

FROM DISMAL SWAMP TO SMILING FARMS

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## Culture's Marsh

LIKE MANY KIDS WHO grew up in southern Ontario, I sometimes went north in the summer for family vacations. As the family drove along Highway 400, leaving Toronto behind us, I always looked forward to passing Canada's Wonderland. The theme park – a sprawling spectacle of games, bright lights, and roller coasters in Vaughan, Ontario – seemed like an urban capstone. It was a carnivalesque punctuation to the urban agglomeration of Toronto and its ancillary suburbs. Beyond Canada's Wonderland was Canada's hinterland – a bucolic landscape of rolling hills, mighty forests, and pristine lakes.

From Canada's Wonderland to the south canal of the Holland Marsh – a three-thousand-hectare protected agricultural area – is about twenty kilometres, or roughly a ten-minute drive north on the highway. Despite the short distance, the two places could not be more different, or so I used to think. The low-lying, verdant fields of the Holland Marsh *are* a stunning aesthetic counterpoint to the towering infrastructure of the roller coasters, after all. The twenty kilometres between the two seemed like a transition zone – a liminal space between the city and *not* the city, between nature and society. The Holland Marsh was where society ended and nature started.

I have driven across the short stretch of Highway 400 that bisects the Holland Marsh dozens of times over the years, somehow always missing the obvious: The Marsh is not the natural place I imagined it to be. Crisscrossed with roads, teeming with tractors, and dotted with houses and barns, it is patently more *unnatural* than it initially seemed. While the fields in their bucolic splendour might belie the fact, even the land within the Marsh is far from natural, having been – quite literally – made in the mid-1920s, exhumed from the wetlands of the Holland River through an amalgam of human ingenuity, labour, and hubris. To borrow and adapt a phrase, in many ways this is culture's marsh.<sup>1</sup>

This, though, is only the most recent instantiation of the Marsh. Over the last 14,000 years or so, the material landscape has changed, how it has been interpreted has varied, and the ways it has been used have shifted profoundly.

As the Ice Age was drawing to a close, Paleoindian populations saw the area as temporary trapping grounds for arctic fox and arctic hare.<sup>2</sup> By about 6000 BC, Huron, and Algonquin peoples afterward, established more permanent camps near the Marsh, using it both for its nutritional bounty and for its convenient proximity to the Carrying Place Trail.<sup>3</sup> For some of the earliest European settlers to the area, the Marsh was understood as “a mere ditch” and a dangerous place to be avoided.<sup>4</sup> Soon after, colonial “foot soldiers in the manufacture of land,” with a zeal for the “paramilitary regularization of the land into rectilinear parcels,” largely understood the New World landscape as unruly, a commodity to be surveyed, inventoried, and brought under control.<sup>5</sup> By the early twentieth century, enterprising agriculturalists looked out over the Marsh and saw farmland, a “promised land with its broad acres of unbroken greatness.”<sup>6</sup> Not long after this, a canal was dug around the wetland, the water was drained off, and a three-thousand-hectare polder assembled for the production of market garden vegetables, primarily carrots, onions, and celery.

By recounting the creation, use, and protection of the Holland Marsh, this book explores the complex, often overlooked, entanglements of nature and society, which are far less separate, or separable, than we assume. At the heart of this narrative is the notion that ideas about nature shape our concepts of agriculture, and that agriculture in turn shapes our ideas about nature. Nature is not the fixed thing we imagine it to be, but rather it is polysemous. Nature is social and nature is political. I explore these outwardly knotty ideas through an examination of the transformation of the Holland River lowlands and the agriculture this transformation enabled.

In the twenty-first century, we mostly think of wetlands as places to protect, not dredge, drain, and farm, yet in the 1920s, support for the conversion of the Holland Marsh was all but unanimous. Indeed, in 1920, *not* converting it to farmland would have been unthinkable. The irony, of course, is that since 2004, the Holland Marsh has been protected – not as wetland, but as farmland. Despite lingering around discursively in the moniker of the area, the antecedent landscape has been mostly expunged, though signs remain for the careful observer. As plans developed to drain the Holland River lowlands, the explicit intent was to reconstitute the wetland to produce orderly, productive, and profitable fields. Local media celebrated the fact that the “dismal swamp” in Bradford, Ontario, was finally being drained to make way for a much more agreeable contingent of “smiling farms.”<sup>7</sup>

Fast-forward roughly a century, and in many ways, the resulting farmland is being similarly threatened, despite – perhaps because of – the farmland-protection

measures pertaining to the area. While the idea of farmland protection is currently de rigueur among many scholars, activists, and government officials, the story of the Holland Marsh demonstrates that its dominant paradigm is insufficient to effectively preserve such areas. Widespread simplistic and ahistorical understandings of the very character of farmland and landscape change have resulted in the development of preservation policies and practices that may fall short of their intended outcome. Put simply, conventional farmland-preservation measures are typically designed to protect a particular kind of capital-intensive farming, not the land itself: *Farming* preservation must be seen as distinct from *farmland* preservation, yet this distinction is rarely, if ever, made in scholarship, public discourse, or policy debates. The case of the Holland Marsh demonstrates that farmland preservation is a product of normative ideas about landscapes and land use, ideas that are ever changing and based on historically contingent notions about “nature.” The Marsh, protected as a Specialty Crop Area under Ontario’s Greenbelt Plan, has become a poster landscape for farming protection under the guise of farmland protection. And yet, these protective policies may be hastening the demise of this iconic, multimillion-dollar agricultural juggernaut known widely as Ontario’s salad bowl.

The stakes for how we think about “nature” and how we use our peri-urban landscapes could not be higher. It is becoming increasingly difficult to overstate the multiple, intersecting, and coproduced socioecological crisis of the contemporary period. From mass malnutrition and the arrival of a planetary fire age to global pandemics and an imminent climate reckoning, the socioecological limits of the earth are seemingly within sight.<sup>8</sup> Agriculture is at once a key culprit in these crises and essential to their resolution.

From as early as the mid-nineteenth century – when a thriving trade arose to replenish Europe’s soil with guano from South America – agriculture has been enabled through a global metabolic rift.<sup>9</sup> The so-called externalities of global agricultural production were vastly intensified during the green revolution as a raft of chemical and technological innovations were hastily embraced, rationalized within complementary neo-Malthusian and productivist discourses. The consequences have been catastrophic.

