

# Method and Meaning in Canadian Environmental History

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EDITED BY

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**NELSON**

EDUCATION

**Dedicated to**

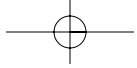
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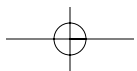
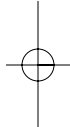
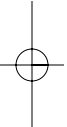
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# An Introduction, in Theory and Practice

ALAN MACÉACHERN

First, the practice.

When preparing for my Ph.D. comprehensive exams in the early 1990s, I read George Perkins Marsh's groundbreaking 1864 book, *Man and Nature*, which systematically chronicled how humans have shaped the natural environment. I came across this Canadian content in a footnote: "The great fire of Miramichi in 1825, probably the most extensive and terrific conflagration recorded in authentic history, spread its ravages over nearly 6,000 square miles [15,500 sq km], chiefly of woodland, and was of such intensity that it seemed to consume the very soil itself."<sup>1</sup> I learned subsequently that this New Brunswick fire had also wiped out communities and killed scores, if not hundreds, of people. I took it for granted historians had written about the fire, and since I was interested in environmental topics, expected to learn a lot more about it from them. But over time I realized that historians had all but completely ignored the Miramichi Fire.

That surprised me. How could a forest fire said to have burned one-fifth of New Brunswick not have had a great impact on a colony devoted to forestry? How could it not have reshaped the settlement, society, economy, and ecology of New Brunswick? How could it not be a topic of historical interest? So in 2000, when working on my postdoc, I decided to devote one month at Library and Archives Canada to finding out as much as I possibly could about the Miramichi Fire. This meant poring over standard historical sources such as newspapers, government records, land records, diaries, correspondence, and travel accounts. Completely immersing yourself like this in historical research is the best way I know to gain a sense of a past society, a feeling for what life was like on the ground. But it is the accumulation of hundreds of tiny details that gets you hooked, that will remind you that you are learning about real, three-dimensional people. I read about the British immigrants who arrived that October to find the forest still in flames and sailed right back. The owls that flew to the south of the colony to escape the great fire, only to be shot in great number. The insurance company that began advertising fire insurance in a New Brunswick paper one week after the fire; the ad ran for years. A song written in Wales about the fire. A charity pamphlet filled with gory descriptions of deaths by immolation. My reading spiralled outward, to include almanacs, maps, literature, forestry journals, sermons. Pretty soon, everything seemed to relate to the fire in some way: the Erie Canal's opening two weeks after the fire; John Constable's

paintings of clouds; Henry David Thoreau's writings on plant succession; the invention of the matchstick in 1827. Everything seemed worth reading about. That's always a good sign that you're becoming obsessed (which is not to say it's time to stop).

The fire was pulling me out of my comfort zone as a historical researcher. I wanted to better document the weather in New Brunswick in the summer and fall of 1825, so that meant both tabulating the meteorological records in the U.S. Army's Fort Sullivan in nearby Maine, and also learning about hurricanes and cold fronts. I wanted to know how far the smoke from the fire spread, so that meant not only contacting one of the world's experts on using ice cores to reconstruct climate records, to ask if his Greenland samples showed evidence of an 1825 fire (nope), but also learning about wind and glaciochemistry. And I needed to understand a lot more about forest ecology, forestry technology and practices, and forest fire dynamics. I did not become an authority on any of these subjects, but I learned to read their literatures, and to ask experts in these fields what I hope were sufficiently intelligent questions.

My sense of the Miramichi Fire was by now taking shape, and I believed I knew how it had faded from historical memory. In the first generation after the fire, almost every single commentator agreed that it had been as massive as first reported. I took this as very strong evidence—given that the accounts were written after the smoke had cleared, were sometimes very precise, and were frequently made by locals to locals, who would know if statements were exaggerated. But the Miramichi forests were healthy, ecologically diverse, and resilient, so they grew back quickly after the fire, and in a matter of decades there was little obvious physical evidence of the fire. In 1906, the foremost chronicler of New Brunswick's past, historical geographer W. F. Ganong (of the chocolate Ganongs), decided to map the fire's boundaries. He worked through some of the same sources I did, and he sought the opinion of a well-known lumberman, who assured him that the fire could not possibly be as large as was believed: there were simply too many big trees standing within the presumed fire area. Ganong's essay, "On the Limits of the Great Fire of Miramichi of 1825," argued that there was one intense fire around settlements on the Miramichi River, and a less intense one that just did limited damage here and there over the 6,000 square miles. Ganong didn't quite extinguish the fire, but he poured water on it. He even included a map, showing how the fire burned hardest around populated areas. His method seems to have been to assume that unless there was specific documentary evidence that an area had been damaged, it hadn't been—and since unpopulated and less-travelled areas are less likely to offer such evidence, there are large blank spaces on his map, suggesting the fire was not such a big deal. Ganong's theory became the standard way to understand the fire in the 20th century. I imagine Ganong in 1906 looking out over the Miramichi, trying to conform the historical record of the Miramichi Fire to the mature forests he saw around him. And so, I believe, he unwittingly used nature against itself; he used its restorative power to discredit its destructive power.

