other sources of technical assistance. The cooperative's last forester was Robert Williams, who subsequently left to join the state's conservation department. Speaking at the 1960 annual meeting, Williams, by then in his new position, outlined the services available to private woodland owners across the state through the New York State Forest Practices Act.[16] Through this program, landowners who agreed to manage their lands sustainably would get free technical assistance in selling timber and other forest management practices. The value of the cooperative's forest management assistance slid further.

In early 1962 the cooperative's mill closed. The mill and equipment were purchased by Fairbairn Lumber of Margaretville, New York, in 1963 with plans to reopen the mill. For several years, the company used the site as a place to buy and accumulate logs for transport to its mill in Margaretville. Today the site is unrecognizable as a mill location. For many years one enduring legacy of the cooperative remained visible in the woods: the cooperative's foresters used a very durable mixture of milk and red paint to mark timber. But those marks, too, have faded.

The overall lessons are that a forest products cooperative is not like an agricultural one, that careful attention must be given to hiring skilled managers, that interest and activity in family- or farm-owned woodlots tends to be sporadic, and that competition from for-profit firms will probably be too much for a cooperative to sustain. Nevertheless, the idea of establishing woodland owner cooperatives did not die with the Otsego experiment. In the 1970s there were calls for family forest owners to band together to produce fuelwood. A few attempts soon collapsed. The desire to make it work will probably persist as long as people see the profits made by corporations but not the technical expertise and the economies of scale needed to be successful.

Hugh O. Canham is Professor Emeritus of Forest and Resource Economics, Faculty of Forestry, S.U.N.Y. College of Environmental Science and Forestry at Syracuse University.

NOTES

1. By 1939, 72 percent of the productive labor on Otsego County farms was expended on dairy cattle or the crops produced for dairy feed. James C. Rettie and Frank Ineson, *Otsego Forest Products Cooperative Association of Cooperstown, New York: An Evaluation* (Washington, DC: Agricultural Information Bulletin No. 17, U.S. Forest Service, 1950), 2. This report contains a concise history of the first two decades of the cooperative.
2. R. H. Rogers, "Centralized Management and Marketing Applied to the Woodlands in the Cooperstown Forest Unit" (Master's thesis, New York State College of Forestry, Syracuse, 1934); and Rettie and Ineson, *Otsego Forest Products Cooperative*, 4–5.
3. Rettie and Ineson, *Otsego Forest Products Cooperative*, 6.
4. Rettie and Ineson, *Otsego Forest Products Cooperative*, 7.
5. Rettie and Ineson, *Otsego Forest Products Cooperative*, 5.
6. "Tier News," *Binghamton (New York) Press*, November 13, 1939.
7. Rettie and Ineson, *Otsego Forest Products Cooperative*, 20.
8. *The (Albany, New York) Knickerbocker News*, June 6, 1941.
9. "Forest Board Told It's Buyers' Market," *Oneonta (New York) Star*, August 18, 1949.
10. "U.S. Praises Program of U.S. Forest Co-Op," *Binghamton Press*, February 14, 1948.
11. Lyle Watts, "Foreword," in Rettie and Ineson, *Otsego Forest Products Cooperative*, iii.
12. Rettie and Ineson, *Otsego Forest Products Cooperative*, 20–22.
13. Rettie and Ineson, *Otsego Forest Products Cooperative*, 20.
14. "Robert Johnson Jr. Elected Head of Otsego Forest Co-Op," *Oneonta Star*, May 27, 1954.
15. "Forest Products Co-Op Elects," *Oneonta Star*, May 31, 1960.
16. "Forest Products Co-Op Elects."

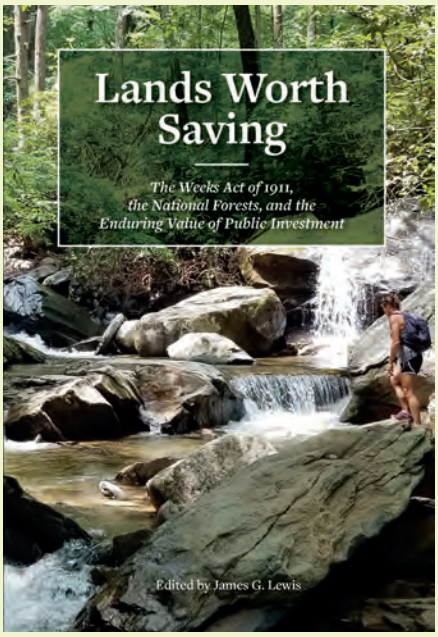
Lands Worth Saving

James G. Lewis, ed.

In 1911, Congress passed the Weeks Act, one of the most transformative conservation laws in U.S. history. Designed to establish national forests in the East, the Weeks Act has helped restore more than 24 million acres around the country. The law also provided a cooperative agreement between the U.S. Forest Service, the states, and private landowners to fight forest fires. This framework is also used today for combating climate change, protecting endangered species, and managing urban forests.

Today, with America's forests now under threat from invasive plants, insects, and diseases and from human impact, the Weeks Act and the lands it has saved face an uncertain future. In this collection, drawn from *Forest History Today* and newly updated, leading historians, conservationists, and legal experts explore the history, impact, and future of natural resource management under the law. By examining what the Weeks Act has done for America, they can help us better understand what's at stake for the nation's public and private forests in the century to come.

James G. Lewis is the author of *The Forest Service and the Greatest Good: A Centennial History* and has served as editor of *Forest History Today* since 2007.



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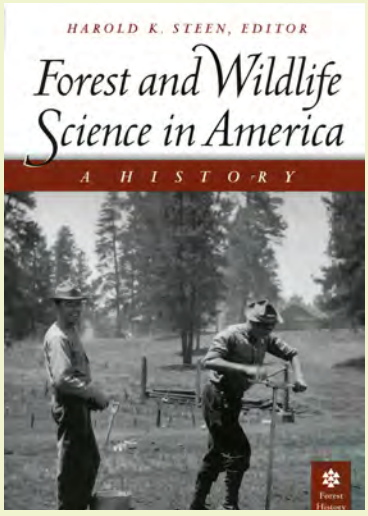

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Fire's Dust Bowl Moment

Will the huge plumes of smoke from recent wildfires prove as influential on policies as the Dust Bowl storms in the 1930s?

BY STEPHEN J. PYNE

Usually the pictures are of the fire itself. Flames are stunning and visceral, and draw the eye irresistibly. They also occur—even when engulfing the forest canopy—at a roughly human scale. The 2020 fire season's outbreaks have served up a carnival of such images. But the more enduring visual of the year's relentless conflagrations is likely to be smoke. Smoke in roiling vortexes. Smoke in towering plumes, capped by pyrocumulus clouds punching through the troposphere. Smoke blanketing regions in biblical darkness. Smokelike debris flowing dense with embers, rushing over the countryside. The only comparable images might be of the dust storms that roiled the Great Plains in the 1930s.

Even fire science has taken notice. Ecology has begun to scrutinize smoke as it has fire, as an inevitable ecological presence, one that can stimulate the flowering of some plants and fumigate away pests. Recently, it has spawned a new subfield, aeropyrobiology, committed to studying how fire-powered plumes can waft microorganisms about the landscape, an atmospheric analogue to ocean currents.

Fire physics, too, has shifted from an obsession with radiation-driven flames to the role of convection in fire's propagation. For decades, those who studied fire behavior examined the flaming fronts of surface fires pushed along by winds and terrain. But megafires have forced attention to the dominant feature of a fire, its immense wind-blown or convective-rising plume many times larger in area and geometrically vaster by volume than the zone of flame. Fires breathe. Fires boil. Fires gush and suck, and flames—which, after all, are gases—swish and swirl in violent syncopation. Those big fires produce smoke, and those smoke-laden plumes affect the flames. Around the zone of combustion, fire makes its own weather.

Megafires have forced attention to the dominant feature of a fire, its immense wind-blown or convective-rising plume many times larger in area and geometrically vaster by volume than the zone of flame.

So, too, public perception of fire may be shifting. Megafires are typically remote from cities and urban areas, laying special claim to faraway landscapes, rural enclaves, public lands, and nature reserves. But in the most recent fire season, smoke fouled the air of Sydney and San Francisco, Portland and Vancouver, and hundreds of smaller cities in a direct threat to the health of hundreds of thousands. Canberra shut down postal deliveries. Denver advised residents to consider safe rooms for shelter

INNA ZAKHARCHENKO / SHUTTERSTOCK.COM

Thick smoke haze obscures the Space Needle on September 12, 2020, in Seattle, Washington. Unhealthy smoke levels throughout the western U.S. during 2020 and other bad fire seasons have yet to trigger an outcry for comprehensive federal action.

A dust storm that originated on the Great Plains enveloped the Lincoln Memorial on March 21, 1935, the same day Congress was meeting to discuss solutions to the Dust Bowl. Will smoke from distant wildfires similarly need to descend upon Washington to influence federal wildfire policy?

against the dirty air. Weather and fire forecasts included smoke maps along with fronts and red-flag warnings.

Like the dust squalls that blew out of the Plains nearly a century ago, the megapalls of today's unbounded fires testify to a profound disruption between climate and land use. In the 1930s, droughts were natural; humans contributed the loosened soils and put communities at risk. Today, humans are aggravating both climate and land. The big burns make undeniable the ways in which a legacy of unwise fire suppression, broken wildlands, careless urban sprawl, and a climate ratcheting implacably toward greater flammability have colluded to spread havoc.

And so far, those mesmerizing flames have been unable to move the public to consider the kinds of reforms required. Savage fires have swept into cities like Santa Rosa and Gatlinburg, burned over towns like Paradise, California, and Phoenix, Oregon, and dislodged postburn refugees by the tens of thousands. Yet serious reform at scale is missing. Instead, the chronicle of mass burnings of houses matches in creepy fidelity that of mass shootings and suggests that the country is willing to absorb a lot of violence and pain before it is prepared to act. Both conundrums seem to resist a national response. Because fire synthesizes its surroundings, it can't be tied to a single propellant or a single solution. The fires have not been enough by themselves to consolidate a response.

