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The Passing of Northern Pass

Reflection on a nine-year fight that halted a power line through the White Mountains

Kenneth Kimball



THE NORTHEAST'S LANDSCAPE IS LITTERED WITH THE ENVIRONMENTAL and social impacts of poorly conceived, large-scale infrastructure projects, many of which did not have to scale back in any significant way, not even when people protested. The environment lost. Davids fought Goliaths, but the Goliaths had almost limitless funds. Consider the large, rural landfill projects questionably permitted in New Hampshire and Maine that profit from in- and out-of-state hauled trash; trash derived largely from the successful packaging and plastics industries' lobbying powers that promote false recycling labeling and uneconomical recycling programs at consumers' and municipalities' expense.

This story, though, is about one large project that ultimately failed after major protests. The story of Northern Pass ended like the original biblical story thanks to the tenacity of the people of New Hampshire, an informal coalition of grassroots groups, municipalities, the Appalachian Mountain Club, and New Hampshire environmental organizations that included the Society for the Protection of New Hampshire Forests (SPNHF) and the Conservation Law Foundation (CLF).

Northern Pass was a corporate partnership between Eversource, the large New England utility, and the Province of Quebec's government-owned Hydro-Quebec power company. Created in 2010, the \$1.6 billion project proposed to bisect New Hampshire with a high-voltage transmission line from Canada to Massachusetts. This line would carry 1,200 megawatts of the company's electricity to the lucrative energy-demand center of greater Boston. As first proposed, the 192-mile-long portion through New Hampshire would have included a 32-mile-long corridor through the area of northern Coos County known as the Great North Woods. Then it would cut through the White Mountain National Forest and encroach on the Appalachian Trail. The project would have introduced over 1,500 new steel lattice towers two or three times higher than the surrounding trees. Where it would have shared existing transmission corridors, Northern Pass would have widened the corridor, increased tower heights, or added new towers.

Northern Pass became one of the most contested environmental issues in New Hampshire's history. When it first surfaced, neither its advocates nor its opponents imagined it would become an exhausting nine-year marathon

Activists flew balloons like this to illustrate what 135-foot-high transmission towers would look like. This one is flying in Bethlehem, New Hampshire, during a celebration after state regulators rejected the Northern Pass project. JERRY AND MARCY MONKMAN/ECOPHOTOGRAPHY

struggle that finally ended on July 19, 2019, in New Hampshire Supreme Court. Three times before, large New Hampshire development projects had failed or been modified after major public protests, all which made Northern Pass opponents hopeful during their struggle. In 1970, the federal government yielded to conservationists when it scaled back plans for an interstate highway through Franconia Notch. In 1974, Durham, New Hampshire, voters defeated an oil refinery shipping magnate Aristotle Onassis wanted to build. In the 1980s, large demonstrations at the site of the Seabrook Nuclear Power Station resulted in only one of two reactors being built.

AMC previously has opposed large-scale infrastructure projects on the Northeast's landscape.¹ In the 1950s AMC engaged successfully against the controversial Tocks Island proposal to dam the Delaware Water Gap in Pennsylvania and New Jersey. Then in the 1960s and 1970s came the successful pressure on the federal government to modify the proposed four-lane Interstate 93 through Franconia Notch. In the 1980s AMC helped to keep the proposed North Conway bypass out of the WMNF, and from the 1990s to the present it has leveraged major environmental mitigation for hydroelectric dam impacts on the publicly owned rivers in New England when they come due for relicensing. AMC also has helped stop inappropriately sited mountaintop wind farms, one of which would have abutted the Appalachian Trail in Maine and two of which would have closely surrounded New Hampshire's Cardigan Mountain State Park and AMC's Cardigan Lodge.

But as a 501(c)(3) nonprofit, AMC must by law be selective on which environmental challenges it takes up. It must consider the cost and whether the cause matches its mission. AMC must be prepared to engage long term and must bring creditable science to its debates. Considering all that, and relying on its environmental policies, AMC considered Northern Pass a mega-infrastructure project of major concern.

