

Time and a Place

An Environmental History
of Prince Edward Island

Edited by

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INTRODUCTION

Promise and Premise:
An Environmental History
for Prince Edward Island

*Edward MacDonald, Joshua MacFadyen,
and Irené Novaczek*

How odd, when you think of it, that a man rows backwards.
What experiences, deduction and sophistication
There had to be before men dared row backwards
Taking direction from where they'd been
With only quick-snatched glances at where they're going.

Milton Acorn, "The Squall"¹

Walk anywhere on Prince Edward Island, and you know that it's been walked before. The Island has been home to Canada's First Nations for ten thousand years, to French and British settlers, and now to Canadians. It has experienced intensive settlement and resource use for centuries, and its forests, fisheries, and farmlands bear the wounds of soil and water contamination, urban and shoreline development, and a corrosive erosion that bleeds red soil from the land and coastal cliffs into its rivers, estuaries, and the surrounding Gulf of St Lawrence. Writes historian Alan MacEachern, "The Island is such a cultural artifact that one can be forgiven for thinking that its nature is nothing *but* history, time masquerading as space. And yet what has survived is a place still so pastoral, so beautiful, that it attracts a million visitors every summer."² This book is about that place and how its human and natural ecosystems developed together over time. The pastoral landscapes, red sandstone cliffs, and

small fishing villages are appealing because they appear timeless, but they are as culturally constructed as they are shaped by the ebb and flow of the tides. Prince Edward Island's long and well-documented history, its small size, its status as a distinct political entity, and its islandness make it a compelling case study of human interactions with a particular landscape over thousands of years and the ways that environmental attitudes and practices have shaped that place's society and ecology.

Why focus on a place so famously disparaged by William Cobbett as "a rascally heap of sand and rock, and swamp?"³ It began some 285 million years ago as little more than a sandbar, so much sediment washed from the flanks of the Appalachian Mountains in their geological youth, when the Atlantic Ocean was just beginning to open and "Prince Edward Island" rested within five degrees of the equator as part of what geologists call the Maritimes Basin. Time and geology created the brittle layers of sandstone that form the bedrock of today's province. The fine layer of rust – iron oxide – that coats each quartz sand grain gave the formation its name, the Prince Edward Island Redbeds. Continental drift gave it its current location in the southern Gulf of St Lawrence. Shifting ocean currents and climate fluctuations shaped its marine and terrestrial environment. Indeed, it was climate change – rising sea levels from melting glaciers – that made it an island as recently as five thousand years ago (see Keenlyside and Kristmanson, this volume).

Already by then, that landscape had been home to highly adaptive Amerindian peoples for five millennia. The Mi'kmaq people called it Abegweit (loosely translated as "cradled on the waves") and Minagoo, "The Island." In the sixteenth century French voyagers christened it Île Saint-Jean, and by 1720 France had planted a struggling colony there. Most of those Acadian fishers and farmers were deported or fled when the fortunes of war delivered the colony into the hands of the British in 1758, but as with their mainland counterparts, the Acadians' remnant agricultural lands contributed critical resources to early British settlers.⁴ By the Treaty of Paris in 1763, Île Saint-Jean became, with a singular lack of imagination, St John's Island. The British era began with a detailed survey by Samuel Holland in 1764–65; a land lottery in 1767, which imposed large-scale, leasehold land tenure; and, somewhat improbably, the grant of colony status in 1769. Three decades later, in 1799, there was one last name change, to honour a lacklustre British prince whose chief accomplishment was to father the future Queen Victoria. Much against Britain's better judgment, Prince Edward Island achieved self-government in 1851 and, much against *its* better judgment, entered Confederation with Canada in 1873.