Like the dust squalls that blew out of the Plains nearly a century ago, the megapalls of today's unbounded fires testify to a profound disruption between climate and land use.

So, while flames and postburn wreckage have sparked lots of commentaries, they have not inspired much on-ground reform. Many of the topics implicated have been discussed for decades, among them reducing fuel buildups, rethinking exurban settlements, reversing the ecological deterioration wrought by fire exclusion, and installing integrated fire management. Moreover, Congress has allowed the U.S. Forest Service to be hollowed out by the cost of fire suppression, and partisans have hijacked fire's vividness to animate messages that have little do with solving actual fire-related problems.

It took years of distress on the Great Plains before the disaster deepened enough to spark a national reaction. The dust squalls gave the message a stunning visual. They filtered down on distant cities and even enshrouded the Capitol the same day Congress was hearing testimony about the issue. A regional crisis then became a national problem. It became for the New Deal both symbol and tangible expression of a broken system. The 2020 fires are not quite there yet, but their dust equivalent—the apocalyptic pall of wildfires—is no longer a remote

narrative. It is going to where the people are.

Some hopeful reformers, including CalFire Director Thom Porter, have suggested that the 2020 fire season will have the galvanizing effect of the Great Fires of 1910, which brought together a package of practice and policy for wildland firefighting that defined our dominant relationship to fire for a century. More likely, if a new rally point emerges, the geodetic marker drawn from history will be the dust storms that boiled out of the parched and sod-busted grasslands of the Great Plains.

This year's smoke changed the story. It changed the optics: fire is vivid, specific, but smoke can drift across continents and encircle the world (as Australia's did). It changed the calculus of damages: the fires killed relatively small numbers of people, but the second-hand smoke that saturated the atmosphere and socked in valleys like a killer fog threatened millions. It changed the narrative. The theme is no longer about feckless westerners who build houses where there are fires but about fires going to where the people are, about smoke whose writhing tendrils can reach communities a thousand miles away. Smoke changed the audience and the possibly the politics. In an eerie way, those spreading palls made manifest—projected outward—the sense of gloom and foreboding of lives unsettled by a pandemic. Instead of obscuring, smoke made unblinkingly clear the magnitude of humanity's troubled relationship with fire.

In the Dirty Thirties, dust became the emblem of a cruel interplay of economics and environment, a national malaise in which American society and American land were profoundly out of whack. Today, the smoke plumes tell much the same tale. Then, apologists could point to bad luck, as a natural rhythm of droughts met a thoughtlessly advancing plow. Now, even the worsening climate is our doing. The megaplumes blowing through the West today may prove as influential as the dust storms then. It's early days still, but the Blowout of 2020 may become American fire's Dust Bowl moment.

Stephen J. Pyne is an emeritus professor at Arizona State University and the author of many books, including Between Two Fires: A Fire History of Contemporary America. *He discussed the "Pyrocene" in his presentation for the 2020 Lynn W. Day Distinguished Lectureship in Forest and Conservation History, available on the Forest History Society's website.*

BRITTANY HAAS, MARYLAND FOREST SERVICE

Teri Batchelor at a tree planting in 2019

Margaret Teresa "Teri" Batchelor 1956–2020

By Kenneth Jolly

Forty-one years ago, none of Maryland's Department of Natural Resources Foresters were women. That all changed on June 13, 1979, when the Maryland Forest Service hired Teri Batchelor.

Born and raised in Kent County on Maryland's Eastern Shore, Margaret Teresa "Teri" Dickerson always enjoyed the outdoors and decided early in life to pursue a career in forestry. She was undeterred by the fact that in the 1970s, forestry was almost exclusively a male-dominated profession. In high school, she was already breaking new ground when she applied to attend the Department of Natural Resources' Forestry Career Camp and became the first female attendee.

After high school she entered the pre-forestry program at the University of Maryland, and after two years transferred to West Virginia University, where she earned her bachelor's degree in forestry in 1978.

She worked briefly with the State of Virginia Department of Forestry then transferred to Maryland, where she worked as project manager and forester for the next 41 years. Her first position with the Maryland Forest Service was managing the Baltimore County Forestry Project, supervising a staff of five forest rangers. After working there for more than two years, Teri transferred to the Kent and Queen Anne's County Forestry Project in 1981. The transfer presented new opportunities to grow in her career, and in 1992, Teri became the Upper Shore Project Manager, expanding the geographic area under her supervision to include Caroline and Talbot counties. As project manager, she oversaw delivery of all Forest Service programs across the Eastern Shore.

"Teri was outstanding at everything she did," Eastern Regional Forester Matt Hurd said.

Over the course of her career, she planted more than 3,000 acres of new forests—an estimated 1.3 million tree seedlings. In addition, Teri helped hundreds of private woodland owners each year achieve their land management goals, whether for improving wildlife habitat or growing forest products. In total, she gave professional forestry recommendations covering more than 36,000 acres of woodland in her career. With her husband, Ted Batchelor, they decided in 2009 to plant 4.5 acres of Christmas trees on their 290-acre family farm, which they named Bakers Lane Christmas Tree Farm.

Sharing her love of forestry with all age groups and interest levels came naturally to Teri. Through

local presentations and hands-on workshops, she spread the knowledge that trees do more than just provide shade on a hot day—that they clean our air, protect the Chesapeake Bay, and prevent soil erosion. She made sure every Arbor Day in the Upper Shore Project felt like a holiday to school-age children, complete with a poster contest and Smokey Bear appearances. Her outreach efforts earned her the prestigious Gold Leaf Award for Outstanding Arbor Day Activities from the International Society of Arboriculture.

Teri worked with local officials to participate in national community tree management programs such as Tree City USA. She also served as executive secretary of the Kent and Queen Anne's County Forestry Boards.

"Teri was a fixture—her experience was unmatched," Kent County Forest Board Chair Andy Simmons said.

Teri's influence extended beyond the Maryland Forest Service. She was active in a number of professional forestry organizations, including serving as a governor-appointed member of the Maryland State Board of Forester Licensing for 15 years, with 5 years as vice chair. She also served on the Maryland Forests Association Board of Governors for 6 years as a professional forester representative.

While still a student, Teri had joined the Society of American Foresters, the primary national organization of professional foresters in the United States, and was an involved member throughout her career. In 1982, she was first elected to serve on the Maryland-Delaware Executive Committee and continued to serve on the Executive Committee in various leadership positions for the next 38 years. For this career of service, Teri received an honor that very few achieve when she was named a Fellow of the Society of American Foresters in June 2020. Teri is believed to be the first and only woman to ever receive this honor in Maryland. She died a month after receiving this honor at the age of 63.

For these amazing accomplishments, Teri Batchelor has forever made her mark as Maryland's "First Woman of Forestry."

Kenneth Jolly is the Acting State Forester of Maryland. This article is adapted from "From the Field: Teri Batchelor," published in the Fall 2020 issue of Maryland Natural Resource *magazine.*

LEFT PHOTO BY RICHARD ABEND; RIGHT PHOTO COURTESY OF BATCHELOR FAMILY

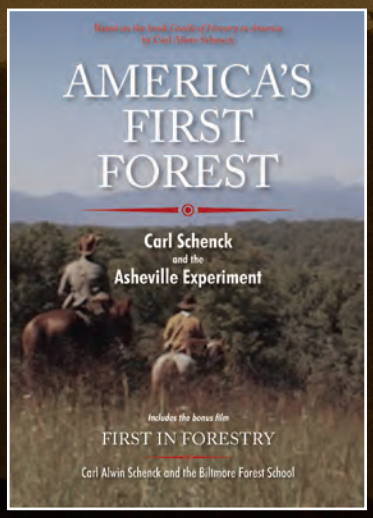
Teri Batchelor at the beginning and late stages of her career. She enjoyed being both a forester and an educator. Giving presentations to landowners, like on this "Discover Your Woodlands" field tour in 2014, enabled her to combine the two.

"I soon realized that German forestry was as impossible of success in the United States as was Indian or Swedish forestry. A brand-new sort of forestry was needed."

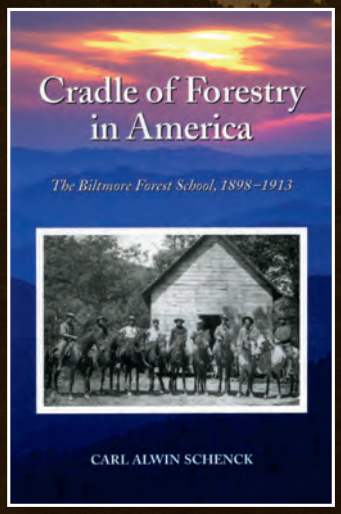
AMERICA'S FIRST FOREST

Carl Schenck & the Asheville Experiment

In 1895, at the magnificent Biltmore Estate nestled in North Carolina's Blue Ridge Mountains, German forester Carl Alwin Schenck began restoring the land using the "new" science of forestry. Then he established the Biltmore Forest School, the nation's first. Using a log cabin for their school house and George Vanderbilt's Pisgah Forest as their outdoor classroom, Schenck taught "his boys" how to manage a forest—and demonstrated how America could conserve *all* its forests. Based on Schenck's memoir *Cradle of Forestry in America*, the Emmy Award–winning documentary film *America's First Forest* tells the story of the birth of the American conservation movement through the efforts of one of its founders. The DVD includes this film and the 28-minute featurette *First in Forestry: Carl Alwin Schenck and the Biltmore Forest School*, adapted from *America's First Forest* and is ideal for classroom use.



DVD includes *America's First Forest* (55 min.) and *First in Forestry* (30 min.) $24.95



Cradle of Forestry in America: The Biltmore Forest School, 1898–1913 by Carl Alwin Schenck, $14.95

To order the DVD and book, please visit AmericasFirstForest.org. Order both together and save!
Look for *America's First Forest* on public television stations around the country.

