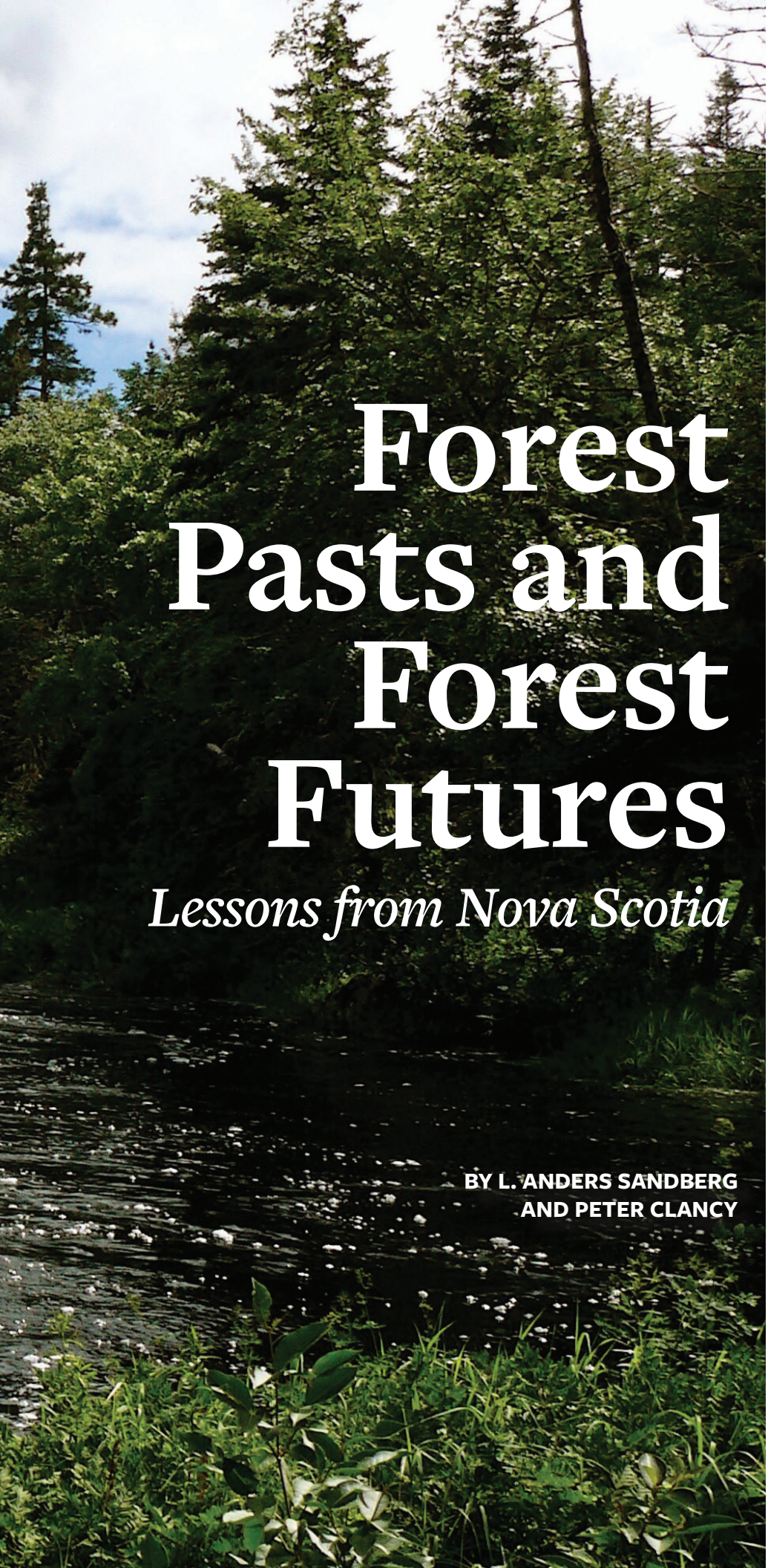

Forest Pasts and Forest Futures

Lessons from Nova Scotia

BY L. ANDERS SANDBERG AND PETER CLANCY

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Forestry in Nova Scotia is in transition. This review essay explores the potential for historical ideas and approaches to help the province find a new, more socially and ecologically responsible direction.