Northern Pass: A Fairy Tale

Northern Pass's public relations campaign sold the project as meeting the region's energy demand while reducing greenhouse gas emissions in the New England electricity markets. Hydro-Quebec claimed that its "clean" hydroelectric power would reduce the amount of electricity generated by fossil

¹ K. D. Kimball and M. Zakutansky, "Transmission Repercussion: The Price of Transporting Power through the Northeast," *Appalachia*, 64 no. 2 (2013): 20–27.

fuels, thereby (it said) offsetting the scar on New Hampshire's landscape with substantial reductions in greenhouse gas emissions, particularly in Massachusetts. So why would AMC question this proposed 1,200-megawatt project that would import more than the output of New Hampshire's Seabrook Nuclear Power Station? Because Northern Pass was a fairy tale: The facts did not align with its official story lines. The information presented by its million-dollar "experts" was false and ignored the fact that the technologies of today offered far better alternatives to meet the same needs.

Was the project really needed? ISO-New England, which oversees the New England electric grid's daily use and future needs, ruled that Northern Pass was not necessary to meet New England grid needs. ISO-New England determined instead that Northern Pass was just another commercial project competing on the New England grid. This decision meant that Hydro-Quebec could not seek to take land using the power of eminent domain.

Would Northern Pass reduce greenhouse gas emissions? Connecticut, Rhode Island, and Massachusetts had passed legislation for the procurement of significant amounts of "green energy" to address climate change. Those goals are noble, but the three states sought the least expensive projects with minimal concern over impacts outside their borders. They also did not determine how atmospheric reductions in greenhouse gases would be quantified. This lack of concern by the states that apparently needed the power from Northern Pass proved to be a sticking point in New Hampshire, which would be absorbing all the environmental impacts for other states seeking cheaper power.

Then there was the fact that the largest bidding companies in the Northern Pass plan, Eversource and National Grid, held seats on the Massachusetts committee that evaluated such projects and thus held an advantage over 40 other green power proposals. Hydro-Quebec was covering its bases too, bidding with different transmission partners and technologies in Maine and Vermont, where it planned to bury the line underground even though it had first said burying it was not feasible.

One cannot overlook the huge environmental disruption of one of the largest river-replumbing projects in the world, affecting most of the watersheds in Quebec and Labrador. Hydro-Quebec's reservoir system floods an area nearly the size of New Hampshire; its largest reservoir is more than 21 times the size of Lake Winnepesaukee. The power stations on the La Grande River divert more than 3.5 times the annual flow of the major river watersheds in New Hampshire combined (the Androscoggin, Saco, Merrimack, and Connecticut).



La Grande-1, one of 63 hydropower generating stations and 28 reservoirs run by Hydro-Quebec. Its reservoirs flood huge swaths of boreal forest and divert many rivers. WIKIMEDIA COMMONS

Environmental impacts aside, would Northern Pass, using Hydro-Quebec hydroelectric power, reduce greenhouse gases emissions as it proclaimed? If Northern Pass uses new Hydro-Quebec power, one should account for the new reservoir flooding of boreal forest (which has sequestered carbon in its biomass) and for the release of methane from the flooded soils. Methane is a greenhouse gas considerably more potent than carbon dioxide. Newly flooded boreal reservoirs, over their lifetime, may emit carbon dioxide, at a rate from a third to two-thirds that of a natural gas combined-cycle plant. If Hydro-Quebec intended to repurpose its existing hydroelectric power sales from lower-priced markets in New York and Ontario to the higher-priced market in Massachusetts, then the atmosphere would see only negligible greenhouse gas emission reductions as this diversion of power likely would require a fossil-fuel substitute. Both in New Hampshire's permitting process, and later in Maine's, Hydro-Quebec has refused to reveal under oath which plan is really in play. At the same time, Hydro-Quebec still claims its power is greenhouse gas neutral. And though Massachusetts selected Hydro-Quebec

as its source of power, the Massachusetts attorney general's experts questioned whether the Hydro-Quebec contract with the state guarantees incrementally "qualified clean energy."