FOREST HISTORY SOCIETY

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CRADLE OF FORESTRY Interpretive Association IN AMERICA

The Redbird Purchase Unit, Daniel Boone National Forest

U.S. FOREST SERVICE

The Redbird Ranger Station was built in 1921 by the Fordson Coal Company as living quarters for its survey crews, engineers, and draftsmen. The Forest Service turned it into the ranger station in 1967, when this was taken; in 1989, the station was listed in the National Register of Historic Places.

By Gordon Small

The Redbird Ranger District, part of the Daniel Boone National Forest in eastern Kentucky, is one of dozens of ranger districts created as a result of the Weeks Act of 1911. Like the others, the Redbird began as a purchase unit, the first step in what was often a swift process to creating a national forest. What sets the Redbird Purchase Unit apart is its history: it was one of the first areas ever examined and considered for protection, but it was the last Weeks Act purchase unit

Beginning in 1891, national forests in the West were established from the remaining public domain. But the eastern United States essentially had no public land left to conserve. The Weeks Act accordingly authorized the U.S. Forest Service to identify the headwaters of navigable waterways in the Appalachian Mountains and buy as much of that land as possible to protect them. Parcels would then be assembled into a purchase unit, surveyed, and submitted for approval to the National Forest Reservation Commission (NFRC), which managed the appropriated funds and Forest Service acquisitions. For decades, the commission avoided using eminent domain to acquire land. Where landowners wouldn't sell, private parcels, known as inholdings, ended up inside a national forest boundary.[1]

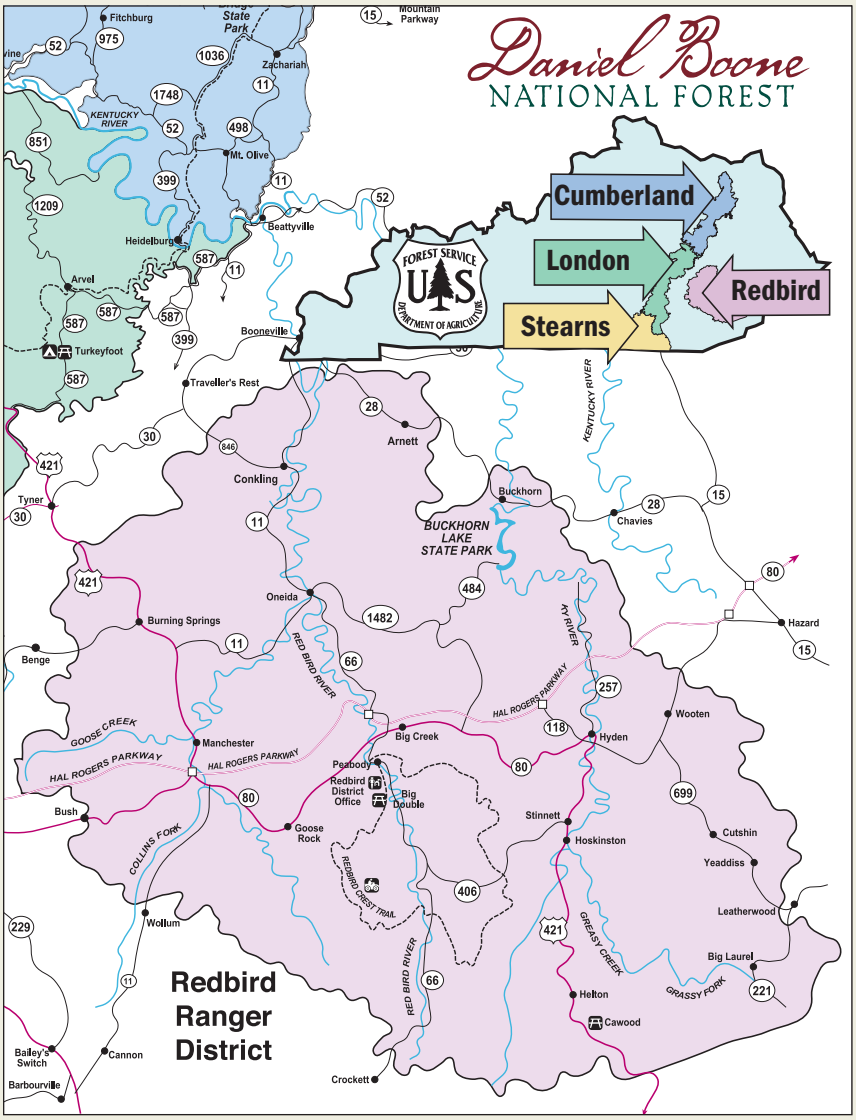
Nearly all the eastern national forests were established prior to World War II under this system. Weeks Act acquisitions largely stopped during the war and for several years thereafter. With few large blocks of privately owned land available to buy, in the early 1960s, Congress began to appropriate small amounts of money to acquire inholdings that could increase the effectiveness of the existing federal management. But the Redbird area eluded the federal foresters.

BACKGROUND

Located in the heart of the southern Appalachians' hardwood and coal country, the Redbird Purchase Unit was named for a tributary of the Kentucky River, the Red Bird River, which in turn derived its name from the legendary Cherokee chief Red Bird, who was murdered nearby in 1796.

The Forest Service's interest in acquiring lands to protect the headwaters of the Kentucky River, which provides water for one-sixth of the state's population, predates the Weeks Act. Agency foresters examined the area in 1907, 1914, and again in 1921, each time recommending it for inclusion in the National Forest System because of "its critical watershed characteristics."[2] Each time, though, the coal and timber companies that owned the resources both above and below ground declined to sell their lands. But federal interest never waned. Neither did the crushing poverty perpetuated in part by the very companies that were unwilling to sell.

The establishment of new purchase units typically began when the Forest Service's Land Classification staff left Washington, D.C., to conduct extensive field studies of proposed areas and submitted their findings



U.S. FOREST SERVICE

The Redbird Ranger District is one of four in the Daniel Boone National Forest.

in a reconnaissance report. When the Forest Service established the Cumberland Purchase Unit in 1930, its proposed 1.3 million gross acreage didn't include land around the Red Bird River, nor did its expansion in 1934.

About that time, Mary Breckinridge, founder of the Frontier Nursing Service in eastern Kentucky, which provided health care for children in one of the poorest regions in America, emerged as an advocate for making the Red Bird area part of a national forest. In her work as a midwife and teacher, she had traveled hundreds of miles all over the region by horseback and was familiar with the intertwined issues of impoverished land and impoverished people. The area comprised some of the most abused land in the whole region, with small landowners and residents living in the worst conditions of Appalachian poverty.

In July 1933, she met with NFRC members and the Forest Service chief in Washington. In a memorandum subsequently sent to all concerned parties, Breckinridge argued that establishing a national forest and introducing "scientific forestry" were necessary, not only to preserve and develop the timber resource and provide local employment, but also to prevent disastrous downstream flooding along the Kentucky River. Breckinridge's report, which listed eighty-seven companies and individuals holding large tracts of timberland and the value of each, was well received, and the Forest Service was supportive, even sending its chief land examiner there in 1934.[3] Nothing further came of it, however, even as President Franklin Roosevelt's administration went on a buying spree, purchasing more than 11 million acres between 1933 and 1936, including enough land to establish in 1937 the Cumberland National Forest (renamed for Daniel Boone in 1966) west of the Red Bird area.

In 1939 another team of Forest Service land examiners, David Tabbutt and William E. Hedges, visited the area. Hedges had inspected the area in 1934 and had backed Mary Breckinridge's proposal. In any proposed area, the Forest Service always wanted to start with at least one large landowner who was willing to sell. That land would serve as a base to build on and give the agency a contiguous, manageable unit even if few other tracts could be acquired. Tabbutt and Hedges found, as others had before them, that the large timber and mining companies that owned much of the land still had little interest in selling.

The key to establishing Redbird was the Fordson Coal Company, the largest landowner in the area, with 105,540 acres. Fordson, a subsidiary

of Ford Motor Company, had bought the land from Peabody Coal in 1923. The car manufacturer wanted the hardwoods for wheel spokes and other automobile body parts. If Fordson would ever be willing to sell, Tabbutt and Hedges recommended that a purchase unit be created in this area. However, World War II broke out shortly after they submitted their report, and no further action was taken. Meanwhile, mining and logging continued in the region, which paradoxically would help make the land more attractive to the federal government.

Fast-forward to 1960.[4] That year's presidential campaign marked the beginning of the federal government's "rediscovery" of Appalachia. The attention eventually took the form of billions of federal dollars directed toward improving the area. A byproduct of that attention would be creation of the Redbird Purchase Unit.

Soon after taking office in 1961, President John Kennedy appointed a task force that identified nearly 100 Appalachian depressed areas, classified by the Department of Labor as having a "labor surplus, substantial and persistent," and 300 to 400 low-income rural areas where federal funds might be concentrated. The task force recommended that a commission be established for the 11-state Appalachian region to tackle the development problems of these areas. Kennedy appointed the President's Appalachian Regional Commission (PARC) in 1963.

Along with the effects of strip-mining, one of PARC's major concerns was the region's timber resource, which the commission believed "should provide much of the foundation for the renewed economic vigor of the region." However, fragmented ownership proved to be one of the region's most serious challenges to good forest management, PARC reported, and "substantial acreages of forest land" in Appalachia were found so depleted as "not likely to be rehabilitated and adequately protected under private ownership." Thus, public ownership of such lands was recommended so the forests could be returned to full productivity.