More recently, examples abound of the ways in which agriculture can contribute to repairing the widening socioecological rift. Lessons from this work are worth underscoring. Agro-ecologists and allied academics and practitioners have demonstrated the promise in reexamining the socionatural relations inherent in agriculture. Rather than taming nature – the operative logic of contemporary industrial agriculture – agro-ecologists insist on a more humble approach

that rejects the premise that “nature” is controllable in the ways proponents of industrial agriculture assume.<sup>10</sup> At the same time, a broad consensus is emerging suggesting that key crises related to the contemporary food system can be mitigated – and reversed – in place-based efforts focused on strengthening existing and forging new links between eaters and growers within discrete geographies.<sup>11</sup> This work reveals the social and ecological benefits of relocalized food systems and compels us to reexamine our reliance on long-haul industrial agriculture.

I focus specifically on the Holland Marsh for a variety of reasons – its productivity, its iconic status, and its proximity to Canada’s most populace region and North America’s third-largest city. On a clear day, the fields of the Holland Marsh are visible from the top of the CN Tower, the quintessential icon of downtown urban Toronto. That some of the most profitable and productive farmland in Canada is in such close proximity to, and increasingly threatened by, the nation’s largest urban agglomeration itself makes this a noteworthy case within the catastrophe of the contemporary moment.

In this sense, the Holland Marsh is a proverbial canary in the coal mine – an example that can help us understand the history and complexity of the land at the centre of any putative efforts to relocalize food systems. The prized muck soil, as it is colloquially known, is a central character in the history of agriculture in the Marsh and receives herein an extensive explanation of its social and material significance.<sup>12</sup> Suffice it to say for now, muck soil is relatively rare and extremely fragile, much more so than mineral soil. As a result, from the moment the Marsh was drained nearly a century ago, this soil began to degrade. More than this, even if it were never farmed, the muck would inevitably disappear – agriculture is certainly hastening its demise. The Marsh, then, serves as a fascinating case study that reveals insight into human-environment relations, accentuates the contradictions and deficiencies of contemporary farmland-preservation paradigms, and highlights the challenges of forging more socioecological rational food systems.

## Holland Marsh

Travelling northward from Toronto, the northern slopes of the Oak Ridges Moraine highlands give way to a gentle descent to the fields of the Holland Marsh. Within the span of the southern canal – roughly fifteen metres across – a variable landscape of cultivated fields of corn, pastureland, exposed glacial debris, and wooded hillsides cedes to uniform fields of lush, green vegetables. The farmed area of the Marsh – which vaguely resembles a banana if seen from a sufficient height – is separated into two sections. The main polder is known

colloquially as the “Big Scheme,” from which the much smaller “Little Scheme” is pinched off at its north end at Yonge Street. The Holland River runs through the middle of the Marsh, serving as both a natural and political-administrative boundary. The fields on the west side of the river are in Simcoe County, those on the east side lay in King Township. As the river continues its northerly flow toward Cook’s Bay on Lake Simcoe, the orderly fields give way to a landscape that resembles more closely the scenery conjured by the image of a “marsh.” Marsh grasses, reeds, and small conifer shrubs populate both land and water, blurring the boundary between the two as if in a Group of Seven painting. Just before the Holland River empties into Cook’s Bay, destined for Lake Simcoe immediately beyond, it is once again dammed, canalized, pumped, and diverted around a final small agricultural area known as Keswick Marsh.

In all, the Holland Marsh is a mixed-use wetland of some 7,400 hectares (roughly 18,200 acres), 60 percent of which is drained agricultural land and 40 percent is preserved marshland.<sup>13</sup> The cultivated land (roughly 3,000 hectares [7,400 acres]) supports 125 farms, together producing many millions of dollars in annual revenue by growing a range of market garden vegetables.<sup>14</sup> According to the Holland Marsh Growers’ Association (HMGA), the total annual economic impact of the Marsh – the farm-gate value of the vegetables in addition to packaging, processing, and transportation – is \$1 billion. This includes \$130 million in annual carrot production and \$160 million in annual onion production.<sup>15</sup> A 2009 study found that gross farm receipts were \$7,130 per hectare in the Marsh, 3.7 times higher than the provincial average.<sup>16</sup> This makes the farmland there some of the most profitable in all of North America.

While the soil can support a wide diversity of crops, the pressure to be pragmatic within an age of capitalist agriculture has resulted in a highly homogenous crop base. Combined, onion and carrot production account for 70.9 percent of the annual output in the Holland Marsh. Other crops, including celery (7.3 percent), mixed greens (7.3 percent), “Chinese vegetables” (2.7 percent), and potatoes (0.7 percent), are less commonly grown.<sup>17</sup>

## Conceptual Framing and Scholarly Landmarks

### *Agriculture and the Dynamics of Change in the Holland Marsh*

Food for human consumption has existed in the Holland Marsh since time immemorial, and by a sufficiently lenient definition, probably always will. But agricultural production per se arrived in the Marsh within a very specific social,



FIGURE I.1. A: An aerial view of the manicured landscape of the Holland Marsh. B: The stark difference between the orderly agricultural fields of the Marsh and the land beyond the canal. C: Highway 400 bisects the Marsh. Courtesy of Holland Marsh Drainage System Joint Municipal Service Board.