Northern Pass Approached AMC in 2010

In a divide-and-conquer strategy, Northern Pass asked to meet, off the record, with Susan Arnold, AMC's vice president for conservation, and me. Northern Pass wanted AMC to suggest minor changes and mitigation—mitigation would be offset projects or programs to reduce the high-transmission line's environmental impacts. Northern Pass was making similar sales pitches to other environmental organizations and affected towns. Northern Pass presumed that major changes to the project, let alone denial of it, were not on the table. AMC's reaction, like that of many others, was, "Whoa. Not so fast." It was clear that this project would permanently scar New Hampshire's landscape for centuries to come. The Great North Woods, the WMNF, the Appalachian National Scenic Trail, New Hampshire State Parks, protected rivers, scenic highways, and the backyards of many people would all be affected, in many cases severely. Minor tweaks and minimal mitigation would not suffice. Following these so-called courtesy visits to AMC and other groups, in October 2010 Northern Pass filed with federal agencies a 26-page application for a presidential permit from the U.S. Department of Energy and a special use permit from the WMNF. The presidential permit was required because the project would cross an international border. The application left out most details of the construction, size, and environmental impacts but concluded with glowing statements about the benefits of reductions in greenhouse gas emissions and minimal environmental disruption.

An impasse soon followed. The legal battlegrounds were the required federal and state processes that permitted and certified energy projects; there were also, of course, public-opinion and political battlegrounds. Northern Pass would need many permits and certifications, but the three crucial ones were the presidential permit, the special use permit, and a certificate from New Hampshire's permitting entity for energy infrastructure projects, the New Hampshire Site Evaluation Committee (SEC). A single review process by the DOE would evaluate the first two, because both were federal permits, but each federal entity would issue its own separate decision. None of the three required U.S. permits considered impacts in Canada.



This photo simulation shows how Northern Pass's towers, as first proposed, would have looked to hikers crossing under them on the Appalachian Trail in Lincoln, New Hampshire. U.S. DEPARTMENT OF ENERGY

AMC cartographer Larry Garland and I quickly kicked into gear by conducting a preliminary landscape assessment of the project's probable visual impact to make up for the dearth of information Northern Pass itself provided. Using field visits and computer-generated visual footprint models with the best available data, we determined that, just in the middle and southern segments, more than 95,000 acres, including the WMNF, the Appalachian Trail, multiple state parks, state scenic highways and designated rivers, and areas where it paralleled Interstate 93 as the gateway to the WMNF, were at risk of visual degradation by the large transmission towers. AMC made its report² publicly available in 2012. When Northern Pass finally released more specific tower location and height data as it pursued its federal permits, AMC research staffers Cathy Poppenwimer, Georgia Murray, and I collaborated to develop a visual footprint impact model for a flyover simulation of the state resources that would be affected within a half-mile of the proposed towers. The video was released to the media in 2013 to help the public better

² L. Garland and K. Kimball, *Northern Pass Visual Impact Assessment* (Boston: Appalachian Mountain Club Research Department Report, 2012).

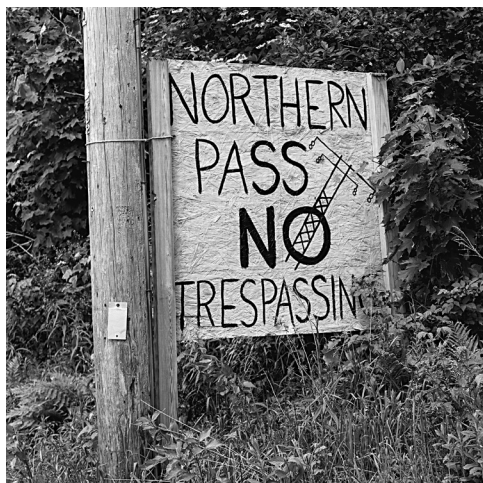
understand the landscape visually at risk. As AMC testified then, “This is more than big towers; it is big towers in some of the most important parts of the state relative to people who come to visit here and recreate.”