Following the recommendations of Senator Robert C. Byrd of West Virginia and Governor Bert T. Combs of Kentucky, two mountain areas—one bordering the Monongahela National Forest, the other in eastern Kentucky—were studied for national forest expansion in Appalachia. The eastern Kentucky area consisted of about five million acres encompassing the headwaters of the Cumberland, Kentucky, Licking, and Big Sandy rivers. Destructive floods struck eastern Kentucky in March 1963, bringing timely attention to the region and its long-standing problems. In November 1963, PARC recommended acquiring about 1.3 million acres over a ten-year period—not only to meet timber development recommendations but also to further the general goals of PARC.

UNCLE SAM TAKES CHARGE

Nearly two years later, PARC's recommendations were realized. On February 24, 1965, the NFRC created the Redbird Purchase Unit, encompassing 591,000 acres in seven counties that included the headwaters of the Red Bird River and the south and middle forks of the Kentucky River. The hard work of land acquisition could now begin.

In July 1965, an acquisition team opened an office in Manchester, Kentucky: Tom Frazier (project leader), Ted Hensley (draftsman), Bobbie Pennington (secretary), and the author, serving as the acquisition forester. The office was a refurbished cabin in downtown Manchester, and the team vehicles were military surplus.

The team settled in quickly and began to examine and appraise a property offered by the Redbird Timber Company, which had purchased it from Fordson just a few years before and proceeded to heavily log it. The first major step was to value whatever timber was left after years of harvesting and forest fires. The Lakes States Experiment Station developed the cruising approach, and several two-person teams were assembled to do the work, which required dealing with blackberry briers, chiggers, ticks, and snakes on steep slopes in summer heat. Beech and hickory made up much of the remaining timber, but neither species was worth much in the lumber market. The cruise was completed within a month and focus then changed to valuing the land and buildings.

The property was staged in three option blocks to accommodate annual Weeks Law appropriations. The first purchase was on December 21, 1966, when the Forest Service acquired two option blocks totaling 60,171 acres, located in Leslie, Clay, Harlan, and Bell counties, from Redbird Timber for $2,020,000. The third option block was purchased on October 26, 1967, for $388,425. The Forest Service was now in the land management business on the Redbird. The office moved to Peabody, into the old Fordson Coal Company office, in the heart of the purchase unit.

As the spring fire season approached—the first since the Forest Service created the Redbird—firefighting crews were put together from a variety of sources. Several fires were all quickly contained. Staffing grew as a fire control organization was completed,

U.S. FOREST SERVICE

As Vance Mosley and others discovered, cruising timber on Redbird Company lands meant dealing with blackberry briers, chiggers, ticks, and snakes on steep slopes in summer heat.

followed by a survey crew, foresters, and additional land acquisition and management staff.

When acquiring land under the Weeks Act, the Forest Service sought to avoid local opposition to its efforts. Consequently, with the purchase of Redbird Timber's tract, the Forest Service assumed responsibility not only for the land but also for 115 families that had been tenants of the company on a year-to-year basis. Most of these families lived in substandard housing on remote, unmaintained roads. The eventual goal was to relocate them, but not much changed for them after Uncle Sam became their landlord. Under the Forest Service, residents could continue farming under special-use permits; like the timber company before it, the Forest Service would not maintain the roads serving the homes. The agency, however, required "that the permittees clean up the premises and keep them clean"—something the tenants weren't accustomed to doing. Managing special-use permits, trash disposal, and other issues became ongoing challenges for rangers.

Several public works programs started to make a difference in the lives of people in the Redbird area, and the Forest Service provided opportunities for effective conservation work. One of the first projects was to clear the Big Double Creek, which ran by the Forest Service's Peabody office, of the sediment originating from eroded skid trails and rough roads. Many roads went straight up the steep slopes; they dumped large volumes of silt in the stream every time it rained.

The Forest Service's hydrologist developed a rehabilitation plan that included creating check dams and applying seed and fertilizer on exposed, eroding slopes. One year later the water was clean enough for trout, which were then regularly stocked in the creek. This accomplishment was followed by the first Forest Service public recreation area on the Redbird. Job Corps crews also completed many timber stand improvement projects and other important work.

DETERMINING SURFACE AND MINERAL RIGHTS

Throughout the late 1960s and early 1970s, the NFRC invested attention and money in building and consolidating the Redbird Purchase Unit. From 1966 through 1972, more than half of the Weeks Act funds went to Redbird. In 1972, the commission approved extending the Redbird Purchase Unit by 96,061 acres of land that was "forested although heavily cutover" in Owsley and Perry counties. The acquisition would help protect the area's watersheds and improve the water quality of an existing reservoir. A few large purchases formed the nucleus: 71,012 acres from Redbird Timber Company, 15,991 acres from Atlantic Lumber Company, and 8,550 acres from Mayne

U.S. FOREST SERVICE

Surface mining in the mid-1960s in the Red Bird River watershed created challenges for those in land acquisition and for land managers.

Lumber Company.[5] Of the many smaller purchases, one was just 1.19 acres. From its creation in 1965 until 1978, an average of about 7,500 acres was added to the Redbird each year. In 1977 the net acreage of the purchase unit was almost 135,000 acres, and in 1981 it was just over 140,000 acres.

Prices for land in the Redbird were far below those in the other southern Appalachian national forests. In fiscal year 1977, for example, tracts acquired in the Redbird averaged $85.97 per acre; those in the Nantahala and Pisgah national forests in western North Carolina averaged $441.27 per acre, and those in the Cherokee in eastern Tennessee, $635.22 per acre. The Redbird Purchase Unit now includes 682,150 acres, of which 146,444 acres are national forest.

The problem of mineral rights, which had prevented efforts to establish a national forest in eastern Kentucky for half a century, challenged the later work as well.[6] To pass the Weeks Act and to facilitate the sale of company-owned lands, a compromise had been struck that allowed subsurface rights to be handled separately from surface rights. Thus, landowners could retain the right to minerals (or sell them to a third party) after selling surface rights to the Forest Service. Much of the land in the Redbird is covered by the Kentucky broad form deed, which allows strip-mining and gives the deed holder wide discretion on how to remove the coal. At first, the National Forest Reservation Commission was reluctant to purchase lands with outstanding mineral rights held by a third party with a broad form deed. Gradually, however, it recognized that because so much Redbird land was of this type, some would have to be acquired to create a manageable national forest district.

Many tracts in eastern Kentucky have been purchased with mineral rights held by third parties. However, the state has since substantially strengthened surface mining requirements, the Tennessee Valley Authority transferred about 40,000 acres of mineral rights it held to the jurisdiction of the Forest Service, and coal mining has contracted as major power plants convert to natural gas. Mineral rights have also been separately purchased, where possible, to facilitate Forest Service control. For example, in 1971 NFRC authorized $10 per acre to purchase the mineral rights to the old Fordson lands. Ultimately, of course, the commission could obtain the mineral rights with the commission secretary's condemnation, an option that was entertained more frequently in the 1970s as recreation and wilderness advocates collided with mining interests on the Daniel Boone National Forest. When the commission was dissolved in 1976 and the Redbird Purchase Unit was added to the national forest, acquisition of large tracts at major stream headwaters came to an end.

REDBIRD TODAY

Forest Service crews from the 1960s would easily recognize some aspects of the Redbird Purchase Unit today. The old Fordson office in Peabody has become the Redbird Ranger Station, and it still has its original maple, oak, and walnut woods visible in different rooms; the main office (now the district ranger's) is still paneled with American chestnut. The 1927 building has been listed in the National Register of Historic Places, along with the large log house that Mary Breckinridge built as her home and midwifery school in 1925; it's about twenty miles east, outside Wendover.

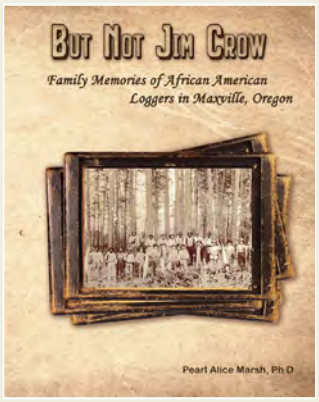
But the old-timers would not recognize the land. The badly cutover, eroded, unproductive forests, mostly owned by companies bent on natural resource extraction, now grow some of the finest southern Appalachian hardwood timber in the region. The 100-mile-long Redbird Crest Trail is a popular and challenging multiuse trail. The Redbird Wildlife Management Area, managed cooperatively with the Kentucky Department of Fish and Wildlife Resources, comprises more than 25,000 acres of woodlands. The Big Double Creek picnic area has fields for baseball, volleyball, football, and other activities, plus facilities for community picnics and family outings. The Cawood Recreation Area includes a hemlock-shaded creek at the site of an old Job Corps camp, with facilities for various outdoor pursuits.

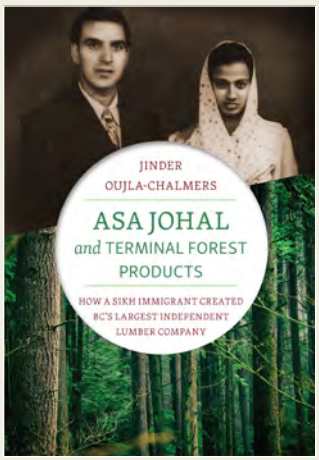
Perhaps the best indicator of the condition of Redbird's forestland after a half-century of management is found in the comeback story of a species that hadn't been seen since 1847. That's when John James Audubon wrote that no elk could "be found within hundreds of miles."[7] One hundred fifty years later, the Kentucky Elk Restoration project, with major financial assistance from the Rocky Mountain Elk Foundation, undertook a complex, multiyear effort to return elk to southeastern Kentucky. Redbird Ranger District lands proved crucial to the reintroduction of elk in these mountains. The project exceeded expectations, and by 2001, elk populations were abundant enough to permit hunting. Subsequent research has "suggested that elk primarily used reclaimed surface mines for feeding, and used the surrounding intact timberlands for thermal and escape cover."[8] Moreover, elk habitat management has also benefited white-tailed deer, black bear, wild turkey, ruffed grouse, and other game species.[9] Nongame terrestrial and aquatic species have thrived, too. The condition of the land and waterways has been vastly improved. To borrow a phrase favored by John Kennedy, whose focus on improving the lives of those living in Appalachia sixty years ago eventually led to the establishment of the Redbird Purchase Unit, a rising tide lifts all the boats.