In this review article we consider the forest industry in eastern Canada, a once dominant region of the world's pulp and paper industry. Today, the globalized forest industry is divesting in the region while turning its attention and capital investments to the global South.[1] Using the province of Nova Scotia as a case study, we identify two directions for the future, one aligned with the pulp and paper industry with its associated industrial forestry practices, and another that is receptive to locally, socially, and ecologically focused alternatives. This second approach is grounded in a long, if neglected, tradition of alternatives to industrial forestry.

Several decades ago we were part of a project exploring the forest economies of Nova Scotia and New Brunswick. The ensuing book, *Trouble in the Woods: Forest Policy and Social Conflict in Nova Scotia and New Brunswick*, was published in 1992. Sandberg, the editor, took a broad approach, looking at how provincial governments had worked with pulp and paper companies to secure long-term leases for their wood supplies or exerting their monopoly powers to buy pulpwood from the provinces' numerous small woodlot owners. We also documented how the forest had been managed using industrial forestry practices, with clearcutting, monocultural tree plantations, and pesticides and herbicides, and how a corporate sector operating in compliant jurisdictions could exploit not just forests but also local communities, residents, small woodlot owners, and wildlife. The book occasioned sixteen book reviews

in both the academic and mainstream media. It was one of several that in the late twentieth century critiqued forestry in various jurisdictions, including Maine (*Beyond the Beauty Strip: Saving What's Left of Our Forests,* by Mitch Lansky, 1992), Canada (*Cut and Run: The Assault on Canada's Forests*, by Jamie Swift, 1983; *Lost Initiatives: Canada's Forest Industries, Forest Policy and Forest Conservation*, by Peter Gillis and Thomas Roach, 1986; and *At the Cutting Edge: The Crisis in Canada's Forests*, by Elizabeth May, 1998), and Indonesia (*Rich Forests, Poor People: Resource Control and Resistance in Java*, by Nancy Peluso, 1994).

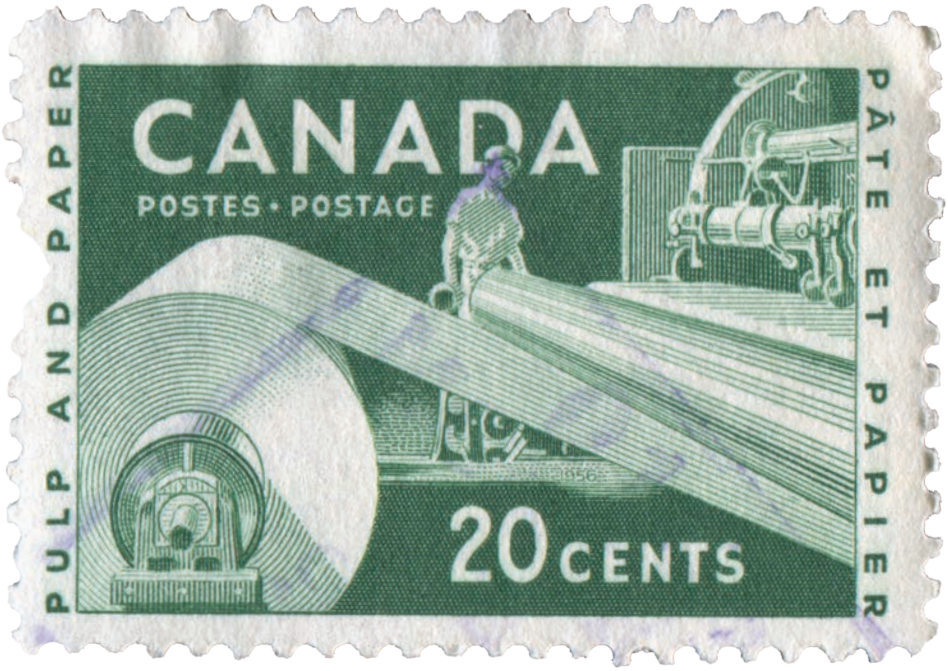
Almost a decade later, we were part of another project inspired by some of the foresters we had encountered in our research and travels in Nova Scotia. In writing *Against the Grain: Foresters and Politics in Nova Scotia*, published in 2000, we argued that foresters were not always the handmaidens of industrial forestry but, in fact, were a diverse group of professionals with strong views and convictions. They could provide insights into how to relate to the forest and its nonhuman inhabitants in respectful ways, even though they were not always able to express their views in public. We learned, among other things, that the conservation efforts of the province's first chief forester in the 1920s were scuttled by the patronage policies and rural politics at the time. We wrote about the colonial legacy of Nova Scotia in sawmilling, the rise of the pulp and paper industry, and the struggle between a public-minded forester and concession-focused politicians. We also wrote about how Nova Scotia, in contrast to neighboring New Brunswick, had resisted the pesticide spray option to fight a spruce budworm infestation, largely because a forest entomologist in the province's Department of Lands and Forests held different views on forest pests and forest ecology. The book also contained biographies of foresters who had worked for the welfare of the many small woodlot owners in the province by promoting their place in wood markets and managing their woodlots in effective and collaborative ways. We observed that the seemingly small day-to-day activities of people in the forest economy can make a difference.