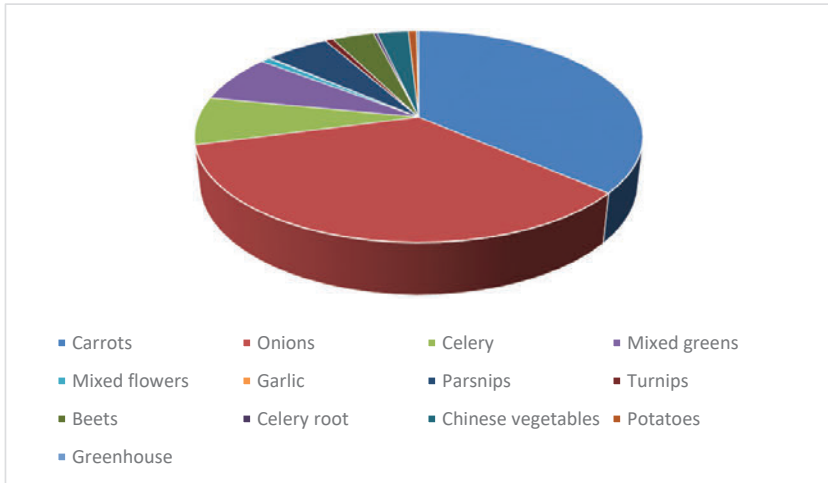


cultural, political, and historical configuration. Emphasizing that food and agriculture in the Holland Marsh are distinctly *capitalist* in character puts a fine point on one of the main themes of this book. The Marsh serves as an exemplar of, but importantly at times a foil to, much of the recent literature concerned with the state of the contemporary agro-food complex. For over a century, scholars have questioned the extent to which agriculture is capitalist.<sup>18</sup> While no clear consensus has emerged, they have convincingly demonstrated that agriculture is significantly shaped by the constraints and opportunities to capital in the ongoing process of attempting to fully rationalize food production.<sup>19</sup>

Food regime theory, developed by Harriet Friedmann and Philip McMichael, is helpful in tracing the implications of this insight within the case of the Holland Marsh.<sup>20</sup> Friedmann and McMichael argue that historically contingent configurations of modes of agricultural production, capitalism, and state power have resulted in discernable periods of stability and crisis in the global economy over the past 150 years or so.<sup>21</sup> As they put it, the food regime analytic brings together “international relations of food production and consumption to forms of accumulation broadly distinguishing periods of capitalist transformation since 1870.”<sup>22</sup>

The first period of relative global stability demarcated by Friedmann and McMichael was from 1870 to 1914. This first food regime was characterized

FIGURE I.2. Percentage of area by crop type grown in the Holland Marsh, 2006.



SOURCE: Planscape, “Holland Marsh Agricultural Impact Study,” August 2009, p. ii, [https://www.greenbelt.ca/holland\\_marsh\\_agricultural\\_study](https://www.greenbelt.ca/holland_marsh_agricultural_study).

by monopoly trade relations between colonial (mainly the United Kingdom) and colonized states. Settler states in particular (such as Canada) were, during this era, important to maintaining British hegemony by providing the colonial market with a relatively cheap and abundant source of grain. The sociopolitical instability wrought by the two world wars also created economic uncertainty during which, according to Friedmann and McMichael, there was very little structured coherence to the global economy. As a result, there was no decisive food regime during the years 1914–47. But with the conclusion of the Second World War and the emergence of the United States as a postwar power, a second food regime emerged, lasting from roughly 1947 until 1973. This regime was characterized by the rise of the United States through the pretense of international development, primarily through the distribution of US grain surpluses. This was also an era characterized by the secular trends of intensive industrialization and commercialization of the agricultural sector. As national regulations – often through international agreements such as the General Agreement of Tariffs and Trade (GATT), which lasted from 1948 through 1994 – were altered to accommodate the influx of capital demanded by a rapidly industrializing global agriculture, state power began to erode vis-à-vis a burgeoning corporate globalization.

Owing in part to the intellectual force of the paragons behind the staples thesis, much of the social-scientific scholarship related to agriculture in Canada has tended to focus on macroeconomic trends, countrywide aggregate data, and commodity- or sector-specific analysis.<sup>23</sup> This rich body of work is invaluable, yet its shadow is long, and it has sculpted the trajectory of Canadian food and agriculture studies for decades.<sup>24</sup> Recently, however, the study of Canadian agriculture has benefited from a more particularistic, place-based approach.<sup>25</sup> Within this body of work, rather than forming the centre of analysis, macrotrends and global food regimes constitute the backdrop on which equally compelling and important histories of agriculture, food, and culture play out.<sup>26</sup> This study of the Holland Marsh is similarly positioned: It recognizes and attends to structural, global, and national trends in farming, biotechnology, and the like, but always in terms of how these trends affect and/or are affected by the goings-on within the Marsh. While the dynamics of capitalist nature play out there, they do so mediated through the specificity of place and time. As Shannon Stunden Bower observes in her seminal work on agriculture in the wet Manitoba prairie, this is “capitalism at a different scale.”<sup>27</sup> My aspiration is not to gaze into the muck-soil fields of the Holland Marsh from the outside, but rather to stand in them, looking out at the world beyond.

Within this context, historians of agriculture have identified liberalism as a central modality through which agriculture and environmental change are mediated and modified in Canada. As James Murton puts it, understanding the environmental history of Canada requires moving beyond ideas about nature to recognizing “more general logics – such as liberalism – that implicitly encourage a particular form of engagement with nature.”<sup>28</sup>

This perspective builds on Ian McKay’s influential work asserting that Canada, as an ontological category, can be productively studied as a contradictory and complex project of liberal rule.<sup>29</sup> Countering the notion that it is simply a “vacant lot” and a “relatively minor” bounded geography where the dynamics of social and natural history play out, McKay insists that the country should denote within scholarship “a historically specific project of rule.”<sup>30</sup> Initial waves of the violent colonial resettlement of what would become Canada were driven by political, economic, and social rationalities premised on aristocracy and deference to crown and clergy.<sup>31</sup> Throughout the course of the nineteenth century, this system would be replaced by one girded more firmly on the core elements of liberalism – liberty, equity, private property, and the primacy of the individual. As McKay argues, this emerging social ideology was “set down on the land,” shaping both the landscape and its people.<sup>32</sup>

While there is a sociological distinction to be made between the Victorian liberalism that fuelled agricultural expansion across Canada from the mid-eighteenth century through the beginning of nineteenth century and the New Liberalism that emerged in the early 1800s, the functional role of nature (and, by extension, agriculture) was largely consistent.<sup>33</sup> And this remains true of the contemporary neoliberal era. A common thread stitching together the chameleonic and persistent liberal philosophy is an instrumentalist view of nature “in which the natural world is judged solely on its usefulness to human ends.”<sup>34</sup> This manifests as a “a culture and society built on, and absolutely dependent on, a sharply alienating, intensely managerial relationship with nature.”<sup>35</sup>

This managerialism requires rationalization. Unable to contend with the enormous complexity of the (socio)natural world, states have historically sought to make nature “legible” in ways conducive to facilitating control, regulation, and the extraction of profit. As Bruce Braun puts it, “far from constituting a field of readily intelligible objects, nature enters into history in part through its cultural legibility.”<sup>36</sup> Nature emerges as legible to the state through the processes of inventorying, abstraction, and standardization of both landscapes and the discrete bits of biophysical nature that compose them. Land surveys, cartography, soil classification schemes – these are among the technologies that made the Holland River lowlands legible to the aspiring agriculturalists who transformed it. Braun extends James C. Scott’s influential work by illustrating the “complex field of social practices” implicated in nature’s rationalization.<sup>37</sup> While Scott conceptualizes the state as distinct from civil society, Braun demonstrates the ways in which knowledge about nature generated outside the state ultimately influences how it sees and acts on nature. In other words, the state is not a totalizing force, but rather more fluidly defines and acts on nature in strategic ways, informed by a wide array of social, political, and economic forces.