From the beginning of this multiyear battle, AMC and its allies argued that if the Northern Pass transmission line were to be built in New Hampshire, it should be buried in its entirety along an existing transportation corridor. Our rationale was that other proposed energy projects to bring Hydro-Quebec electricity through Vermont and Maine into southern New England would bury the lines either underwater or under land. And more cost-effective tools were available as alternatives to reduce greenhouse gas emissions and to meet customers’ peak-demand periods. Those alternatives included energy conservation, storing energy in batteries, and incentives to reduce periods of peak power demands. Peak energy demand is the most lucrative part of power contracts, and many solutions to the problem, though cheaper for consumers, are not financially rewarding for large power-producing and transmission companies.

The Grassroots Movement

By late fall 2010, New England residents began to learn that this massive transmission line proposed by Northern Pass would dominate their backyards from Canada to Massachusetts. They formed small groups that coalesced into larger groups. Citizen activists such as Susan Schibanoff,³ a retired English professor from the University of New Hampshire who lives adjacent to the WMNF, started a blog, *Bury the Northern Pass*, that featured the latest news, calls to action, and next steps. If ever there was an effective Paul Revere strategy to alert the public and keep it coordinated over the nine-year saga, it was her popular, factual, and informative blog. These groups organized periodic citizen workshops and invited AMC, SPNHF, CLF, and other groups, to suggest effective strategies during the complex permitting processes. State and federal politicians from both parties were also invited. Orange anti-Northern Pass placards sprouted like spring wildflowers in front of businesses and houses. The activists represented the whole political and socioeconomic spectrum up and down the state.

³ Susan Schibanoff is the author of an article in the *Appalachia* Winter/Spring 2021 issue, pages 104–115, “The Crawford Path in the News: White Mountain History and the Communications Revolutions.”



A homemade sign in Stewartstown, New Hampshire, opposed the Northern Pass project.

JERRY AND MARCY MONKMAN/ECOPHOTOGRAPHY

As a result, public hearings held during the state and federal permitting processes along the proposed corridor were crowded with local residents. Along with AMC, SPNHE, CLF, and other organizations was this sea of citizens clad in hunter orange who testified eloquently against this poorly sited project and the applicant's rosy analyses and who challenged misinformation about the project's probable damage. The dedication, professionalism, cleverness, and staying power of these thousands of grassroots citizens over almost a

decade made a huge difference. AMC encouraged its members through its Conservation Action Network to voice their opinions. The federal environmental impact statement (EIS) received over 7,560 comments, overwhelmingly in opposition. More than 8,000 people signed a petition in 2015 urging then-Governor Maggie Hassan to insist on the complete burial of Northern Pass. And the New Hampshire site evaluation certification process received over 1,102 written comments (742 of them non-repeating) in addition to oral testimony; 78 percent opposed the project as proposed, and of those 53 percent invoked potential visual impacts. State Senator Jeanie Forrester summarized it concisely: "It really is a testament to the people of New Hampshire, to their strength and fortitude, and to their commitment to preserve our landscapes. It was a battle of David versus Goliath, and we won."