Nearly two decades later, we returned to the subject of Nova Scotia forests to consider their development over the long term. We found ourselves in a similar position to the one almost thirty years earlier, but this time our approach was more historical than political and economic. We perceived Nova Scotia's forest history as having colonial, industrial, and pulp and paper forest industry stages, with an undetermined stage in the present. The advantage of writing over the *longue durée* is that you begin to see the weight of history on the present, but there is a corresponding danger—that the present and future can seem almost predetermined.

AT A CROSSROADS

In Nova Scotia, as elsewhere in the northern hemisphere, the forest industry is at a crossroads. Until recently, three pulp and paper mills—one established in the late 1920s and the other two in the 1960s—dominated the province's forest sector. But the global restructuring of the forest industry that began in the 1980s has had dramatic consequences for the industry.

The oldest of the province's three large pulp mills, at Liverpool in the southwestern part of the province, closed in 2012, selling all its lands and ceding its crown leases to the provincial government. A second mill, at Port Hawkesbury on Cape Breton Island, recently closed part of its operations, scaled down its employment, and has changed hands several times. Port Hawkesbury Paper's current pulp operation feeds a paper mill that produces super-calendered paper for retail inserts, magazines, and catalogs. The mill employs 325 workers and supports an additional 700 indirect



This postage stamp, issued circa 1956, celebrated the strength and central position of Canada's pulp and paper industry on a national scale. More than a half-century later, forest-related industries in Nova Scotia are in transition.

jobs, and can produce 400,000 tons of paper per year.[2] Vancouver-based investor firm Stern Partners, which purchased the mill in 2012, describes itself as operating twenty companies independently of each other, collectively generating $1.75 billion in revenue and employing 7,000 people.[3] The third mill, Northern Pulp, at Abercrombie in the middle of the province, produces 280,000 tons of kraft pulp annually and employs 300 workers.[4] It is owned by Paper Excellence Canada, a Vancouver-based pulp mill conglomerate that has grown from a single mill to a multinational group producing 2.7 million tons of pulp and paper and employing 2,300 workers.[5] Paper Excellence Canada is in turn owned by Asia Pulp and Paper, one of the largest pulp and paper companies in the world. Based in Jakarta, APP has a current annual combined pulp, paper, and packaging-grade capacity of more than 18 million tons per year.[6] All the pulp produced at the Nova Scotia mill is exported to one of APP's paper mills in Indonesia.

Those production and employment data indicate that the Nova Scotia operations are but a small portion of large corporations' global business. Yet the Nova Scotia mills continue to dominate the local raw wood market—holding large freeholds and crown leases, buying most of their pulpwood from woodlot owners, and buying wood chips from sawmillers who in turn may obtain sawlogs from the lands controlled by the pulp and paper companies. The current mill owners and their predecessors have also benefited from government tax breaks and grants, interest-free loans, subsidies, and other concessions to support their operations.