By exploring the ways in which capitalism and liberalism collided in the Holland Marsh, this book adds weight to the point. Refracting the global dynamics of capital through the lens of liberal-state rationality enables a more nuanced and place-specific analysis than allowed for by more economistic modes of analysis. The Marsh is a quintessentially idiosyncratic landscape – while capital and the state have certainly shaped it, so too has technology, civil-society institutions, biophysical properties, ecological crisis, and a range of other socionatural elements. Stunden Bower’s work helps us understand how the internal logic of liberalism, in operation through the provincial government, propelled drainage on the Manitoba prairie. In contrast to this, the drainage of the Holland Marsh, while certainly supported by the state, was led by individuals (and supported

further through the Ontario Agricultural College). Liberalism in Canada has shaped – and been shaped by – a range of actors, from voluntary associations to legal apparatus and academic institutions.<sup>38</sup> This book contributes to the small but important body of work revealing the ways in which capitalism and liberalism collided in place within the context of locally and regionally bounded areas of agriculture production in Canada.

### *Nature and Society*

One of the foundational concepts of this book is that society and nature do not exist as separate entities, but rather they are constitutive elements of each other. Neil Smith was not the first to speculate on the conjoined character of nature and society, but his production-of-nature thesis remains among the most influential scholarship on the subject. “What jars us so much about the idea of the production of nature,” Smith writes, “is that it defies the conventional, sacrosanct separation of nature and society.”<sup>39</sup> He forwards the production-of-nature thesis, in part, through an analytic distinction between first and second nature. Previous to the spread of capitalism, Smith argues, first nature could be described as what is typically thought of when the word “nature” is invoked – a tree, a carrot, or a mountaintop. Second nature, on the other hand, is made from first nature – tables, carrot juice, or landscape paintings. As Smith puts it, “second nature is produced out of first nature.”<sup>40</sup>

Under capitalism, however, the distinction between the two vanishes within the self-expanding logic of capitalist accumulation, for no first nature is left unaltered as “capital stalks the earth in search of material resources.”<sup>41</sup> In other words, Smith argues that, either through direct manipulation (turning a tree into lumber) or indirect consequence (melting polar ice caps as a result of human-driven climate change), no area on earth has been left unchanged as a result of human activity. Within this context, the difference between first and second nature “ceases to have real meaning . . . [because] human beings have produced whatever nature became accessible to them.”<sup>42</sup> He continues:

Where nature does survive pristine, miles below the surface of the earth or light years beyond it, it does so only because as yet it is inaccessible. If we must, we can let this inaccessible nature support our notions of nature as Edenic, but this is always an ideal, abstract nature of the imagination, one that we will never know in reality.<sup>43</sup>

Critical geographers, in particular, have elaborated on ways to transcend dichotomous and rigid conceptions of nature and society “to grasp nature’s social

character . . . to see how, in both thought and practice, the natural and the social melt into one another."<sup>44</sup> Noel Castree offers three specific ways to substantiate the conjoined character of nature and society. First, he points to the work critical geographers have done to demonstrate that knowledge of nature is always inflected with subjectivity. This both calls into question the possibility of an "objective" nature and hints at the ways in which nature can be thought of as irrevocably social. In an early and noteworthy essay, the preeminent critical geographer David Harvey takes on a neo-Malthusian establishment in arguing that global resource "shortages" were in fact nothing more than the uneven distribution of resources, the flow of which was largely determined by powerful Western nations. This critique calls into question assumptions about overpopulation and its relationship to starvation, resource degradation, and the like. In other words, Harvey exposes neo-Malthusian arguments to be fundamentally ideological and premised on a particular (and powerful) conception of nature.<sup>45</sup> Others have since moved the critique of "knowing" nature beyond its ideological implications, focusing instead on the discursive work mobilized toward privileged knowledge(s) of nature. These critiques demonstrate the ways in which power, articulated through ways of knowing about nature, is activated within gendered, racialized, and colonized knowledges.<sup>46</sup>

Yet nature is clearly constituted by more than particular kinds of knowledge. To argue otherwise would be to deny the fundamental material aspect of biophysical nature. The second way nature can be seen as social is by understanding that its ever-present materiality is socially mediated and contingent. As an example, photosynthesis and its results are clearly not socially produced – that process initiated long before humans arrived. Yet photosynthesis can be harnessed and deployed in ways, such as through agriculture, that tend to reproduce conventional power structures and perpetuate inequalities.<sup>47</sup>

Taking this second argument one step further, Castree points to the third way critical geographers have challenged the supposed dichotomy between society and nature. Here, the claim is that material nature is not only engaged with in socially contingent and mediated ways but also physically reconstituted through those interactions.<sup>48</sup> As Erik Swyngedouw puts it, contemporary scholars recognize "that natural or ecological conditions and processes do not operate separately from social processes, and that the actually existing socionatural conditions are always the result of intricate transformations of preexisting configurations that are themselves inherently natural *and* social." Given the extent to which nature is imbricated with social processes, he argues that the social and natural are better reflected in the hybrid conception of "socionature."<sup>49</sup> Castree

observes that employing this term “is not at all a denial of the material reality of those things we routinely call natural. . . . Rather it’s an insistence that the physical opportunities and constraints nature presents societies with can only be defined *relative to* specific sets of economic, cultural and technical relations and capacities.”<sup>50</sup>