That was it, then. I'd write up what I believed and try to publish it somewhere.

Except that I wondered if I could find out more. Forest fires can leave material evidence of their passing on the trees that survive them. They leave fire scars, and since trees grow a new ring each year, it is possible to date those scars. What if there were still fire scars on 1825 tree rings to be found in areas that, according to Ganong's map, were not supposed to have been badly burned? (I told you I was obsessed.) I was soon talking to the Dean of Forestry of the University of New

Brunswick, and learned that the New Brunswick Department of Natural Resources and Environment (NRE) regularly surveys every single provincially owned forest stand in the province, taking core samples from 5 to 10 somewhat-representative trees in the stand. What if, I asked, we weed out all trees in the survey database that are over 180 years old (there turned out to be fewer than 200 such trees for the entire province), find which are around the fire's presumed perimeter, and go visit some of them, on the assumption that there is already evidence of one tree in that stand being alive in 1825, and there may be more? The Dean's reply: "We?"

That's how I found myself bouncing along northeastern New Brunswick forestry roads in a 4 × 4 with a UNB forestry grad student at the wheel. We drove and then walked to track down specific stands of trees, looked for what might be surviving old trees, and with an increment borer—an auger that you manually screw into the tree—collected core samples from the tree's north, south, east, and west points. We also ate mosquitoes, slogged through swamp, and fell periodically in thick brush. We took the samples back to the forestry lab, where not a single trace of an 1825 fire scar appeared under the microscope. Not one.

This was not really a surprise; I had already come to realize how quixotic my New Brunswick woods research was. After all, we were looking for a tree that was within the fire's perimeter but outside Ganong's estimate, that was in an area likely to burn (for example, not a bog), that *did* get burned, that got scarred, that was old enough in 1825 to have survived the fire (in effect, more than 20 years old or so at that time), and that was not only still standing but also still alive, since dead trees rot from the middle, making tree-ring dating next to impossible.<sup>2</sup> We might have had more luck finding a human survivor of the 1825 fire.

Yet the research trip was not a failure. I learned lots about my topic, about forest ecology, Miramichi geography, and dendrochronology. (For example, straws duct-taped together serve as perfect containers for the long, cigarette-like tree cores. Straws from Subway have the best diameter, arguably. But if taking several dozen straws from a Subway, it's polite to order a sandwich first.) Beyond that, our method of using the NRE forest surveys was more effective than anyone had expected. We found a number of very old trees, including a 341-year-old red pine—quite unusual in a province that has been logged extensively for the past 200 years. And we may have just missed more. Sometimes, we broke through dense brush and came upon a clearing where the stand we were looking for should have been. A forestry company had gotten there first.<sup>3</sup> To the NRE, the presence of an old tree on its forest survey signalled a stand's "overmaturity," and was a factor in deciding which stands it would give the companies license to remove. Each year, about 2 percent of New Brunswick forests are systematically cut down, so within a 50-year period there will be very few trees more than 50 years old. This may have been my last chance to see many of the trees from the era of the Miramichi Fire.

Now, the theory.

The research experience I just described exemplifies much about environmental history. First, environmental historians argue that because nature is central to human affairs, it is an appropriate, even necessary subject for historical study. In the Miramichi case, nature not only destroyed communities, but also fostered them in the first place, shaped their development, and was the source of their dealings with the wider world. Yet, as in the Miramichi case, most historians have tended to

treat nature—when they treat it at all—as the setting for history, rather than a participant or an agent of change. Environmental history has emerged as a field in recent decades to explore how people have thought about and interacted with nature. In a well-known formulation, Donald Worster describes environmental history as addressing three “clusters of issues”: nature itself as it has existed through time (including how it affects us), the socioeconomic realm (how we use nature), and the intellectual realm (how we think about nature).<sup>4</sup> Others have built on this model, but its simple and coherent structure resonates with many in the field. Some scholars seek to understand how these levels of analysis work together, while others tend to focus on a particular level.