And what of the place itself? Tucked into the southern basin of the Gulf of St Lawrence, it stretches scarcely 224 kilometres from North Cape to East Point. A narrow strait, anywhere from 13 to 43 kilometres wide, divides it from the rest of Maritime Canada. In places, the little island is narrow enough (4 kilometres) to portage in a few arduous hours, and even at its widest it is no more than 40 kilometres from one deeply indented coast to the other. The island's saltwater borders enclose 5,660 square kilometres of signature-red soil, spread like butter over a soft sandstone base. Much of the interior is rolling hill country, but its toponymy habitually makes mountains of molehills; the highest point is only 142 metres above sea level. The till contained enough cobble for most of the tools of its first peoples and provided a relatively uniform base for the Island's three types of Acadian forest and diverse fauna (see Keenlyside and Kristmanson, Curley, and Sobey, this volume), but the uplands were largely undisturbed by the coastal-based Aboriginal and French Acadian populations. The British settlement period (1763–1855) told a different story. By the late nineteenth century, commercial lumbering and land-clearing for settlement had devastated the Island's forest and cleared two-thirds of its surface for agriculture. As the upland forests fell to settlers, they revealed the best agricultural land in the region. But that valuation is relative. Most of the land is arable, but only some of it is fertile; poorly drained soils alternating with sandy loams are vulnerable to wind and water erosion.

The surrounding sea does much more than define the Island's borders. It complicates its weather, air-conditions its people, and mediates its climate. Winter ice in the Gulf and Northumberland Strait usually ensures a late spring, and even if, as tourism boosters claim, Island shores are washed in summer by the warmest waters north of the Carolinas, the seas stay cool enough for the prevailing westerlies to cut the high heat of July and August. In autumn, the effect is reversed, and the lingering warmth of the shallow, sun-warmed Gulf helps hold winter at bay.

The general consistency of the climate – an annual average of 860 millimetres of rain and 290 centimetres of snow, an average temperature of -7°C in January and 19°C in July – masks its yearly fluctuations. Climatologists and historians have shown the extreme variability of the region's climate, particularly in the nineteenth century. The ice extents halted navigation for around 125 days each year in the early nineteenth century, but the average number of navigable days increased along with average annual temperatures as the century progressed. Still, as Teresa Devor argues, gradual warming did not reduce the sporadic occurrence of cold growing seasons – such as those of 1881, 1884, 1905, and 1921,

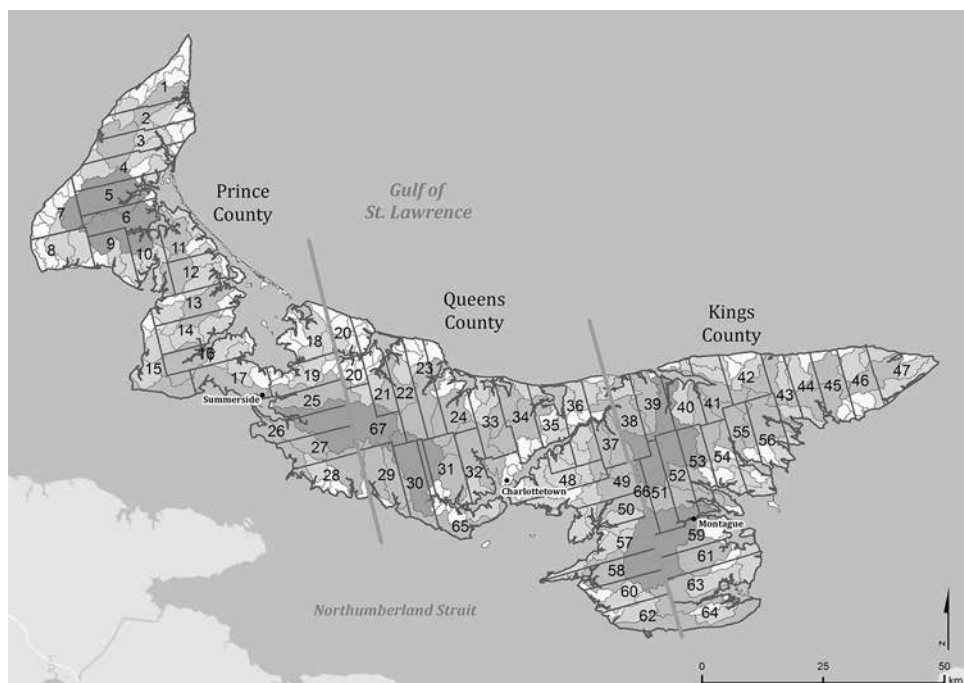


Figure I.1 Prince Edward Island jurisdictions and watersheds.