Taking seriously the notion that the Holland Marsh is a socationatural landscape helps reveal important aspects of the dynamics that have gone into producing and reproducing the area. The Marsh was not created in a vacuum of endless possibilities – it was produced precisely because of the specific material and geomorphological character of the area. That it was once a wetland very much matters to the history and the development of agriculture there. It is important to underscore the materialist commitment of socationature – biophysical nature does not simply bend to every human whim but instead presents a variety of “obstacles, opportunities, and surprises.”<sup>51</sup> To help clarify this admittedly tricky concept, scholars have delineated between the *formal* and the *real* subsumption of nature within industrial, capitalist production. In some industrial processes – mining, for instance – the characteristics of biophysical nature are such that it cannot be fully transformed, only exploited. Rocks can be mined, crushed for aggregate, and used in a variety of end-use products, but the biophysical character of the rock remains largely unchanged. In other industrial dynamics – agriculture, for example – the real subsumption of nature is able to occur through biological manipulation at the cellular scale. Seed germplasm is altered, soils are augmented, and plants are designed to be ever more efficient: “Nature, in short, is (re)made to work harder, faster, better.”<sup>52</sup> This drive to control the landscape and the discrete bits of biophysical nature within it has been woven into the very fabric of the Holland Marsh. The “imaginary” of orderly, “smiling farms” has long been a seductive promise in the Marsh, and yet completing this project has remained always just out of reach due to the materiality and ongoing unpredictability of biophysical nature.

Yet the “social” contributions of socationatural production in the Holland Marsh have remained undeterred for nearly a century. Politics – the formal operations of governments in addition to social movements, civil society action, and the like – are fused into the fields and yields of the Marsh, enveloped in the process of nature’s production. Limits to the production of socationatures, while partly material (as mentioned above), are also socially produced.<sup>53</sup> Within this context, environmental politics are seen to matter profoundly to the process of the production of socationature – an insight on display at various points in the history of the Marsh. The production of socationature is animated and negotiated

through the environmental-political tensions between official state policy and the dissenting civil-society actors. Demonstrating that the government and politics matter to the production of nature (as I do below) reveals the process to be a highly contingent one. The Holland Marsh as a produced socionature was not inevitable, but rather produced (at least in part) through a confluence of contingent state power, institutions, and contentious politics unfolding over time.

And yet, while there are material and social elements that go into the production of the Holland Marsh landscape, there are equally important imaginaries that have contributed – and continue to contribute – to its production and ostensible protection. The story attached to the first vegetables to emerge from the Marsh is infused with technology, human ingenuity, assembly line precision, and a sterilized, cling-wrapped nature. In some of the earliest commercial advertising, potatoes from the Marsh are positioned by Eaton's as the equivalent of expensive hats and fur coats – items every modern woman should never be without.<sup>54</sup> Notions of progress, technological advancement, and even decadence were, in effect, inscribed onto the “nature” of the potato. In the contemporary period, conventional commercial ads as well as a variety of nonprofit organizations promoting Holland Marsh vegetables – Sustain Ontario, Local Food Plus, Friends of the Greenbelt, the HMGA, and others – privilege decidedly different notions of nature based on neopastoralism and rustic environmentalism. Contemporary boosters of the area have invoked a cultural and natural imagery of a romanticized past and the *de rigueur* language of “local food” to construct an imaginary that eschews the material reality and history of the area in important ways. Such efforts, ironically, attempt to recapture a bucolic character deliberately blanded from the area and its yields by Marsh boosters of a bygone era. So while agriculture in the area is rooted in a deep materiality mediated through politics and institutions, it also exists as a dematerialized spectacle of signs, referents, and symbols.<sup>55</sup>

Importantly, the development and deployment of various idyllic constructs is not merely a function of particularistic commercial interests. These ecological imaginaries are cast from within dominant structural systems, including capitalism, colonialism, patriarchy, and the like.<sup>56</sup> Put differently, imaginaries of nature are not fixed, nor are they politically benign. Smith underscores this point by noting that, “much as a tree in growth . . . the social conception of nature has accumulated innumerable layers of meaning in the course of history.”<sup>57</sup> Nor are perceptions of nature formed *ex nihilo*, but rather imaginaries of nature – or ecological imaginaries – are ideologically and discursively mediated.<sup>58</sup> As Smith puts it, there is an *ideology* of nature, riven with the logic of capital,



that influences how we think about and experience nature. As an example, the unrelenting exploitation of biophysical nature – trees, bituminous sands, rock quarries, soil – is enabled by the deeply engrained notion that nature is infinite, out there somewhere, and unlimited.<sup>59</sup> In recent Canadian history, the extent to which the state tends to protect this idea has been vigorously enforced, through, for example, the defunding of scientific research, the shuttering of libraries, and the labelling of environmental activists (particularly so called anti-petroleum ones) as “terrorists.”<sup>60</sup> Similarly, privileged imaginaries of what nature in the Marsh “ought” to be is a key ingredient in how that area has been reproduced through the decades. And these normative commitments are reflective of the historical, social, cultural, and political configurations of the day.

In just a few generations, the Holland Marsh has undergone a profound socionatural transformation. The physical terrain of the area, once a swampy flood plain for the Holland River, exists now as a manicured landscape of fields, roads, houses, barns, irrigation canals, and culverts. At the same time, conceptions about what the Marsh “is” have also changed. Various imagined as a mosquito-filled wasteland, an investment opportunity, a place for home and work, an agricultural site, and, more recently, a centre of high-end niche food production, its identity has been as unfixed and variable as its material referent.