Key to environmental history is the dialectic belief that we shape our environment and it shapes us in turn. In *Changes in the Land*, one of the classic works in the field, William Cronon writes, “Environment may initially shape the range of choices available to a people at a given moment, but then culture reshapes environment in responding to those choices. The reshaped environment presents a new set of possibilities for cultural reproduction, thus setting up a new cycle of mutual determination. Changes in the way people create and re-create their livelihood must be analysed in terms of changes not only in their social relations but in their ecological ones as well.”<sup>5</sup> This dialectic has some profound implications. For one, it tells us that, though the precedents environmental history offers are instructive, they are necessarily limited because they are specific to the context of the past. For another, it reminds us that there is no steady-state environment that humans can return to even if we wished; our mere presence guarantees change.

A second attribute of environmental history, evident in the Miramichi Fire research example, is the field’s tendency to relate to present-day environmental concerns. In the Miramichi case, New Brunswick’s long history of forestry has set the context for the province’s highly managed forest industry today; my “race” with forest companies to find old trees is an ironic embodiment of the connectedness of past and present. Environmental history’s relevance is in part a product of the field’s own history. It grew out of the environmental movement of the 1960s and 1970s, and of historians’ growing recognition (like that of scholars in many fields) of nature’s importance to humans and of what humans have been doing to nature in turn. The field was at first mostly devoted to self-evidently environmental topics as national parks, natural disasters, and wildlife. But increasingly researchers start with some point of engagement with nature, and read outward from that to shed light on a larger issue like culture, politics, or gender. Much work today is on topics that may not immediately strike you as “environmental,” such as cities, technology, and consumerism. It might be argued that since all human experience intersects with the natural world, everything can be a potential topic for environmental history.

The field not only grew up alongside environmentalism, but also, for many of its practitioners, became an outlet for their activism. They found history useful in explaining how we got to the state we’re in and how we might prevent repeating mistakes made by our ancestors (and, let’s face it, ourselves). Many such activist scholars tell narratives that are implicitly or explicitly declensionist, suggesting that things are getting worse. But more and more historians see the field open to narratives as varied as life itself. This is not to suggest that environmental history used to boil down to “Earth good, people bad”—or that it today boils down to “Earth bad, people good”!—but rather a reminder that scholarship may or may not be tied to activism, and that it is worth considering the activist implications of the work you are reading.



There is another simple reason why environmental history is so suffused with contemporary concerns: the environment being discussed is still very present. A military historian might visit a battle site to better understand the lay of the land, but an environmental historian visits a park or a city—or the Miramichi—because the land in some sense *is* the research topic. Moreover, the environment maintains material traces of its past.<sup>6</sup> That leads to a third attribute of environmental history epitomized in the Miramichi case: it is intensely multidisciplinary. To understand the environmental characteristics that were the subjects or objects of change, an environmental historian might need to learn from geology, geography, anthropology, biology, art history, or any other number of disciplines. It is fair, I think, to suggest that environmental historians possess both a humility and an arrogance about knowledge: we appreciate the many insights that other disciplines, forms of knowledge, methodologies, techniques, and technologies can offer in making sense of the world, and yet believe historians are temperamentally well suited to integrating and applying them. We agree with Alfred W. Crosby's argument that the goal should be to bring the arts and the sciences together—what he calls a marriage of the twits and the nerds.<sup>7</sup> Or better yet, why create twits and nerds in the first place? Create twerds.

Which leads to the thinking behind this book. Just as my Miramichi research experience exemplifies some things about environmental history, the two together exemplify something about this book: it is less about presenting an overarching narrative of Canada's past than about the theory and practice of environmental history. When approached about organizing a reader, William J. Turkel and I decided that we wanted students to learn about methodology, to learn how to *do* environmental history. Most history textbooks are created by bringing together articles from peer-reviewed, scholarly journals. Such articles assume considerable familiarity not only with the field's content but also with how history is researched and written. It is apparently expected that students will learn how to do history by reading good history—a not unreasonable hope, but rather indirect. For this volume, Turkel and I asked contributors to use a case study that they had already worked on as the basis for writing a specially produced essay<sup>8</sup> that explained their process, and how their specific fields (such as historical archaeology), sources (such as maps), and practices (such as microhistory) assisted them in telling the stories they wanted to tell. We asked the authors to imagine the reader looking over their shoulder and asking questions: Why have you chosen those sources? How did you find and interpret them? What kind of questions did you ask yourself or other people during the research? And we asked that they imagine this questioning reader be an undergraduate student. Finally, we had the contributors read one another's essays, to seek out places where their discussion aligned with or differed from someone else's. By developing the book in this fashion, we hope that besides introducing students to a wide range of sources and methods, it will show historical researchers the utility of incorporating environmental history elements into their own research practice.