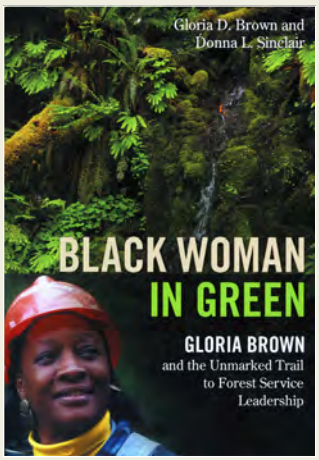
Gordon Small worked for 33 years for the U.S. Forest Service and retired as Director of Lands for the Forest Service in 1996. *He'd like to thank Tracy Adkins, realty specialist, U.S. Forest Service, Southern Region; Lewis Kearney, U.S. Forest Service–retired; and Carolyn Mills, U.S. Forest Service–retired, for their assistance with this article.*

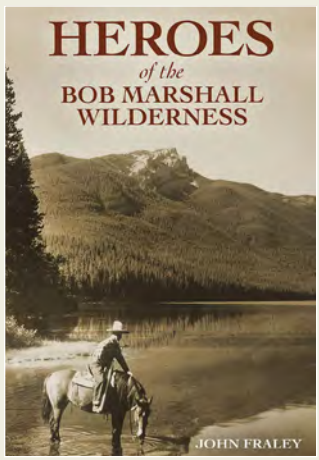
NOTES

1. Lincoln Bramwell and James G. Lewis, "The Law That Nationalized the U.S. Forest Service," *Forest History Today*, Spring/Fall 2011, 12–13.
2. Robert F. Collins, *A History of the Daniel Boone National Forest, 1770–1970* (Winchester, KY: USDA Forest Service–Southern Region), 252.
3. Mary Breckinridge, *Wide Neighborhoods: A Story of the Frontier Nursing Service* (Lexington: University Press of Kentucky, 1952, 1981), 345–48. Collins (*History of the Daniel Boone National Forest*, 201) reported that she personally knew the secretary of War. Breckinridge, however, says in her memoir that she called on her friend Senator Alben Barkley, who arranged a brief meeting for her with the secretary in which she asked permission to speak with the Forest Service chief.
4. Much of what follows draws heavily on Shelley S. Mastran and Nan Lowerre, *Mountaineers and Rangers: A History of Federal Forest Management in the Southern Appalachians, 1900–81* (Washington, DC: GPO, 1983), chap. 7, http://npshistory.com/publications/usfs/region/8/history/chap7.htm.
5. Many thanks to Tracy Adkins for tracking down these figures.
6. For more on mineral rights and the Weeks Act, see Dave Fredley, "Surface and Mineral Rights and the Weeks Act," *Forest History Today*, Spring/Fall 2011, 32–35.
7. Quoted in Dave Baker, "The Elk Decade," *Kentucky Afield*, Winter 2007, 23.
8. Kentucky Department of Fish and Wildlife Resources, "2015–2030 Kentucky Elk Management Plan," https://fw.ky.gov/Hunt/Documents/20152030ElkManagementPlan.pdf, 6.
9. U.S. Forest Service, "Elk Viewing on Redbird Ranger District," https://www.fs.usda.gov/detail/dbnf/specialplaces/?cid=stelprdb5285244.









BOOKS

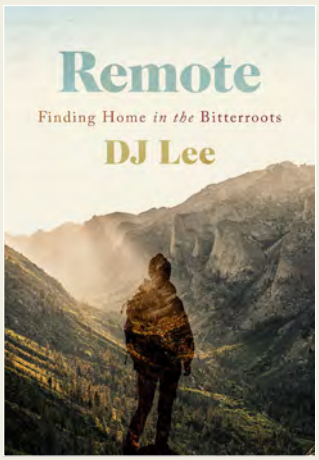
In ***But Not Jim Crow: Family Memories of African American Loggers in Maxville, Oregon*** (Pearl Alice Marsh, 2019), Pearl Alice Marsh has gathered recollections of first- and second-generation descendants of those who, in their quest for better wages, freedom, and equality, migrated in the 1920s through the 1950s from the Jim Crow South to Maxville, a remote company railroad logging town built and owned by the Bowman-Hicks Lumber Company. They moved at a time when Oregon's constitution included a provision excluding Blacks from the state. Loggers worked in integrated teams but the small town had segregated schools and baseball teams. The book includes a logger's memoir and dozens of images.

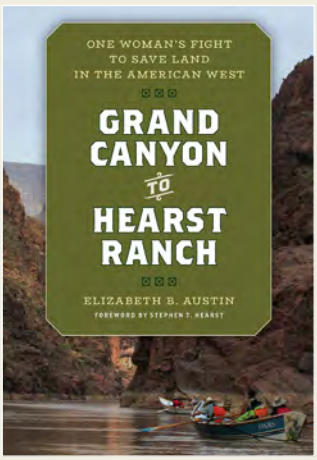
Asa Johal, a boy from India, started working in wood products at age 14 in Vancouver, British Columbia, and eventually founded his own company in 1965. Johal faced many challenges and obstacles, including political situations, economic forces, timber supply shortages, labor disputes, and bigotry. In ***Asa Johal and Terminal Forest Products: How a Sikh Immigrant Created BC's Largest Independent Lumber Company*** (Harbour Publishing, 2019), Jinder Oujla-Chalmers shows how Johal ultimately established himself as a leading figure among the predominately white-owned forest products giants of the province.

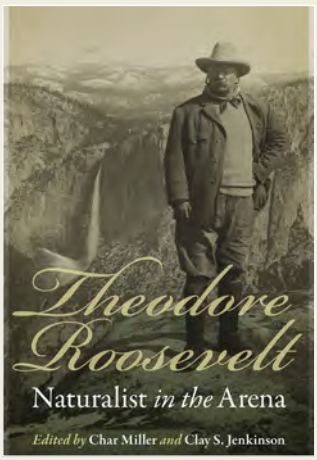
Gloria Brown was the first African American woman to attain the rank of forest supervisor in the U.S. Forest Service. Her memoir, ***Black Woman in Green: Gloria Brown and the Unmarked Trail to Forest Service Leadership*** (Oregon State University Press, 2020), written with historian Donna Sinclair, traces Brown's unusual path, starting as an office worker in her native Washington, D.C. Brown also provides her take on the roles of African Americans in the outdoors and in the fields of environmental policy and public lands management.

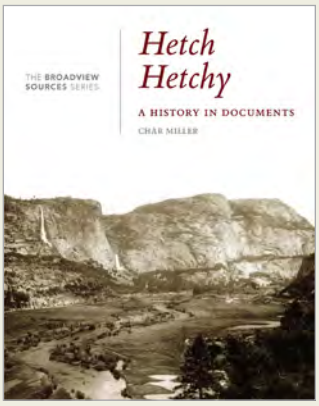
John Fraley, author of *Rangers, Trappers, and Trailblazers: Early Adventures in Montana's Bob Marshall Wilderness and Glacier National Park*, goes back to "the Bob" to tell us of ***Heroes of the Bob Marshall Wilderness*** (Farcountry Press, 2020). He shares the stories of old-timers like Joe Murphy and more recent figures like Smoke Elser, just two of the many people who have ridden, packed, and hiked from one end of the Bob to the other and helped make the wilderness what it is today. Some stories are about animals, including a rooster named Bob Marshall, the first live chicken to attempt a traverse of the wilderness.

When a friend and mentor disappeared somewhere in the 1.3 million–acre Selway-Bitterroot Wilderness of Idaho and Montana, DJ Lee went there seeking answers. The disappearance unexpectedly brought an end to Lee's fifteen-year quest to uncover the buried history of her grandparents and mother, who had lived there years before. Through her story, readers learn some of the history of that rugged, beautiful area. Lee didn't find all the answers but came away with the touching memoir ***Remote: Finding Home in the Bitterroots*** (Oregon State University Press, 2020).









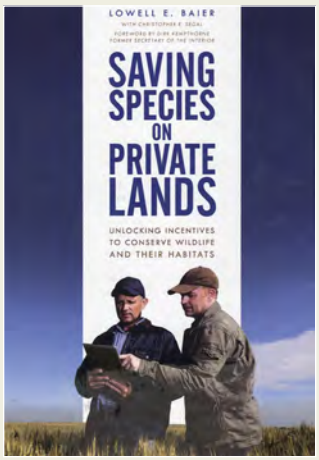
In ***Grand Canyon to Hearst Ranch: One Woman's Fight to Save Land in the American West*** (TwoDot, 2020), Elizabeth Austin explores the life and work of Harriet Hunt Burgess, an influential late-twentieth-century conservationist. A life-changing trip through the Grand Canyon led to her involvement in conservation and her eventual founding of the American Land Conservancy.

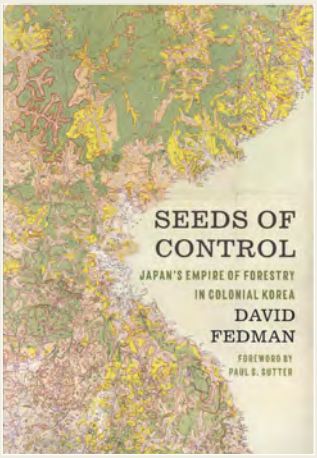
A new anthology, ***Theodore Roosevelt, Naturalist in the Arena*** (University of Nebraska Press, 2020), details Roosevelt's work as a scientist and curator, as well as his exchanges with other leading conservationists of the day and his environmental work as a politician. The essays, selected and edited by Char Miller and Clay S. Jenkinson, establish a critical context for understanding the conservationist's intellectual response to the natural world, both at home and abroad. They also provide an unflinching look at the social Darwinism sometimes present in Roosevelt's conservation philosophy.