It is important to highlight the socionatural dynamics at play in the Holland Marsh, partly because crops are not widgets and fields are not workshop floors. Farming is different from many industrial processes in that it is heavily influenced by weather conditions, pests, wind, and a litany of other factors that are not fully under human control – despite the best efforts of farmers, scientists, and agro-industry interests.<sup>61</sup> Biophysical and climatic elements introduce a sizable amount of unpredictability into agriculture, making it distinct from typical industrial formations. So while it is possible to think of agriculture as capitalist, it is also relevant to think of the components of agriculture as being shaped by capitalism. As some would have it, crops, seeds, and soil can all be considered bits of “capitalist nature.”<sup>62</sup>

Emphasizing the notion that agricultural environments are fundamentally caught up in the broader processes of nature’s production also brings to the foreground the unique character of stability and crisis associated with capitalism-in-place. Specifically, the ostensibly self-expanding character of capital is significantly restrained by the need for nonproduced (that is, “natural”) inputs.<sup>63</sup> As capital uses biophysical inputs and creates outputs (pollution and such), it tends to draw down the resources available to its successful reproduction. In other words, biophysical properties are “underproduced” by capital, leading to

the second contradiction of capital: In order to reproduce, capital needs ecological inputs (water, landscapes, plants, and so forth), but in the process of reproduction, it destroys (or renders unusable) these things. Within the Holland Marsh, this process can almost be demonstrated in centimetres of soil per year. The very moment the wetland was drained, exposing the rich composition of centuries' worth of decayed plant material to vastly increased levels of oxygen, was the instant this complex soil became more susceptible to oxidization, wind erosion, and water erosion through flooding. While there are mitigation techniques and technologies being employed by farmers to stabilize the soil, one of the defining features of the Marsh's local competitive advantage, its demise is inevitable.

Emphasizing the specificity of the kinds of biophysical nature transformed in the Holland Marsh reveals that accounts of the broad structural and historical trajectory of capitalist agriculture constitute perhaps an overly blunt approach to untangling agriculture's inherent dynamics.<sup>64</sup> Agriculture in the Marsh is in part a result of the postwar global industrial-food regime. At the same time, there are important lessons to be learned from exploring the specific processes by which the area became enlisted in global agriculture and by investigating points of disjuncture between global agriculture and agriculture in the Marsh. Looking at the specificity of nature in the area – or more accurately, the socionatural imbroglis that have resulted from the collision of global agro-industrial forces and local particularities – reveals insights into the complex interplay between agriculture, food, history, and capitalism.

### *Sociopolitical Aspects of Soil and Farmland Degradation and Loss*

Its hydroponic variant aside, agriculture depends on the soil, and one of the central purposes of this book is to bring soil back in to view. Dirt, as the preeminent anthropologist Mary Douglas famously described it, is “matter out of place.”<sup>65</sup> Douglas's anthropological and structuralist commitments led her to understand dirt (and its inverse, cleanliness, or the absence of dirt) as part of a broader sociocultural arrangement of meaning in which dirt was an ordering antagonist. “Where there is dirt there is system,” she argues.<sup>66</sup> I largely agree with this assessment but take a slightly different tack, arguing that dirt, at least in part, is matter out of *view*. It is rare that we ever think about dirt unless – as Douglas observed – it is within the context of an absence of cleanliness. For most of us, dirt is something to be swept away from the kitchen floor, sprayed off the dog, or scrubbed out of our clothes.

Yet dirt is instrumental to our survival. We cannot live without food, almost all of which grows from the earth. Soil is also responsible for the cycling and

purifying of fresh water, it is a condition of production for the growth of fibres the world depends on, and it supports untold numbers of flora and fauna. Ignoring the complexity and crisis of dirt is a luxury for only the most privileged – those who have access to consumable goods from around the world without ever having to confront the biophysical and ecological requirements of those items. As a normative commitment, then, this book is an attempt to bring attention to the “quieted disaster” of soil degradation and farmland destruction.<sup>67</sup>

While soil degradation and farmland loss are global scourges that threaten livelihoods, destabilize populations, and exacerbate climate change, conventional accounts of the problems typically miss the point by rendering soil and its uses apolitical. Indeed, this was largely the case up until Piers Blaikie and Harold Brookfield developed critical insights in the mid-1980s revealing the politics that adhere in all landscapes.<sup>68</sup> The critical subdiscipline their work inspired – political ecology – interrogates how landscapes and other things we deem to be natural (such as soil) are also always social, cultural, and political. In other words, landscapes are always produced by humans within particular historical and cultural contexts, though this is not always easy to see (recall my longstanding misreading of the Holland Marsh).

Some of the earliest policy and program interventions aimed at defining and remedying soil degradation focused on erosion in Africa in the 1930s. Employing questionable scientific methods, colonial agronomists ignited a moral panic that led to the imposition of compulsory antierosion practices, the prohibition of certain farming techniques, and the forced destocking and displacement of animal herds across the continent.<sup>69</sup> In assessing these early soil-conservation efforts, political-ecology scholars have demonstrated how concern for soil degradation in Africa in the 1930s incubated in the United States and spread throughout the so-called developed world as an expression of anxiety about the global implications of the American Dust Bowl. White occupiers demonized Indigenous farming methods as backward and destructive, and the colonial powers capitalized on this by expanding their land holdings under the facade of scientific management and ostensibly modern farming techniques.<sup>70</sup>

By the early 1990s, critical historians and others were deepening the critique of soil-degradation science and remediation efforts in 1930s Africa. The professed science of the colonialists was exposed as soil politics – unduly alarmist, dismissive of local biophysical conditions and knowledge, and ultimately deleterious to African agriculture.<sup>71</sup> This was a top-down colonial approach to both defining and providing solutions to the problem of soil degradation. A key insight of this body of work is that to deem a given soil as degraded is to implicitly place it

within a normative context of ideal use. If the expectation is that a patch of land should produce a constant and prolific stream of fruit for export to the United States, then the slightest drop in phosphorus levels could be considered suboptimal, and thus the soil degraded. If the expectation is instead that the same patch should produce more moderately for the domestic market, then slight drops in various key chemicals may not constitute degradation.

The point, as Blaikie and Brookfield made thirty years ago, is that soil degradation, while not without a biophysical component, is really a social and political problem.<sup>72</sup> As Salvatore Engel-Di Mauro puts it: “Soil degradation implies a political position relative to how people relate to soils. This is why the matter of soil quality and hence degradation must encompass a study of social relations, not just soil properties.”<sup>73</sup> Put differently, the extent to which a given ground is considered degraded is largely a function of its social, cultural, and political context.

The very fact that soil is primarily considered an agricultural input tells us a lot about the expectations we have of it. In Canada, as in most capitalist countries of the Global North, it has long been seen in instrumental terms – a natural resource to be exploited for profit through agriculture. Here, the first substantive efforts to survey and define soil (along biochemical, geochemical, and taxonomical lines) were initiatives of the Ontario Agricultural College.<sup>74</sup> The earliest surveys investigated how soil erosion affected farming and explored the feasibility of agriculture in previously unworked areas. The production of scientific knowledge about Canadian soil has been, since the first survey in 1914, largely a commercial enterprise defining soils only in relation to agriculture.<sup>75</sup> In the intervening century, the commercialization of soil science has intensified as publicly funded, nationally coordinated research has given way to privately funded, proprietary studies. These “specific-purpose surveys” are increasingly common for agricultural lands, but especially over the past decade or so, they are the purview of oil-and-gas companies looking to exploit bituminous soils and landscapes.