The pulp companies work to ensure continued support for their privileged corporate positions in the province. Northern Pulp, for example, for decades has caused severe air and water pollution in its neighborhood. In 2015, the Nova Scotia government, under pressure from the public, set a deadline of January 2020 for the company to install an alternative pollution abatement facility; the company is unlikely to meet that target date and has appealed to its constituencies to press elected officials for an extension—the implied threat being that a strict deadline will force Northern Pulp to close. The company set up a web page called "Northern Pulp cares about forestry families of Nova Scotia" with the following statement:

> Nova Scotia is home to many, many families who rely on our forests for their livelihood. Nova Scotia is also home to many Nova Scotians who may not directly depend on our forestry industry for their livelihood, however do indeed depend on the products it creates and the economic value it brings. The world wants—and needs—our products. The more voices we have now, the louder our collective voice will be in helping to guide our government to well-informed decisions about an industry that WE ALL rely on. **We are proud to be forestry families of Nova Scotia.**[7] [emphasis in the original]

The page has a form letter people can easily fill out and automatically send to their provincial legislators and the premier of Nova Scotia, expressing their support for extending the 2020 deadline. On the same web page, the company lists its supporting partners—rural lumber and sawmill companies. Since the late 1990s, when Northern Pulp's own chipping facilities ceased operations, these companies have built chipping infrastructure to provide the raw material for pulp. They also purchase their sawlogs from Northern Pulp's crown leases, and thus their fortunes, and those of their employees, are tied to the survival of the larger mill.

The provincial government has also promoted a biofuel industry that relies on cheap wood fiber. The biofuel industry is being marketed as a green industry that is environmentally benign compared with fossil fuel energy. This may be an illusion, or at least there are vocal opponents to this particular view of the biofuel industry. They claim that the industry is a major contributor to carbon emissions and also continues to degrade the forest.[8] As in the past, the supposition is that big business will supply jobs for people, revenue for government, and votes for politicians.

This integrated business model is not uncommon in the industry, and it has been a commercial and political success for generations. But low-cost production from southern regions has relentlessly pressed northern producers to cut all operating costs, up to and past the point of rendering the business commercially unsustainable.

CRITICISMS ABOUND

Now consider the narrative put forward by opponents of industrial forestry and its economic, social, and environmental consequences. The environmental movement in Nova Scotia has decried industrial forestry practices since the 1970s, including use of pesticides to control spruce budworm and herbicides to suppress hardwood regeneration.[9] Nova Scotians are increasingly distrustful of the data the pulp and paper mills provide to justify their access to Crown lands wood and subsidies and other benefits in the province.[10] Citizens have been concerned about the forest industry pollution since the 1960s, when a disposal facility was established at Boat Harbour, adjacent to a Pictou Landing First Nation Reserve. Despite assurances that local waters would be protected from pollution and remain open to fishing and recreational activities, these promises were broken. Since 2010

a growing coalition, including the local First Nations community, non-Native residents and local business people, has challenged the company's social license. This now includes the prospect of mill closure.[11]

Another growing criticism of the Nova Scotia forest sector is that the forests are being degraded—becoming increasingly uniform in species composition and dominated by younger age classes. Investigative reporter Linda Pannozzo has shown how the volume of wood going into lumber vis-à-vis pulpwood is rapidly decreasing, even though the lumber-pulpwood ratio remains stable because new sawing technologies produce less waste from smaller-diameter wood.[12] Pannozzo has also shown how forest inventory calculations have changed such that it is now difficult to determine the extent of the deterioration of the forest. The province's Department of Lands and Forests is in fact using increasingly complex and inconsistent measures to track the situation, and has continually worked against Pannozzo's efforts.

In Nova Scotia, small woodlot owners control extensive areas of woodland, which have often been managed in more environmentally benign ways than the industrial forests.

VOICES FROM THE PAST

In Nova Scotia, small woodlot owners control extensive areas of woodland, which have often been managed in more environmentally benign ways than the industrial forests. Several books and other accounts celebrate the region's mixed Acadian forest type and provide instruction on how to manage it. Jamie Simpson, a woodlot owner who holds a master of science in forestry, for example, has written a guide to forest stewardship for woodlot owners. The Department of Lands and Forests has also produced a guide to managing the multi-species Acadian forest, though it is notable that the work was contracted out rather than done in-house.[13] Looking back, we find consistent support for such forestry in work done by a forest inventory done in the 1950s and department extension foresters in the 1960s.[14]

From Nova Scotia to Algonquin Park: Memoirs of a Dirt Forester, by Donald George, is the account of a forester working to promote alternative forest management practices. Working in Algonquin Park in Ontario, he came to endorse and promote a hardwood selection harvesting and shelterwood cutting of the pine forests there. Both management systems leave forest cover while enabling continuous commercial cutting. After his retirement to Nova Scotia, George advocated for such systems in the province but faced obstacles from both the provincial forest bureaucracy and the pulp and paper industry. Gary Saunders, another retired Lands and Forests forester, provides a retrospective on initiatives similar to those of George in a recent guest editorial in an *Atlantic Canad*a forest trade journal.[15] These traditions in alternative forestry share a foundation of working with forest ecosystems rather than against them, in contrast to the two extremes of manipulative interventions and lock-up of forests in preserves.