Behind the Scenes: Determining the Rules of Engagement

In the less visible but no less important political world, AMC's Arnold coordinated with the New Hampshire congressional delegation to make sure that the federal environmental review process would be thorough. Working in the New Hampshire legislature, AMC and other conservation colleagues, along with citizen activists, secured passage of legislation requiring updated

rules governing how the New Hampshire SEC would review energy projects. AMC's senior scientist, Dr. Dave Publicover, proposed science-based environmental analysis requirements during countless meetings on the new rules. Many of his recommendations were incorporated into the final rules. These science-based requirements would later be used to separate the wheat from the chaff in the SEC's review. Early threats by the developers to use powers of eminent domain to complete the proposed corridor led to passage of New Hampshire House Bill 648 in 2012. Bill 648 prohibits any transmission line project to take land with eminent domain unless that project is a "grid reliability project," part of an effort to keep the electricity on everywhere even if part of the line experiences problems.

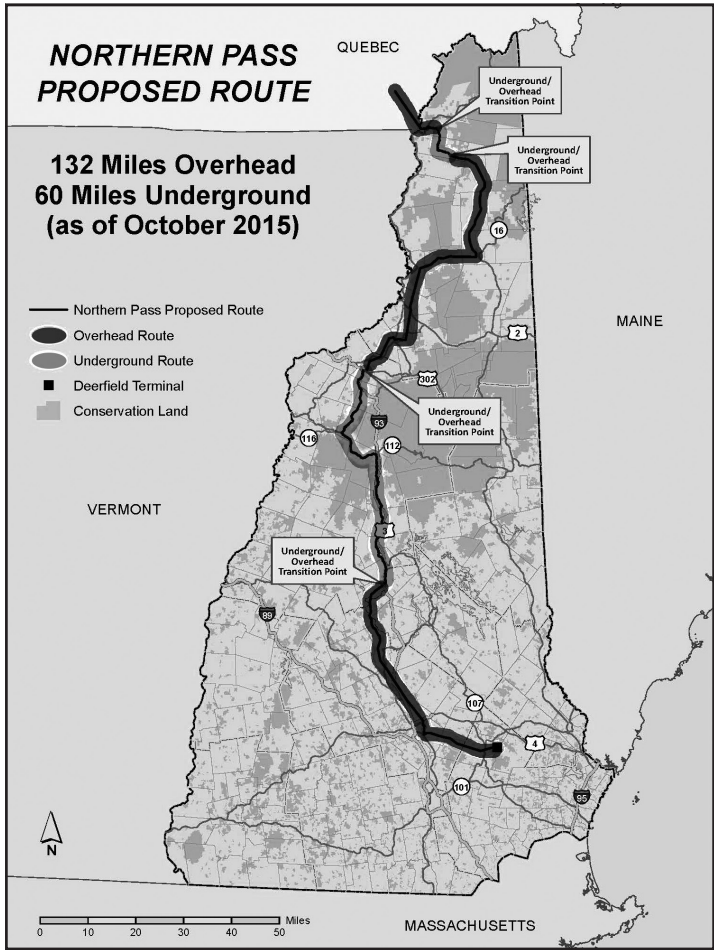
The Corridor's Land Chess Game

Now that Northern Pass lacked the power of eminent domain, the SPNHF, the state's largest land trust and with some of its own properties threatened, began an effective game of chess with Northern Pass's shell real estate entity by convincing landowners to sell conservation easements to SPNHF instead of selling their property or right-of-way easements to Northern Pass, despite Northern Pass's highly inflated above-market offers. In addition, Northern Pass failed to get permission to route its transmission corridor through the state's 171,000-acre Connecticut Lakes Headwaters conservation easement.

With the opposition united and deeply concerned about protecting the WMNF, it grew increasingly uncertain that Northern Pass would receive the required special use permit for the right-of-way. In October 2015, in a major reversal, Northern Pass suddenly said it could bury 60 miles of the 192-mile-long line. Northern Pass also said it could move its proposed overhead line out of the heart of the WMNF and that it would bury it beneath state and town roads. And after residents of Quebec protested, Hydro-Quebec agreed to bury portions of the line in Canada as well. The new burial route did not follow earlier ideas for more direct routes advocated by AMC, such as burying it entirely beside Interstate 91 in Vermont from Canada to the retired nuclear power plant in Vernon, Vermont. The Vernon plant was already grid wired to serve the Massachusetts electric market. In the end, Northern Pass spent over \$40 million to buy land in an attempt to snake the line through New Hampshire. And the project's proposed 60 miles of buried lines would be under narrow state roads through the towns of Franconia and Plymouth. Farther north, Northern Pass proposed to bury the line under town roads (without

town permission) that served local farms. With little credibility, Northern Pass’s out-of-state “experts,” who were paid millions of dollars, claimed such road closures would have no economic impact on businesses or tourism even though these roads in part or whole would be closed for months to accommodate the line burial.