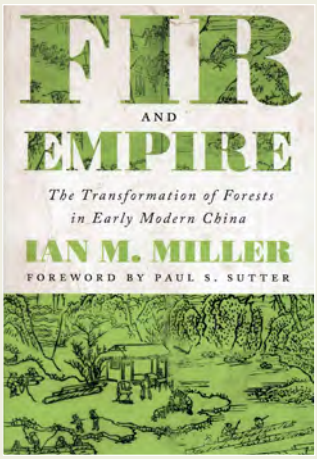
In ***Hetch Hetchy: A History in Documents*** (Broadview Press, 2020), Char Miller has compiled documents, images, and commentary about the environmental history of the Hetch Hetchy Valley, located inside Yosemite National Park, that spans pre-European incursion to the present. Hetch Hetchy became the subject of national debate in the early 1900s when the federal government proposed building a dam that would flood the valley, a decision opposed by the Sierra Club, led by preservationist John Muir. Debate over removing the dam still continues. Ironically, the federal government controlled the land only after the forced removal of Native Americans to establish the park in the first place. Interspersed between the four sections covering its long history are image galleries with reproductions of additional documents and historical images that will foster further discussion and examination by students.

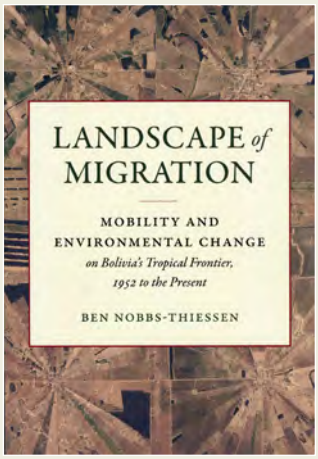
Lowell E. Baier's ***Saving Species on Private Lands: Unlocking Incentives to Conserve Wildlife and Their Habitats*** (Rowman and Littlefield, 2020) is a guide to conserving wildlife on privately owned parcels, where more than seventy-five percent of at-risk species can be found. Baird, an attorney and a legal and environmental historian, introduces readers to land management planning and regulatory compliance with laws, tools to implement conservation on private lands, and opportunities for financial and technical assistance. The book provides landowners and their partners with a roadmap to achieve conservation compatible with their financial and personal goals.

David Fedman, in ***Seeds of Control: Japan's Empire of Forestry in Colonial Korea*** (University of Washington Press, 2020), explores Japanese imperialism through the lens of forest conservation in colonial Korea from 1905 until World War II, when the tree planting stopped and natural resource exploitation accelerated. Fedman examines the roots of Japanese ideas about the Korean landscape, how imperial Japan tried to control both the land and the Koreans who lived in or near forests, and the consequences and aftermath of Japanese









approaches to Korean "greenification" that linger still.

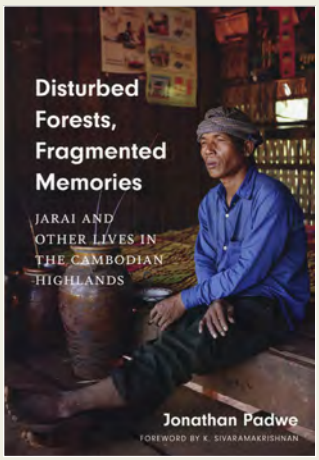
In ***Fir and Empire: The Transformation of Forests in Early Modern China*** (University of Washington Press, 2020), Ian M. Miller charts the rise of timber plantations in China between about 1000 and 1600 CE and demonstrates how this form of forest management relied on private ownership with distant state oversight and taxation. The account overturns the long-held assumption that China's forest history was simply one of deforestation over centuries. Rather, Miller argues, this novel landscape was created by attempts to incorporate institutional and ecological complexity into a unified imperial state. He suggests that China's forest system may have worked better than the more familiar European institutions.

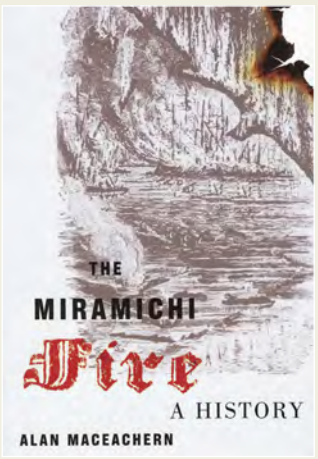
Landscape of Migration: Mobility and Environmental Change on Bolivia's Tropical Frontier, 1952 to the Present (University of North Carolina Press, 2020) examines what happened in the wake of a 1952 revolution, when leaders of Bolivia's National Revolutionary Movement (MNR) embarked on a program of internal colonization. The MNR sought to convert the nation's "undeveloped" Amazonian frontier into farmland, hoping to achieve food security, territorial integrity, and demographic balance by moving hundreds of thousands of indigenous Bolivians from the Andes to the tropical lowlands. Ben Nobbs-Thiessen details the multifaceted results of this migration on the environment of the South American interior.

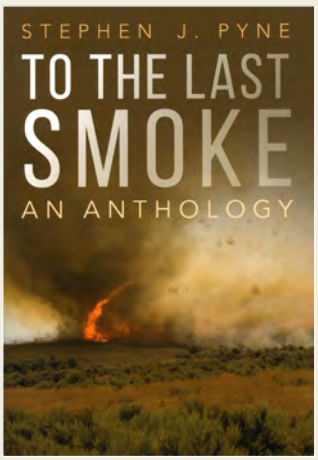
Jonathan Padwe uses anthropology and political ecology to tell an environmental history story in ***Disturbed Forests, Fragmented Memories: Jarai and Other Lives in the Cambodian Highlands*** (University of Washington Press, 2020). Focusing on the village of Tang Kadon in the northeast Cambodia highlands, where rice farmers of the Jarai ethnic minority group are trying to rebuild their complex, highly diverse agricultural system after decades of violence and dispossession, Padwe examines the ecological issues from the perspective of the land itself.

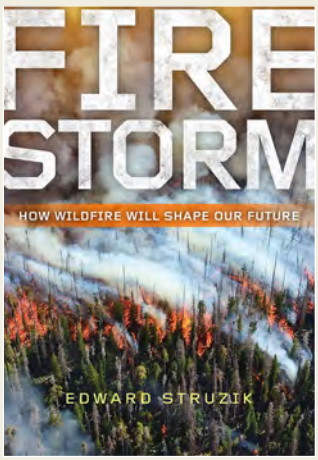
The Miramichi Fire of 1825 was the largest wildfire in the British Empire and one of the largest in North American history. In ***The Miramichi Fire: A History*** (McGill-Queen's University Press, 2020), Alan MacEachern reexamines the history of the massive blaze that swept through New Brunswick, Canada, places it in the context of the changing relationships between humans and nature in colonial British North America, and considers how the fire was mostly lost to historical memory.

In ***To the Last Smoke: An Anthology*** (University of Arizona Press, 2020), fire historian Stephen J. Pyne concludes his multivolume series on wildfire in the United States. Here are all his best observations on Florida, California, the Northern Rockies, the Great Plains, the Southwest, the Interior West, the Northeast, Alaska, and the Pacific Northwest, to which he adds new ones, in a single, readable volume: it's like a greatest hits compilation. Edward Struzik looks ahead in ***Firestorm: How Wildfire Will Shape Our Future*** (Island Press, 2019), a detailed examination of wildfires in the age of climate change.









He warns how rising temperatures, stronger winds, and drier lands are leading to destructive wildfires, and how forest management policy must continue to adapt and evolve.

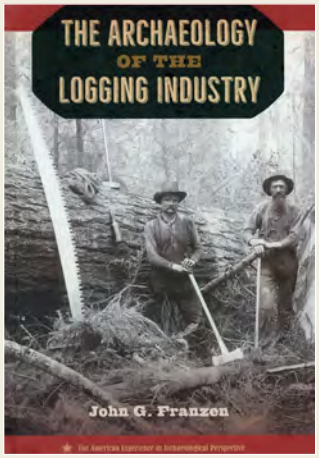
A fresh alternative to traditional histories, ***The Archaeology of the Logging Industry*** (University Press of Florida, 2020) comes from a retired U.S. Forest Service archeologist who has studied logging sites of the nineteenth and twentieth centuries across the United States and surveyed the archeology research literature. John G. Franzen applies a historical archeological perspective on the technologies used in cutting and processing logs, the environmental effects of harvesting timber, the daily lives of workers and their families, and the social organization of logging communities.

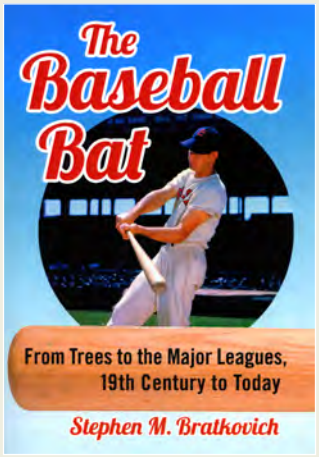
The titles nearly say it all for these books. ***The Baseball Bat: From Trees to the Major Leagues, 19th Century to Today***, by Stephen M. Bratkovich (McFarland & Company, 2020), a retired forester and wood products specialist with the U.S. Forest Service, even discusses the impact of insects and diseases on the wood species used for bats. ***Chainsaws: A History*** (Harbour Publishing, 2020), by David Lee, is an illustrated account of chainsaws from the nineteenth century to the present in Europe and North America. In ***The Conservation Constitution: The Conservation Movement and Constitutional Change, 1870–1930*** (University Press of Kansas, 2019; Charles A. Weyerhaeuser Book Award cowinner), Kimberly K. Smith traces how the first conservation movement reshaped constitutional doctrine to expand government authority to manage wildlife, forest and water resources, and pollution. ***Douglas Fir: The Story of the West's Most Remarkable Tree***, by Stephen F. Arno and Carl E. Fiedler (Mountaineers Books, 2020), gives the natural and cultural history of one of the most iconic trees of the U.S. West. And ***The Mills That Built Coos Bay, Oregon and the Men Who Made It Happen***, by William A. Lansing (Bridge View Publishing, 2020), thoroughly chronicles that once-critical coastal lumber town, beginning in the mid-1850s.