Another narrative with implications for the future involves indigenous rights and responsibilities in Nova Scotia. The local Mi'kmaq population has a deep connection to lands and forests: this First Nation once relied on forest products for subsistence use—canoes, tools, shelters—and also valued forests as habitat for game animals and fish. After European settlement, as the Mi'kmaq were marginalized, impoverished, reduced in numbers, and pushed off their lands and onto reserves, they became more reliant on wood as a material for the manufacture of tradable goods—ax handles, barrels, baskets, and other handcrafts. But soon their sources of wood became increasingly scarce, access to forests was restricted, and replacement products came on the market. William Wicken has documented this process, culminating in the year 1927, when three Mi'kmaq members asserted their rights to hunt on private lands and challenged the province to take them to court on the issue. Though they lost their case, the proceedings show the continuity (though there was change as well) in First Nations' insistence that they have long-standing rights and responsibilities in the province's lands and resources. Those rights have since been acknowledged and recognized in recent court decisions.[16]

Many programs in Nova Scotia seek to involve Mi'kmaq as business partners in conventional forest ventures by training them how to work with wood and encouraging them to pursue higher education through various competitions.[17] Other initiatives base forest development on *Netukulimk*, a central concept in Mi'kmaq culture. The Unama'ki Institute of Natural Resources, which advances this approach, defines *Netukulimk* as "the use of the natural bounty provided by the Creator for the self-support and well-being of the individual and the community. *Netukulimk* is achieving adequate standards of community nutrition and economic well-being without jeopardizing the integrity, diversity, or productivity of our environment."[18]

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Depending on who you ask, the paper mill at Pictou Landing, like other paper mills, simultaneously represents both economic opportunity and environmental threat.

One example is the black ash, promoted in Mi'kmaq forestry because of its value for handcrafts and fishing poles. It is now widely planted and has achieved protection from the provincial government—only Mi'kmaq can legally harvest this tree. The Mi'kmaq also plant trees along streams to protect and build trout habitat.[19] In a recent initiative, the Nova Scotia government launched a three-year pilot project giving the Mi'kmaq forest planning and management responsibility based on their forestry approach for two blocks of crown land, totaling about 20,000 hectares.[20]

Forest ecologists also support a different forest regime in Nova Scotia, in a tradition that we wrote about in *Against the Grain* nearly two decades ago. Their voices can be heard more clearly today. The *Nova Scotia Forest Notes* website, for example, acknowledges a debt to two ecologists, Robie W. Tufts (1884–1982) and Merritt Gibson (1930–2010).[21] Their works straddle older and new versions of ecological forestry. Tufts, a migratory bird officer for Nova Scotia from 1919 to 1947, in a 1927 text for Canadian children, cited economic as well as aesthetic and biodiversity reasons for bird protection. He informed young readers that "insects which multiply so rapidly in such immense numbers would devour all the vegetation in our fields and in our forests were it not for these little birds. We might save our orchard trees for a time, at least, by constant spraying but could never keep our forests alive in this manner."[22] The dominant scientific position in the 1920s was that the primary solutions to insect "problems" were natural and biological rather than chemical. This position changed with the chemical revolution in agriculture and forestry after the Second World War, when DDT became a dominant item in fighting forestry pests.[23] In Nova Scotia, however, there were people who remained skeptical of the use of chemicals in agriculture and forestry. A. D. Pickett wrote of the harmful effect of pesticide spraying in Nova Scotia's apple orchards, and he practiced experiments with biological controls in the 1950s (he merited several pages in Rachel Carson's *Silent Spring*), and Lloyd Hawboldt at the Nova Scotia Department of Lands and Forests, a forest entomologist, stubbornly opposed spruce budworm spraying in the province in the 1970s.[24]