where the mean temperature was below 14°C – or cold winters – such as in 1875 and 1920, when the mean January temperature was around -15°C . Every decade in the nineteenth century (with the exception of the balmy 1850s) featured at least one winter when harbours were frozen for over 130 days.⁵ With a climate like this, weather has always been a favourite topic of conversation, forming what Liza Piper calls the region’s “colloquial meteorology.”⁶

Over many centuries the Island’s sea, soil, and climate have offered rich habitat for plant and wildlife and valuable resources for First Nations, fishers, and Irish moss harvesters. However, creating habitat for the primary vector of nineteenth-century resettlement, the sedentary farm family, was more challenging, and like many Maritime regions, the Island attracted a relatively small agricultural population. Both French and English settlers were reluctant to leave other centres and cross over to these shores. Condemnations such as William Cobbett’s were no help, but other reasons, such as the Island’s distance from its markets and its troubled management by mainly absentee proprietors, were larger

deterrents. Environmental historians have also noted the early food scarcities created by adverse crop and climate conditions, and MacFadyen (this volume) shows that nineteenth-century farming was a precarious business.⁷

Even now, Prince Edward Island is the smallest, though most densely populated, province (an estimated 145,000 people in 2013) in a vast country, and the only one with (by census definitions) a majority-rural population. Garden tropes litter its descriptive literature, yet most visitors still find it apt rather than hackneyed (and dangerously superficial) to read about the “patchwork quilt” of its pastoral landscape. Viewed from a distance, it seems encouragingly self-contained, an unambiguously bounded, curiously homogenous space, a place where nature has largely been tamed and where time has meshed its people with their environment.

The environmental history of Prince Edward Island is deeply shaped by humans, but as Dolly Jørgensen reminds us, it was “not by human hands” but by technologies that people shaped this island. “To be human is to employ technologies,” Jørgensen writes, “including physical objects as well as the processes of design, production, maintenance, and knowledge that go into their making. It is technology that has made humans into a force of nature.”⁸ As many historians have argued, the relationship between nature and technology is highly complex. Technology drives history and shapes environments, but not without reciprocal forces from human culture and not without influence from other natural organisms. In fact, a place like Prince Edward Island is not “natural” at all. Like other recent environmental historians, we lean toward “environments” rather than nature. The term describes dynamic human and non-human relationships in place, and as we argue in this collection, there is little that resembles wilderness or untouched nature on Prince Edward Island.

On the other hand, technologies are also more “natural” than we often assume. Islanders modified the environment with tools ranging from Mi’kmaq arrowheads, Acadian *aboiteaux*, and British axes, but they also introduced, modified, and constrained a range of plant and animal species. Plants and animals are tools as well, and like all technologies, they demand a certain set of responses and behaviours from us. They also demand valuation. Because so many plants and animals are functional members of our environments, we assign meaning to them mainly in relation to how they behave in these environments.

Thus, non-human species enrich and confound their users, and as active members of an ecosystem they interact with each other in ways

that humans both desire and dread.⁹ By removing forests and planting single-species crops of grain, early British settlers created an ideal habitat for the “plague mouse,” which Douglas Sobey (this volume) argues was the red-backed vole (*Clethrionomys gapperi*). The nineteenth century saw the slow and steady displacement of these and other forest “wild-life” by a population of primarily ruminant livestock. These central members of the Island’s agro-ecosystem were joined by an extensive population of silver foxes, famously bred for fur ranching by Charles Dalton and Robert Oulton. Rosemary Curley (this volume) describes how introduced fur animals such as the silver foxes, striped skunks, and raccoons contaminated local genetic stock and habitat and became regarded, along with beavers, as pests in the twentieth century.