A key idea in this book is that farmland-preservation policies are based on normative, context-specific, and political ideas about soil and landscapes. If the normative assumption is that soil is really only useful in as much as it can be used for farming, then there is scarcely little opportunity to understand it separate from agriculture. Farmland-preservation policies, in a very real sense, “produce” soil as little more than a farming medium. And the preservation of farming is not necessarily compatible with the preservation of soil, particularity within the Holland Marsh, given the biophysically delicate character of its muck.

Within this context, the imposition of agriculture on the landscape can be framed as a normative expression of an idea about the “purpose” of nature. The

original Marsh boosters were motivated by a variety of factors – moral, technical, financial, and others – but behind all these is the more basic notion that agriculture is a higher-order use of the landscape than is the preservation of a wetland.

To underscore this point, the Holland Marsh is now heavily protected as an agricultural area, the wetland having been expunged nearly a century ago. Yet, for reasons further elaborated below, the legislated protections leave the soil vulnerable. The degradation of farmland soil, as Blaikie and Brookfield point out, is a social problem, not only a biophysical one – this remains true within the context of farmland-protection policy. Nutrient leaching, wind and water erosion, and even soil subsidence can occur with or without human intervention, “but for these processes to be described as ‘degradation’ implies social criteria which relate land to its actual or possible uses.”<sup>76</sup> Degradation is then, in many ways, a perceptual, relational problem. As an example, the terminal depletion of key soil nutrients on a piece of near-urban property would result in its devaluation as farmland and thus would be considered degraded by the farmer-owner, farm advocates, and others of a similar persuasion. But to a suburban land developer, devalued farmland may represent a promising opportunity to acquire premium development land on the cheap. Degradation, in other words, is somewhat in the eye of the beholder.

Suggesting that land degradation is partially perceptual in no way annuls the seriousness of the issue. The loss of farmland continues to exacerbate poverty, marginalization, ecological degradation, starvation, and other untold horrors throughout the world. But the biophysical phenomenon of degrading soil is not the proximate cause – rather the determining factor is the social context that enables and allows such devastation to result from changes in the biophysiology and biochemistry of soil. Farmers are, on the whole, compelled by the edicts of pragmatic production to pursue the maximization of short-term profit. Highly intensive agriculture depletes farmland in as much as it reduces its capacity to sustain similar levels of production (without the introduction of soil amendments in the form of fertilizers and the like). A given piece of land may be perfectly fine from a biophysical perspective but classified as depleted when the expectations of intensive cultivation and the demand for profits are placed on it.

So how do we move toward a perspective on farmland degradation that might prove to be more efficacious in terms of farmland preservation? At minimum, to better understand the character of the problem requires seeing farmland degradation as the product of irrevocably conjoined social and biophysical processes. Soil is only considered degraded in relation to the expectations placed on it; any

perceived biophysical degradation is typically the result of human activity in one form or another.<sup>77</sup> The next step in understanding would ideally include knowing something about the history and context of both the biophysical properties of the soil as well as the social uses of it. Assembling an exhaustive historical record of a farmed area, its people, the soil, local culture, and so forth is obviously not always possible. Indeed, in the case of the Holland Marsh, there is scarce historical scientific and quantifiable data on the muck soil itself. Yet striving to assemble the clearest image possible of the socio-natural conditions of the land through time, as this book attempts, is a promising methodological manoeuvre.<sup>78</sup> Next, moving toward a more thorough picture of farmland degradation (and its remedy) requires investigating the “chain of explanation.”<sup>79</sup> This requires an analysis that takes into account the individual, social, and biophysical specificity of a given unit of agricultural production, then moving out to examine the concentric, interlocking spheres of relevant phenomena. This will vary case by case but can include the relations between producers within a given area, regional climatic conditions, and local political conditions through to national and supra-state actors and world economic trends.

The final step in developing a more nuanced understanding of farmland degradation is through adopting an inclusive definition of degradation itself. In conventional accounts, the assessment of whether a particular piece of farmland is degraded is premised on an analysis of some combination of the physical, chemical, and biological components of the soil. If certain thresholds of a given nutrient are absent, or the percentage of organic matter per unit is deemed insufficient relative to production demands, the soil is labelled degraded. At that point either the land is abandoned as farmland or efforts are made to remediate the soil. What technocratic definitions miss, however, is the broader social context of soil’s degradation. I use Engel-Di Mauro’s more ambitious definition of healthy farmland being that which “fulfill[s] everyone’s needs in a community and contributes to developing or maintaining egalitarian relations.”<sup>80</sup> This approach creates a much more complex picture of land degradation, its causes, consequences, and potential solutions, than conventional approaches have allowed. Ideally such an approach will lead to transcending the impasse that has seen the confusion about this issue continue unabated over the last few decades.

Before reviewing the conceptual development and deployment of farmland-preservation paradigms in Canada, it is useful to first briefly historicize two antecedent and related ideas, conservationism and environmentalism. This is only a cursory effort, though, as summarized below, with much more having been written about these shifting and historically contingent categories elsewhere.

A concerted conservation movement was part of the European zeitgeist from as early as 1880 and informed – along with US influences – the shape of early conservationism in Canada.<sup>81</sup> In the earlier part of the nineteenth century, conservationism in the colonies had little purchase, given the prevalence of the notion of an extensive, inexhaustible nature and related policies to support resettlement and natural-resource extraction.<sup>82</sup> There was a “myth of superabundance,” of a land “rich in soils, and minerals, and forests, and wildlife.”<sup>83</sup> But this was not a monolithic perspective – in the early decades of the nineteenth century, the Hudson’s Bay Company developed and implemented a wildlife conservation program in response to rapidly declining beaver populations. This included harvest quotas, resulted in the shuttering of some trading posts, and led to the development of some of the first fur sanctuaries in North America.<sup>84</sup>

The conservationism of early twentieth-century Canada reflected Enlightenment-era conceptualizations of nature and liberal ideals with respect to human-environment relations. Nature was to be inventoried, categorized, and managed in ways that supported economic development and territorial expansion. A practical, instrumental desire to protect the environment thus fused with a perspective that nature could be managed and improved on through science and human ingenuity.