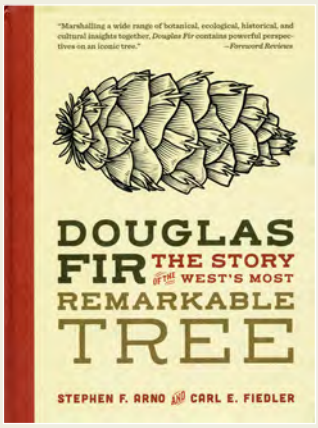
VISUAL MEDIA

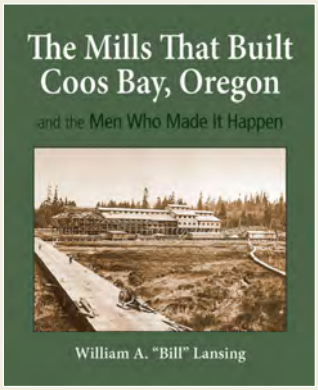
Did you know that more people have walked on the moon than have through-hiked the Grand Canyon? In 2016, filmmaker-photographer Pete McBride and writer Kevin Fedarko set out to hike its 750 miles. Their film ***Into the Canyon*** (Insignia Films Production and Pete McBride, 2020) documents that epic effort and highlights the many threats to the canyon's beauty and integrity posed by various developers.

Beatrix Farrand designed some of the most celebrated gardens in the United States and helped create a distinctive American style in landscape architecture, in part through her use of native plant species. In the film ***Beatrix Farrand's American Landscapes*** (Insignia Films Production, 2020), award-winning public garden designer Lynden B. Miller explores the remarkable life and career of America's first female landscape architect, who was one of the eleven founding members, and the only woman, of the





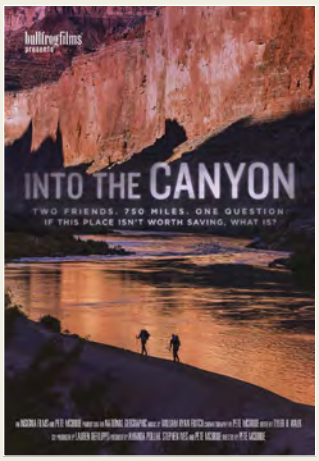


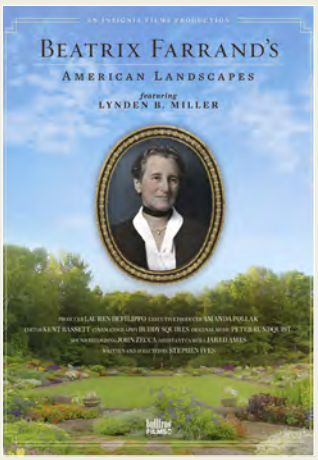


American Society of Landscape Architects.

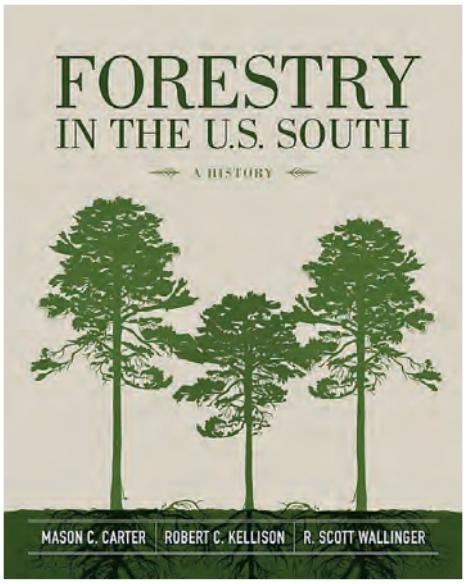
Chuck Leavell: The Tree Man (PalMar Studios, 2020) tells the story of the in-demand rock keyboardist who is also an award-winning tree farmer, conservationist, and author of books on forest history and sustainable forestry. Leavell most famously played with the Allman Brothers and, since 1982, the Rolling Stones. He and his wife were named 1999 National Outstanding Tree Farmers of the Year. Among his accolades for his conservation and education efforts is an Honorary Forest Ranger award from the U.S. Forest Service.

The West Is Burning (Landmark Stories at University of Arizona and Wallowa Resources), a documentary, recounts the history of forest management and litigation in the western United States to help viewers understand why residents now find themselves in an "era of megafire," as the filmmakers term it. The film goes beyond recent fire history to show the potential for private, public, and nonprofit entities to restore forestland and communities through collaborative forest stewardship. The film's website (westisburning.org) offers a way to make short films from the documentary's video footage, plus contact information for organizations working to improve the fire resilience of western forests.





Forestry in the U.S. South



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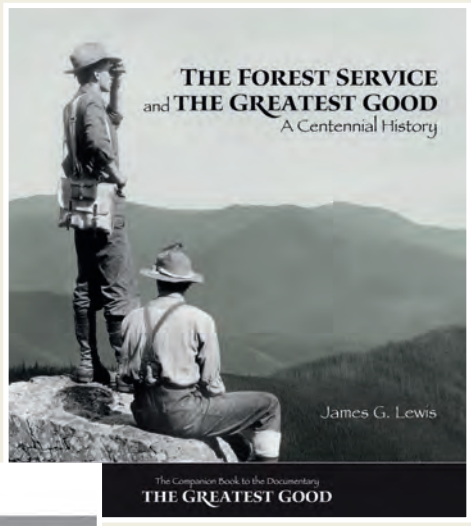

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We are honored to recognize these individuals for their legacy commitment to the Society's future:

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WELCOME NEW FHS MEMBERS!

*We are delighted to welcome these new members who joined during fiscal year July 1, 2019 – June 30, 2020. Members indicated with an * hold joint membership in FHS and the American Society of Environmental History.*

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Susan G Sterrett*
Steve Wilson
Pete and Rochelle Stewart Family Foundation
Oscar Traczewitz II
We Love Trees Colorado
Kenneth West Jr.*
Qin Yao*

Angel, Joyce: 1 *Use Book*; *Proceedings from First National Conservation Congress, 1909*.

Bathgate, Kristi: Two wooden boxes of original lumber company wood samples. One of the boxes labeled National Lumber Manufacturers Association. Original promotional items.

Bennett, Karen: Copies of *Women in Forestry* magazine from 1983–1986.

Burak, Steve: *Timber Tax* journals, forestry publications, and various materials from Sizemore and Sizemore Company, including oversize scrapbooks on forest mapping and surveying.

Case, John P.: 6 books containing original lumber store tokens (coins). Also, a *Catalogue of Lumber Company Store Tokens* book by Terry N. Trantow.

Clocker, Joe: 4 rolled forest maps; Constantine's rare collection of wood samples; a mountain cookset; tree scale; U.S. Forest Service reports.

Fege, Anne: 1 box of issues of *Women in Forestry* (16 issues) and *Women in Natural Resources* (67 issues) magazines, from 1981 to 2003.

Gunderson, Dave: 8 books: *Splinters: The Story of a Lumber Company, a Loving Family, a Living Church, a Loyal Community* by Bernie Niehaus; *The Geography of Hope: A Tribute to Wallace Stegner* edited by Page and Mary Stegner; *Landscape and Legacy: The Splendor of Nature, History, and Montana's Rocky Mountain Front* by Dr. John A. Vollertsen; *The First Ranger: The Stories of Frank Liebig and Fred Herrig*, edited by C. W. Guthrie; *The Blue Ridge Parkway by Foot: A Park Ranger's Memoir* by Tim Pegram; *Harry's Trees* by Jon Cohen; *Lives of Conifers* by Graham R. Powell; *Wild Things, Wild Places: Adventurous Tales of Wildlife and Conservation on Planet Earth* by Jane Alexander.

Korb, John: A box of original slides taken by donor on the NezPerce National Forest, 1956–1961.

Larson, Philip: A box of personal papers and forestry research (to add to a previous donation of materials).

Linthicum, Dave: 2 copies of 1982 map of Schenck Forest (Wake County, NC).

Nordman, Carl: 1 box of books from NatureServe office library. Books relating to forestry and conservation, as well as USFS publications.

Payne, Brian: 2 boxes of forestry books, U.S. Forest Service publications, reports, and more. Materials relating to the life of Paul Logan.

Scott, Ronald E.: 2 photo record books from Huron-Manistee National Forests, 1985.

Small, Gordon: "Forest Revenue Sharing: History, Alternatives, and Issues," thesis by Patrick H. Corts; *Forest Statistics for the Mountain Region of North Carolina, 1955* by James F. McCormack; F*orest Statistics for the Mountains of North Carolina, 1990*; *Forest Resources of the Mountain Region of North Carolina* by J. W. Cruikshank.

Taylor, Frank: Book: *Generations of Pride: A Centennial History of International Paper* (1998).

White, Cybelle: 6 original paintings by W. B. Laughead of Paul Bunyan and logging scenes.

Williams, Claire: Box of books, reports, and conference proceedings relating to forest management, prescribed fire, forest genetics, and more. Includes Southern Forest Tree Improvement Conference proceedings, volumes 16–21; *The Pines of Mexico* by Jesse P. Perry, Jr.; *Breeding Tropical Trees*, edited by G. L. Gibson, et al.; IUFRO Conference, Breeding Tropical Trees group proceedings 1992; *The Status of Temperate North American Forest Genetic Resources; A Handbook of Graphical Solutions to Forest Biometric Problems* by Fan H. Kung; Animal Model BLUP Erasmus Intensive Graduate Course outline by B. W. Kennedy, 1989.