The Island was also home to many marine organisms that were either harvested for industry, such as Irish moss (Novaczek), or farmed in bays, such as mussels and oysters. The oyster was an excellent example of an organism that might appear wild but was actually highly manipulated by First Nations (Keenlyside and Kristmanson), nineteenth-century farmers (MacFadyen), and twentieth-century aquaculture officials (MacDonald and Beck). After narrowly escaping destruction by farmers, oysters were protected for aquaculture and then nearly extirpated after 1915 with the introduction of diseased oyster spat from Chesapeake Bay.

These stories of animal misadventures will sound familiar to readers who know about the disruptions of settlement and the experiments of modern states. Prince Edward Island’s environmental and technological history – referred to by many as “envirotech” – stands out for at least two reasons. First, it experienced a relatively recent and rapid transition from Cobbett’s “rascally swamp” to a measured and manipulated coastal agro-ecosystem. Second, what seemed to many contemporaries like a typical experience of settlement and technological progress actually slowed significantly in the early twentieth century. Just as the technologies employed, and created, in Prince Edward Island blurred the boundaries between human and non-human environments, there was no simple trajectory from basic to advanced technologies. The province has never been a leader in the high-tech sector, but at various points, particularly in its shipbuilding (Sobey) and energy histories (Wynn and Stuart), it attracted early advances and world-class specialists. The Island was serviced by coal-fired steamers by the mid-nineteenth century, gas lights by 1854, one of Canada’s first narrow-gauge railways by 1871, and localized electric stations by the mid-1880s. Yet what seemed like technological progress in the late nineteenth century did not

benefit all Islanders equally. Rural Islanders were among the last in the country to widely adopt electricity and telephone service in the postwar period, and the province's railway was abandoned in 1989, having never turned a profit.¹⁰

The misplaced optimism and faith in technology was perhaps most evident in 1929, when Island premier Albert C. Saunders published his article "The Rapid Progress of Prince Edward Island." He highlighted the province's cooperative marketing groups and its agricultural products: dairy, certified seed potatoes, foxes, and "the famous Island oysters," which Saunders admitted "for some time have not been producing." In a special Maritime edition of the Canadian Manufacturers Association's boosterist magazine *Industrial Canada*, Saunders argued that, despite its insignificant manufacturing sector, the Island "is nevertheless sharing in the growth and expansion so much in evidence throughout the entire Dominion."¹¹ In reality, the Island had a small – and aging – agricultural sector in a period when most wealth was generated by industry and finance. The environmental and technological transformations that began with shipbuilding and agricultural settlement in the nineteenth century had been followed in the twentieth by a period of agricultural stagnation, industrial decline, and out-migration.

Recognizing that change is both constant and contingent brings us back to the basic principle of *Time and a Place*. This book began with an idea: that time and place are inextricably bound when it comes to environmental history, and that larger insights can come from examining environmental change in one well-defined place across the long sweep of time. Most of the authors set out to write a coherent collection of essays at a joint meeting of the Network in Canadian History and Environment (www.niche-canada.org) and the Institute of Island Studies (www.upei.ca/iis); taken together, their essays assemble an environmental mosaic that pieces together the story of interaction between humans and this particular place. Environmental history is a house with many rooms, and the essays in the collection also draw on island studies, natural history, pre-contact archaeology, marine and land geology, environmental law, wildlife management, and environmentalism itself, in addition to environmental history. The contributors thus speak with many voices, but all share a conviction that the way forward leads through the tangled and often contested landscapes of the past. In addition to offering expertise from several disciplines, the authors of this volume have walked the Island's fields and forests, its shores and streets. In the process, they have identified links between its past and present,

and broadly considered the Island's future sustainability. The result is not a comprehensive environmental history of the province, and yet it is much more than a beginning.