William Turkel and I toyed with calling this book *EH?* but our editor at Nelson Education talked us out of it. *EH* is a familiar short form for environmental history used widely in the field, the question mark would have signalled our interest in asking methodological questions—and, of course, “eh?” is the quintessentially Canadian figure of speech. For this is a reader in *Canadian* environmental history. Canada is the place its editors and most of its authors—and many of its presumed readers—call home. But beyond that, Canada offers an unusual and constructive case for environmental history.

It is the second largest nation in the world, home to diverse ecosystems, and neighbour to three oceans. It is the embodiment of the developed world, though much of it remains, by global standards, undeveloped. It has been home to many varied, extensive, and ongoing aboriginal histories; host to French and then British colonial eras; and long in the shadow of the world's one remaining superpower. The fact that it is united to the United States longitudinally by climate, geology, and biology, and separated latitudinally by history and culture makes it particularly well suited to comparative study. In this book we will make a case that you should be interested in Canadian environmental history—no, scratch that, we will let the field be its interesting self, and hope you agree.

A note on terms. In keeping with our desire to have authors introduce their fields, each with its own language and grammar, we have generally kept the terms they use rather than impose a consistency throughout the volume. For example, we preserve their use of “aboriginal,” “indigenous,” “First Nation,” “native,” and even our American contributor’s “Indian,” a word that has retained more currency in the United States than Canada. Similarly, dates are expressed in three different forms. The traditional BC/AD calendar dates require no explanation. BCE (Before Common Era)/CE (Common Era) are preferred by some authors for calendar dates, to avoid the religious connotations inherent in BC/AD. BP (Before Present) refers to temporal durations that have been estimated from radiocarbon dating or other physical measurements. As such, BP suggests less precision than BCE/CE; whereas one can be confident that an event of 12,000 BP occurred approximately 12,000 years ago, it did not necessarily occur in or around the calendar year 10,000 BCE.

The editors wish to thank our fellow founders of *NiCHE: Network in Canadian History & Environment*—Colin Coates, Stéphane Castonguay, and Matthew Evenden—for assisting in the book’s conceptualization, and to Social Sciences and Humanities Research Council of Canada for the support that allowed NiCHE to provide seed funding for this project. Thanks also to Laura Macleod and Heather Parker at Nelson Education for their guidance and countless insights in moving the book forward; Karen Rolfe for her fine copyediting; Jessica van Horssen for her editorial assistance every step of the way; and H. V. Nelles for his early support of the project. In addition, we would like to thank our reviewers for keeping us honest: Claire Campbell, Dalhousie University; Chad Gaffield, University of Ottawa; Richard Rajala, University of Victoria; Bill Waiser, University of Saskatchewan; and two anonymous reviewers. Finally, thanks to all the contributors for their enthusiasm, hard work, and fine essays.

## NOTES

1. George Perkins Marsh, *Man and Nature; or, Physical Geography as Modified by Human Action*, ed. David Lowenthal (Cambridge, MA: Belknap Press of Harvard University Press, 1965 [1864]): p. 30 fn. 28. For more on Marsh and his book, see Graeme Wynn’s Chapter 1 in this volume.

2. And if we had found a single tree such as this, it would not in itself have proven anything. For one thing, the tree might have burned in an 1825 fire unassociated with the Miramichi one. For another, although Ganong had argued that most of the burn occurred within core areas, he allowed that trees did burn elsewhere.

3. Occasionally, some of the very largest trees were still standing, not for sentimental reasons, but because they were too broad to be grasped by the feller-buncher.
4. Donald Worster, "Appendix: Doing Environmental History," *The Ends of the Earth: Perspectives on Modern Environmental History*, ed. Donald Worster (Cambridge, UK: Cambridge University Press, 1988): pp. 289–307.
5. William Cronon, *Changes in the Land: Indians, Colonists and the Ecology of New England* (New York: Hill and Wang, 1983): p. 13.
6. I am obviously biased, but believe the best discussion of this is my co-editor William J. Turkel's *The Archive of Place: Unearthing the Pasts of the Chilcotin Plateau* (Vancouver: University of British Columbia Press, 2007).
7. Alfred W. Crosby, *Germes, Seeds, and Animals: Studies in Ecological History* (Armonk, New York: M. E. Sharpe, 1994).
8. The one exception is Donald Worster's "Ice, Worms, and Dirt: The Power of Nature in North American History," a version of which had been published in French. We felt this excellent essay deserved the attention of more anglophone readers.