With much ballyhoo, Northern Pass felt confident it could get this newly revised project with partial burial past the New Hampshire SEC; Northern Pass revised its federal applications and applied for a state certificate in October 2015. Accompanying this revised application was a \$200 million fund



Northern Pass’s modified proposed route before the New Hampshire Site Evaluation Committee. SOCIETY FOR THE PROTECTION OF NEW HAMPSHIRE FORESTS

called Forward New Hampshire, managed and overseen by Eversource, the Northern Pass developer that AMC described in public comments as “primarily a slush fund to enable Northern Pass to direct funding to where it most needs to bolster support or meet its internal needs.”

The Legal World Fight—Where the Crucial Certificate Decision Is Made

Between the removal of the proposed overhead line in the WMNF and the limitations on the issues considered during the presidential permit process, it seemed likely that Northern Pass would be permitted at the federal level. But the real test of the proposed project would be before the New Hampshire SEC, which uses an adjudicatory process including formal interventions and expert witnesses filing testimony subject to cross-examinations by all parties, including the state. Northern Pass filed its application in 2015, but it was incomplete. Northern Pass periodically asked for halts to make further revisions. What should have taken a year took two. The SEC permitting review process produced more than 20,000 pages, 2,176 exhibits, 70 days of evidentiary hearings, and multiple site visits. AMC staffers attended many of the hearings and site visits. There were 160 formal interveners, most of them opposing the project, including 23 of 31 affected municipalities. AMC was represented pro bono by retired lawyer and former AMC board member William Plouffe. AMC cartographer Larry Garland and I served as an expert witnesses on the inadequacies of their visual impact analysis. Our other expert witnesses included Chris Thayer, former AMC hut manager and director of North Country programming and outreach, who testified on New Hampshire’s outdoor recreation tourism market. AMC Assistant Research Director Dr. Dave Publicover testified on ecosystem impacts of the proposed 35-mile corridor.

Northern Pass’s experts, lawyers, and resources were substantial. They included the former commissioner and assistant commissioner of the New Hampshire Department of Environmental Services and the former chair of the New Hampshire Public Utilities Commission and SEC.

In the end, this corporate Goliath spent over \$318 million promoting its plan, while citizens, town officials, environmentalists, and the citizens groups, municipalities, environmental organizations, and the counsel for the public hammered away at misinformation. Days before the decision date by the New Hampshire SEC, the U.S. DOE and WMNF issued project-favorable permits for the revised application. And on January 25, 2018, one week

before the decision, the state of Massachusetts had selected Northern Pass as the winning bidder of its “clean” energy contract. New Hampshire Governor Chris Sununu also favored the project, and some protestors claimed he did so because of Eversource’s political contributions.

Then the New Hampshire SEC, acting on the four required criteria Northern Pass must meet:

- Ruled that Northern Pass did have financial, technical, and managerial capabilities.
- Determined Northern Pass would have an unreasonable adverse effect on the “orderly development of the region,” such as construction, traffic, tourism, land use, municipal views, regulations, property values, and more.
- Made no decision on whether Northern Pass would hurt aesthetics, historic sites, air and water quality, the natural environment, and public health and safety—because Northern Pass had failed the above criteria, and
- Did not rule on whether Northern Pass would serve the public interest because the project had failed the other criteria.