The Forest History Society Awards program enables the Society to recognize research and writing in forest and conservation history and to stimulate further research into our understanding of the relationships of people and forests. The following is a list of awards for 2018–2019.

THEODORE C. BLEGEN AWARD

The Theodore C. Blegen Award recognizes the best article in the field of forest and conservation history that is not published in *Environmental History*. Articles are submitted by editors of scholarly journals.

The 2020 winner is **Bathsheba Demuth** for her article "The Walrus and the Bureaucrat: Energy, Ecology, and the Making of State in the Russian and American Arctic, 1870–1950," published in *American Historical Review* (April 2019): 483–510. Her work traces how ecological context shaped the actions and ambitions of the United States and the Soviet Union, through a comparison of their use of the Pacific walrus. Based in the shared environmental context of the Bering Strait, it examines how the two countries implemented opposing ideological projects in the Arctic, expecting to increase production and by doing so make Indigenous peoples into capitalist or socialist citizens. In an environment impossible for agriculture and difficult for industry, walrus harvesting became one of the few productive options for these ambitions. Between the 1870s and the 1950s, both the United States and the USSR experimented with massive harvests of blubber and ivory to feed ideas of economic growth, before adopting mirrored conservation policies.

CHARLES A. WEYERHAEUSER BOOK AWARD

The Charles A. Weyerhaeuser Book Award rewards superior scholarship in forest and conservation history. The judges awarded two books as the best for 2020.

Andrea E. Duffy was named co-winner for *Nomad's Land: Pastoralism and French Environmental Policy in the Nineteenth-Century Mediterranean World* (University of Nebraska Press, 2019). Duffy investigates the relationship between Mediterranean mobile pastoralism and nineteenth-century French forestry through case studies in Provence, French colonial Algeria, and Ottoman Anatolia. By restricting the use of shared spaces, foresters helped bring the populations of Provence and Algeria under the control of the state, and French scientific forestry became a medium for state initiatives to sedentarize mobile pastoral groups in Anatolia. Locals responded through petitions, arson, violence, compromise, and adaptation. Duffy shows that French efforts to promote scientific forestry both internally and abroad were intimately tied to empire building and paralleled the solidification of Western narratives condemning the pastoral tradition, leading to sometimes tragic outcomes for both the environment and pastoralists.

Sharing the award is **Kimberly K. Smith** for *The Conservation Constitution: The Conservation Movement and Constitutional Change, 1870–1930* (University Press of Kansas, 2019). In the mid-nineteenth century, most Progressive Era conservation policies would have been considered unconstitutional. Smith traces how, between 1870 and 1930, the conservation movement reshaped constitutional doctrine to its purpose—how, specifically, courts, and lawyers worked to expand government authority to manage wildlife, forest and water resources, and pollution. Her work, which highlights a number of important Supreme Court decisions often overlooked in accounts of this period, brings the history of environmental management more fully into the story of the U.S. Constitution. At the same time, illuminating the doctrinal innovation in the Progressives' efforts, her book reveals the significance of constitutional history to an understanding of the government's role in environmental management.

FREDERICK K. WEYERHAEUSER FOREST HISTORY FELLOWSHIP

The F. K. Weyerhaeuser Forest History Fellowship is awarded annually to a student at the FHS university affiliate, Duke University, whose research is historical in nature and related to forestry, land use, or the environment.

Jacqueline Gerson is a PhD candidate in the University Program in Ecology at Duke University. Her research, entitled "Determining Historical and Current Impacts of Artisanal Gold Mining on the Peruvian Amazon," involves leveraging field samples, satellite records, and dating of tree cores to understand historical patterns associated with land cover and mercury use in the Amazon River basin and their consequences on ecological and human health. This project seeks to address three questions: How did the landscape change due to gold mining impacting the input and storage of mercury in forested landscapes? How do forest structures and soil characteristics influence the processing of mercury into the more biologically available form of methylmercury? And what legacies of mercury can be traced using tree core analysis?

LEOPOLD-HIDY AWARD

The Aldo Leopold-Ralph W. Hidy Award honors the best article published in the journal *Environmental History* during the preceding year. The award is presented jointly by the American Society for Environmental History and the Forest History Society.

The 2020 recipient is **Andrew C. Baker**, an assistant professor of history at Texas A&M University–Commerce, for his article, "Risk, Doubt, and the Biological Control of Southern Waters," (April 2019): 327–50. Baker's article traces early efforts to combat the invasive aquatic plant hydrilla in the southeastern United States. In a region identified with resilient and fast-growing invasive species like kudzu, hydrilla fit right in. Resistant to pollution, adaptable to various water environments, and nearly impossible to eradicate, hydrilla outcompeted its native counterparts, spreading across the South within two decades of its introduction to a canal in Florida in the 1950s. By the 1970s, the threat the plant posed to the booming lakefront development industry in the South alarmed politicians, who grew frustrated by the fact that scientific studies produced as much uncertainty as consensus. The resulting efforts to control hydrilla, which culminated in the introduction of another exotic species—white amur fish—entailed a separate set of environmental consequences and, tellingly, as Baker shows, owed more to politicians than to scientists or cautious regulators.

JOHN M. COLLIER AWARD FOR FOREST HISTORY JOURNALISM

John M. Collier was a New Orleans journalist skilled in many areas of communication, including advertising and sales promotion, and public, government, and media relations. He was a working scholar and a prolific writer of articles and special features for forest industry press publications. Established to honor his memory, the Forest History Society's John M. Collier Award encourages excellence in journalism that incorporates forest and conservation history.

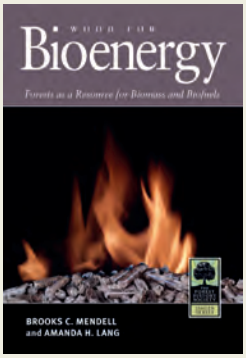
Diana Kruzman, a freelance reporter earning her master's degree in Journalism and Near East Studies at New York University, won with her article, "India's Sacred Groves Are Disappearing, Taking Biodiversity and Culture with Them." Published online on November 30, 2019, by *Earther*, Kruzman tells the story of the loss of small and increasingly isolated sacred old-growth groves of southern India and their gradual destruction due to competing interests. These groves have been continually divided among farmers and individual heirs by law. Their classification as "revenue lands" have kept them from the benefit of protection as forest reserves or areas prioritized for conservation.

WALTER S. ROSENBERRY FELLOWSHIP IN FOREST AND CONSERVATION HISTORY

Walter S. Rosenberry, a long-time supporter and Forest History Society board member, provided the Society's first endowment in support of its awards program. The fellowship provides a stipend to support the doctoral research of a graduate student attending a university in North America whose research contributes to forest and conservation history.

Caitlyn Dye is a PhD candidate in the Department of Anthropology at the University of Illinois in Chicago. Her research project, "The Water Factory: Governing Nature in an Andean Forest from the National Revolution to the Climate Crisis," is an interdisciplinary project that blends historical and ethnographic methods to investigate how foresters, park officials, and local peasants have imagined and produced the Tunari forest since it was established as a national park during the period of the Bolivian National Revolution. Her work highlights three historical conjunctures in the making of Tunari: the National Revolutionary period of the 1950s and 1960s during which the Tunari forest was established as a national park; the period of the 1980s and 90s in which park law was transformed in tandem with a reimagining of the significance of the forest; and the period of 2006–2019, during which climate change came to be a dominant lens within Bolivian environmentalism.

FOREST HISTORY SOCIETY ISSUES SERIES



Wood for Bioenergy
by Brooks C. Mendell & Amanda Lang
88 pp; 10 photos; 18 figures

Today, as much of the world seeks to reduce dependence on fossil fuels, energy companies and nations alike are turning once again to our oldest renewable energy resource—wood. Both developing and industrialized countries are increasing their use of wood biomass as a direct substitute for fossil fuels for heating and producing electricity.

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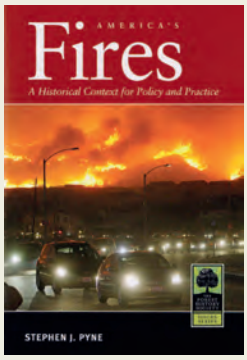

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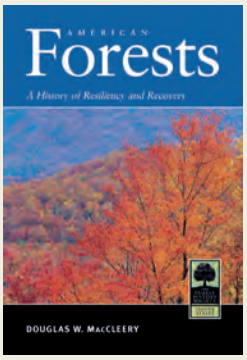
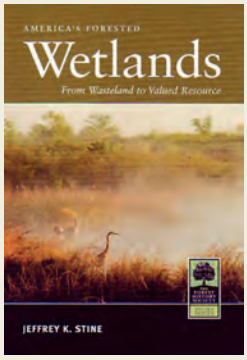


American Forests
by Douglas W. MacCleery
65 pp; 36 photos; 18 figures



America's Forested Wetlands
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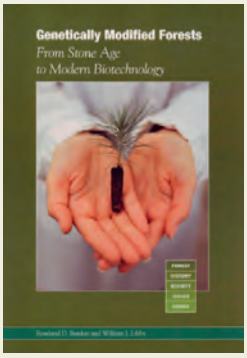

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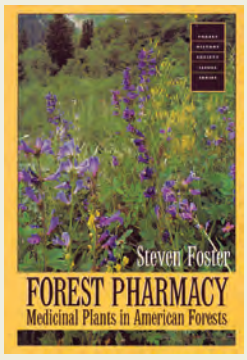

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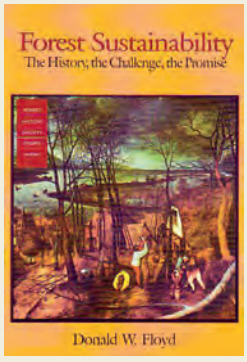

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Patricio Moreno Rojas, a ranger in the Monarch Butterfly Biosphere Reserve in Mexico, holds a storm-damaged monarch in December 2018. To learn about the connection of butterflies to forest history, turn to page 4.