The goals of *Time and a Place* are thus local and global, pragmatic and theoretical. This place-based exploration of Canada's smallest province should afford policy insights for planners within Prince Edward Island, but it also informs broader questions about the value of islands – these geographically bounded spaces – for the study of environmental history and the crafting of comprehensive plans for global sustainability. And we hope that it will be a useful piece of a larger puzzle, the environmental history of Canada itself. In his comprehensive account of environmental history from the 49th parallel to the Arctic, Graeme Wynn adopts a continentalist approach to human relationships with nature, and recent anthologies have done the same for regions like Atlantic Canada. As Wynn found for a continental overview, the stories of work and other interactions with land and sea are the best way to understand humans in this natural environment, but the broad scope of such a work means that some regions, and smaller provinces such as PEI, escape notice.¹² By down-sampling the continentalist approach and focusing on field, forest, and estuarine ecosystems, we have covered many of the critical environmental issues in one province, over the same time frame. Like Wynn, we begin with a *tabula rasa*, a land scraped by ice and then engulfed by rising seas. Our authors document the arrival of flora, fauna, and humans and the different ways these inhabitants have used and understood this place over time.

Prince Edward Island's small size and rural, resource-based population make it an ideal place for Canada's first provincial environmental history. Thanks in part to its relatively late settlement and history of absentee proprietors in the eighteenth century, reinforced by its late entry into Confederation, it is the only Canadian island endowed with what Godfrey Baldacchino and David Milne call the "gift of jurisdiction."¹³ But the very reason for its gift, its islandness, makes *Time and a Place* unique in another way. As two of our contributors (environmental historian Graeme Wynn and nissologist John Gillis) point out, islands have long fascinated us. Boundedness makes an island a place apart. As Claire Campbell writes elsewhere in this volume, it "telescopes our attention, inviting us to delve deeply into the past in one place." It also lends to that place an imaginative power, making an island a metaphor. It can be refuge or prison; a utopia or its dark, dystopic opposite; a museum where the past lingers, or a laboratory for testing theories; a

microcosm yielding insights into the larger world, or a world entire unto itself. Of course, islands have no monopoly on boundedness. A mountain valley or a desert oasis constitute geographic islands of a different sort, just as race, culture, demography, or economics can create social “islands” within larger entities. But nowhere are the boundaries “here” and “there,” “us” and “them” more precise or more felt than on a body self-consciously surrounded by water, and nowhere else are these physical ecotones so ideally suited to environmental history.

Conceptually and psychologically, islands exist in relation to mainlands, and all islands have been colonized many times from across the waters, first by flora and fauna (as both Curley and Novaczek remind us in this volume), then by people (see Keenlyside and Kristmanson), and as often by ideas. Waves of human ideologies and ideas resulted in social and economic development, often with mixed results for people and their environment – as evidenced by Sobey (with respect to forestry), MacFadyen and Arsenault (agriculture), MacDonald and Beck (fisheries), MacEachern (tourism), and Stuart (energy). When you’re island born, as Island poet Milton Acorn observed, you are “native with a habitat,”¹⁴ and negative environmental consequences of development are difficult to ignore.