Merritt Gibson, a longtime biology professor at Acadia University, wrote extensively on birds and nature in Nova Scotia. His work is now embraced by those who see nature as threatened, such as the creators and followers of *Forest Notes*, and his work has been picked up and extended by other nature writers.[25] Gary Saunders, mentioned above,[26] writes in *My Life with Trees* about talking and listening to and thinking with trees, tracking the personal relationships that some animal species, including humans, have with specific trees, such as the connection between the jackpine sawfly and the Kirtland's warbler.[27] Many of these naturalists make a connection between appreciation

of nature and criticism of forest industry, as the growing destruction of the former makes the latter increasingly relevant.

Some government foresters and scientists who supported or kept quiet about their critical views of the pulp and paper industry's management goals, have spoken out in late career or retirement. Bob Bancroft worked as a wildlife biologist in the Department of Lands and Forests. Since retirement he has become increasingly critical of the effects of industrial forestry. In 2011, the Registered Professional Foresters of Nova Scotia slated him to be named to its hall of fame, but his nomination was withdrawn at the last moment. A spokesperson indicated that the timing wasn't right, adding that though Bancroft had "done a lot to promote harmony between the industrial forestry side and environment side, . . . recent emails he wrote kind of blew that out of the water and promoted disharmony."[28] Two years later, however, Bancroft was inducted into the hall of fame.

That a different forest regime is emerging in Nova Scotia may be evidenced in a recent development. In 2018, commissioned by the provincial government, William Lahey, a respected law professor and former Deputy Minister of the Department of Environment and Labour from 2004 to 2007, led an independent examination of the state of the forests of Nova Scotia.[29] He and his colleagues examined forestry options for the province and proposed establishing three categories: forests set aside as parks or reserves, where forest harvesting would be excluded; high-productivity forests managed to produce the maximum volume of wood fiber for industry; and finally, an ecological forestry sector where various forms of the selection cutting system would be used to promote and maintain ecosystems capable of sustaining complex ecological and biodiversity functions. "Ecological forestry" would balance environmental, social, and economic values "using forest practices that give priority to protecting and enhancing ecosystems and biodiversity."[30]

The provincial government has indicated that it intends to follow Lahey's recommendations. Environmentalists have also welcomed Lahey's report, though they express some reservations and skepticism about whether the recommendations will be implemented in a timely fashion.[31] One criticism is the endorsement of chemical herbicides. Another is the failure to address the end use of the forest. "End use" refers to the ultimate and most beneficial use of the forest from a value-added, social, and environmental perspective. The gap in tackling end use is that it could, with the additional lack of regulations on private lands, lead to the continuation of low-grade forest growth and use. Yet another criticism of Lahey's report is that it equated ecological forestry with management practices that mimic natural dynamics and disturbances, perhaps because the technical experts he relied upon chose to downplay the extensive literature that questions whether forest harvesting—especially clearcutting—can have the same effect as natural disturbances, such as forest fires.[32]

The report also slights the lessons provided by the history of forestry in the province—its major developments and the insights of forest practitioners prior to the 1980s. In many ways, the report is ahistorical, disregarding both constraints on what is possible and inspiration for what could be. The refusal to engage with questions related to the forest industry's end uses is disturbing as well, given how the pulp and paper industry has shaped the forest.

What is the future of forestry in Nova Scotia and elsewhere in the northern belt of North America, now that the pulp and paper industry has declined? Nova Scotia provides us with some answers on the alternatives to industrial forestry. We believe it is urgent to explore the possibilities for different forest industries, forest uses, and forestry approaches and identify those that support local social needs and local forest ecologies. These ideas need not be invented: many already exist, to be found in the alternatives used and proposed in the past and the present. They do, however, require enabling policies from provincial and federal authorities, if the biases of traditional practices are to be overcome.

Nova Scotia exemplifies the dilemmas faced by the pulp and paper industry and associated industrial forestry. It also illustrates the growing public criticism of the sector and an appetite for alternatives. Interest in change is supported by residents, woodlot owners, indigenous peoples, environmentalists, ecoforesters, and naturalists. Now a path for change has been endorsed by the provincial government, at least officially. However, a more stringent challenge lies in implementation. One way forward, we propose, is to listen more closely to the dissenting voices of the past.

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