It was a nail-biting time. The first criterion passed on February 1, 2018. The next day, the committee voted unanimously to deny the permit, ruling that the Northern Pass expert opinions on tourism and property values were not credible. And the SEC ruled that the applicants had not proven Northern Pass “would not overburden existing land uses within and surrounding the right-of-way and would not substantially change the impact of the right-of-way on surrounding properties and land use.” The committee said that despite 70 days of hearings, 154 witnesses, and 2,000 exhibits, “we cannot find that the applicant has met its burden of proof.”

Stunned Northern Pass officials, who had assumed that money, hired ex-state officials, and expensive lawyers and consultants would win their way to a lucrative contract, soon thereafter petitioned for a decision review. They lost again and so took the case to the New Hampshire Supreme Court. Their argument, that the New Hampshire SEC decision did not follow due process, was poorly crafted and only vaguely substantiated. At the New Hampshire Supreme Court, AMC was represented by pro bono lawyers from Foley & Lardner, while a Harvard Law School student, Gabe Doble, helped draft an

excellent brief. On July 19, 2019, the court unanimously upheld the New Hampshire SEC's decision.

New Hampshire's landscape, the WMNE, and the economic vitality and quality of life enjoyed by the citizens and businesses of the threatened communities, were preserved.

There was no single hero of this tumultuous and draining campaign that took nine long years to win. Though the list of those who collaborated so effectively is too long to list here, AMC was proud to play its part alongside so many effective organizations, municipalities, and citizens.

Postscript

With the defeat of Northern Pass, Massachusetts selected another Hydro-Quebec partner, Central Maine Power (the New England Clean Energy Connect project), as its alternative bid winner. This project has many of the same defects as Northern Pass, including 53 miles of new corridor through the undeveloped forest of the western Maine mountains region. As in New Hampshire, the project has met strong opposition from local residents and municipalities, as well as from several conservation organizations including AMC. Though CMP has now spent over \$20 million in an extensive political campaign, polls suggest that 65 percent of Mainers oppose the project as proposed. However, based partly on greater environmental mitigation compared with Northern Pass, the state of Maine's permitting agencies approved the project in 2019 and 2020, and the required federal permits were issued in early 2021. In August 2021, a Maine superior court ruled Maine's Bureau of Public Lands did not analyze impacts on lands it would lease to the project, a requirement to determine if Maine legislature approval of the lease is required. As this journal went to press, Maine's Department of Environmental Protection will hold a public hearing on whether to suspend the permit it had issued, and in November a citizens' petition statewide referendum vote is on the November ballot.

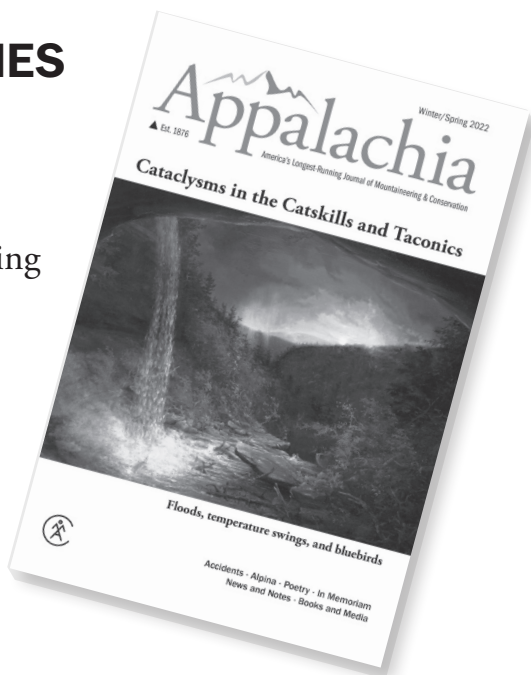
DR. KENNETH KIMBALL is the retired director of research for the Appalachian Mountain Club. He oversaw AMC's technical strategy in its opposition to the Northern Pass project and has represented AMC in other energy siting cases.

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