Both Prince Edward Islanders and their historians have been accused of culpable insularity, a conviction that their province’s story is somehow outside the larger currents of history.¹⁵ This stubborn insistence on particularity is arguably linked to Islanders’ perception that other Canadians consider the province as inconsequential to any larger narrative. Certainly, the province fitted awkwardly – or not at all – into the grand old theories that dominated Canada’s twentieth-century historiography. Frederick Jackson Turner’s “frontier thesis” moved the cutting edge of history and democracy ever westward away from the Atlantic shore, and there was scant room for a small producer such as Prince Edward Island in the Laurentian school of Canadian history or its allied “staples theory,” although both looked to environmental factors in tracing Canada’s economic development.¹⁶ Contrary to these theories, Prince Edward Island population and industry surged in the mid-nineteenth century based not on staple or even primary sector exports, but on a highly manufactured product: sailing ships.¹⁷ Environmental collapse in the forest was one of the main factors for that industry’s decline; this decline and the transition to farming and fishing are explored in the chapters by Sobey, MacFadyen, and MacDonald and Beck. The Island then became a hinterland without a metropolis, a food-producing

province separated by ice and ocean from its growing but industrially decentralized region, and the trickle of underemployed youth “goin’ down the road” to Central Canada and New England in the late nineteenth century became a steady stream by the interwar period.¹⁸

Perhaps as a result of its unique environmental and economic trajectory, Prince Edward Island historiography has either emphasized the province’s intrinsic importance for its own residents or treated it as a convenient case study for larger purposes.¹⁹ This somewhat artificial binary is where comparisons to the continentalist approach break down. As scholars of Northern and Indigenous history now posit, the study of “marginal” regions is only marginal when we insist on understanding one place in relation to another – the colonized in relation to the colonizers, the province as part of the nation, the island as extension of the mainland – rather than understanding it as homeland.²⁰ The writing of island history is changing, in part as the discipline of history fractures into sub-genres, and in part because of the emerging field of nissology – the study of islands on their own terms. Instead of a tiny province perched on the periphery of a great landmass where power tilts towards the centre, Prince Edward Island can locate itself within an island-centric world view in which islands are the norm rather than an anomaly.²¹ In environmental terms, nissology has a particular significance. As scientists are apt to remind us, islands are the canaries in the mine of the world’s environment, the places where climate change and ecological dysfunction may first be felt. It is a sobering reminder to read in Keenlyside and Kristmanson’s chapter that Prince Edward Island, which began as so much silt,²² was not even an island five thousand years ago, and many of its most intensively settled sites are now under water.

And then there is environmental history, that multidisciplinary crossroads where so many paths meet: history, natural history, geography, science, nissology, archaeology, folklore, literature, to name a few. As the most recent environmental history of this region shows, the debate over the analytical relevance of bioregions versus geopolitical boundaries subsides into mutual accommodation (physical features, flora, and fauna do not recognize political borders, but the humans who exploit all of them do).²³ Prince Edward Island, which is both a bioregion and a political entity, moves sharply into focus. It is at once case study, exemplar, and model. The Island is not entirely virgin territory in terms of environmental history, although much of the writing about it has come at it aslant, under the guise of conventional history, geography, or biology.²⁴ Apart from geographer A.H. Clark’s monumental *Three Centuries and*

the Island, the essential reference point for any new study, environmental history has also tended to be subject specific: for example, Alan MacEachern's studies of the Prince Edward Island Natural Park and the Institute of Man and Resources.²⁵ And while land has figured largely in Island historiography, especially that concerning the nineteenth century, it has too often been preoccupied with the struggle *for* the land rather than settlers' struggle *with* it. Political issues of land tenure and land use have tended to overshadow any extended exploration of agriculture on environmental terms.²⁶ Similarly, historians have tended to a narrowly economic approach to the Island's other main resource-based industries, shipbuilding, fishing, and forestry, ignoring questions of environment and sustainability. This collection is the first to approach the entire province from a self-consciously environmental history perspective. Each contribution falls somewhere along the topical spectrum, deftly encapsulated by MacEachern, that defines environmental history: nature itself over time, and how it affects humans, how we use nature, and what we think about it.²⁷

Libby Robin reminds us that islands helped define evolutionary theory, island biogeography, and environmental history, but the continental and bioregional approaches of environmental history now provide new and more cosmopolitan ways of looking at islands and complexity in a globalizing century.²⁸ If environmental history is important because place is always bound up in time, islands' environmental histories are important because those places are connected and isolated at different times. In one sense, then, this is a book about connectedness and disconnectedness. For much of its history as an island, the place we call Prince Edward Island was in most years virtually cut off from the mainland from December until April. Island society arguably bears the marks of that solitude. And yet, the southern Gulf of St Lawrence was always also a road, albeit a treacherous one, and a road with different off-ramps from those of the fluvial and upper St Lawrence River. The Mi'kmaq people travelled it seasonally by canoe. European sailing vessels fished its waters and frequented its harbours. As with the Hebrides in the Middle Ages, the sea connected the Island to the world more readily than pre-railroad trails and rivers could penetrate the great plains and mountain fastness of the North American interior. To Islanders, then, the sea was not an end but a beginning. Its saltwater walls defined and delimited, but the walls had wide doors to the ideas and technologies of the Atlantic world. Just as periodic disconnection shaped culture, the routes and means of connection contributed to the Island's sense of place

and identity. Navigational charts and technologies connected the first Acadians with Louisbourg. Land surveys, censuses, and urban development connected United Kingdom colonists to Britain. Railroad and ferry services connected (and confederated) all parts of the new province with the Dominion of Canada. The telegraph and then the telephone connected local fisheries officers and politicians to Ottawa. Paved roads connected rural consumers to the city.

During the nineteenth and twentieth centuries, transportation and communication technologies diminished space. In recent decades, as William Cronon has argued in *Nature's Metropolis*,²⁹ they have obliterated it. Now even time, so connected to distance, seems to contract. What will this mean in environmental and psychological terms for the physical place of Prince Edward Island? According to John Gillis, the tide of human migration is washing back towards our coastlines, even as our cultural relationship with the coast undergoes – pardon the pun – a sea change. As coastal dwellers generally become more detached from nature,³⁰ Islanders are the only ones who can, as Gillis puts it, walk “the continuous loop” of the ecotone, both in mind and on foot. As North American societies sidle closer and closer to the water, putting pressure on coastal ecosystems and higher value on coastal properties, they too must understand the nature of the coast, its changes over time, and the long human history of life along its shores.

Time and a Place addresses that need. The collection has been organized into four sections (islands, people, industry, and governance) that move the discussion from the conceptual through the actual. But whether exploring the changing habitats of land, shore, and sea or documenting the historical exploitation of landscape and resources and their (mis) management, each essay is haunted by the ecological footprint of human presence. Humans have been drawn to this place for millennia to exploit its resources: to fish and hunt and gather, to plant and harvest, to consume (as tourists do) its visual landscape, to find a space to call their own. In the process they have both transformed and created landscape. As contributor Claire Campbell points out, *Time and a Place* reminds us that environmental histories and environmental futures are bound together. The past helps makes sense of the present, and so, charting Islanders' past impact on the environment – and its consequences – can inform current issues and frame possible outcomes. There is much that both Islanders and global citizens can learn from how we have struggled – and often failed – to manage our mediation of habitats and species. Islands are perhaps the most obvious places to teach the lesson of

limits. Environmental sustainability will undoubtedly require, as ecologist Garrett Hardin posits, mutually acceptable levels of coercion, the age-old balance between individual freedom and communal good. Will that be more possible on a small island than a vast continent?

Many people imagine islanders as helpless victims of coastal and environmental change, but in times of unpredictable shifts in the natural world, we are perhaps more fortunate.³¹ As Gillis argues elsewhere in this volume, islanders are people who “master margins and exploit multiple environments.” Unlike people in the Rockies or on the Great Plains, islanders and coastal dwellers live in a landscape that changes every six hours and steadily over time. The dynamic possibilities of such an environment hold both threat and promise. Milton Acorn, again, on islands: “Growing up on one’s good training/For living in a country, on a planet.”³² *Time and a Place* argues that Acorn is right.