Perhaps no institution embodied this perspective better than the Commission of Conservation (CoC), a federal nonpartisan conservation-advisory body composed of academics and business leaders, *ex-officio* members from the federal departments of the interior and agriculture, and representatives from the provincial governments. The CoC was initiated in 1909, following a commitment by the Canadian delegation at an international conference on the conservation of natural resources, hosted by the so-called conservationist president, Theodore Roosevelt.<sup>85</sup> Its named committees hint at the tactical character of conservation at the time – mines, waters and hydropower, lands, forests, fish, game and fur-bearing animals, public health, and public relations. The CoC produced an impressive body of work – over two hundred reports from its founding through its disbandment in 1921.

The Committee on Land, chaired by Dr. James Robertson, is particularly salient here. Robertson was among one of the most forward-looking members of the CoC, rejecting chemical fertilizers in favour of compost and manure and advocating for a conservation-research agenda “by far the most advanced” among the academics involved with the commission.<sup>86</sup> For him, farmers were the foot soldiers of conservation, and the best farmers convened with divine and earthly elements to nurture productivity from nature. As he wrote in 1912,

Farming is the marriage of the strength of old Father Sun to the inherent strength of old Mother Earth. The plant is the child and the farmer manages the business. That is his place in the economy of nature. So this is a noble calling at its best . . . [The farmer is] . . . a partner of the Almighty to make a new earth wherein dwelleth righteous farming and righteous living.<sup>87</sup>

In his remarks in the commission's first annual report, Robertson spoke evocatively and reverently about Canada's agricultural resources as "the chief asset in the landed estate of the people of the Dominion" and the CoC's role in managing those resources to extend "their enjoyment through the wise use of what we have."<sup>88</sup> He also warned of the "tremendous temptation for first settlers to become surface miners instead of real farmers who use and husband the treasures of the soil."<sup>89</sup>

The productivist, instrumental character of early-twentieth-century conservation was underscored most poignantly by US president William Taft, who Robertson quotes extensively in his opening remarks. At this time in history, draining wetlands for agricultural production was sound land stewardship. As Taft put it:

In considering the conservation of the natural resources of the country, the feature that transcends all others, including woods, waters, [and] minerals, is the soil of the country. . . . To this end the conservation of the soils of the country should be cared for with all means at the government's disposal. Their productive powers should have the attention of our scientists that we may conserve the new soils, improve the old soils, drain wet soils, ditch swamp soils, [and] levee river overflow soils . . . [so] that the soils from which they come may be enriched.<sup>90</sup>

The CoC was disbanded in 1921, representing waning support for the conservation agenda within the federal government.<sup>91</sup> Though by the 1930s, and in part spurred on by civil-society initiatives, an evolving form of conservationism was emerging across Canada. The National Parks Act was passed into law in 1930, the Federation of Ontario Naturalists was formed in 1931, Ducks Unlimited opened a Canadian chapter in 1938 to facilitate wetland restoration, and the Canadian Quetico-Superior Committee was founded in 1949 (an offshoot of its sister organization, the Quetico-Superior Council, based in the United States and founded in 1928).<sup>92</sup> There was a qualitative shift in this emerging conservationism that nudged the instrumental and productivist impulses of earlier iterations toward preservation.



This was a less anthropogenic effort, one that began to subtly recast the human-nature relationship. While certainly more radical than many of his contemporaries, Aldo Leopold's ecological philosophy is indicative of this shift. In the middle of the twentieth century, Leopold insisted that nature was still largely understood as something to be owned and used for human benefit. He famously called for a new ethic to inform human-nature relations: "There is as yet no ethic dealing with man's relation to land and to the animals and plants which grow upon it. Land, like Odysseus' slave-girls, is still property. The land relation is still strictly economic, entailing privileges but no obligations."<sup>93</sup>

Despite this critical posture, Leopold was optimistic that the nascent conservationism in North America at that time was indicative of a deepening respect for the so-called natural environment. For him, the land ethic was about extending to nature the same considerations community members show each other. As he put it, "The land ethic simply enlarges the boundaries of the community to include soils, waters, plants, and animals, or collectively: the land."<sup>94</sup> The leaky ontological categories of nature and society can be seen to be dissolving within Leopold's ecological philosophy – humans and nature were irrevocably intertwined in much more profound ways than earlier instrumental versions of conservation implied.

Rachel Carson's *Silent Spring* put a fine point on this and contributed to the emergence of an environmental movement that began to grapple with ecological contamination and collapse. In Ontario, a number of environmental organizations emerged in the 1960s and 1970s that rejected the liberal conservation ideal of instrumental use and instead developed a deep ecological rationale for nature's protection. The Algonquin Wildlands League, formed in 1968, agitated for – and won – extensions of protected wilderness areas in Algonquin, Lake Superior, and Killarney Parks and was instrumental in realizing a ban on logging in Quetico Park.<sup>95</sup> The first Earth Day was observed in 1970; Greenpeace launched in Victoria, British Columbia, in 1971; and DDT was banned in the United States, although more slowly phased out in Canada, beginning in the early 1970s. This was an emerging environmentalism that would inform the contemporary movement focused on public health and well-being, toxic landscapes, climate change, and the intersectional ways in which environmental (in)justice cleaves along gendered, racial, class, and spatial lines.

While concern for land quality had percolated as early as the late nineteenth century, deep concern for farmland degradation and preservation began to emerge in Ontario in a broader sense during the 1950s. Unlike the earlier anxiety circulating in the global context, which pinned farmland precarity on issues

of soil erosion and poor farm management in the developing world, the threats in Ontario in the 1950s were tied to rapid postwar (sub)urbanization.<sup>96</sup> These earliest concerns were sparked by threats to high-value agricultural land, particularly the fruit-growing area on the Niagara Peninsula. In 1959, Ralph Krueger captured the latent anxiety:

In recent years there has been much concern in Canada over the spread of urban land uses onto the choice Niagara fruit land. Commentators and editors of all the news media, as well as industrialists, fruit growers, planners, and government spokesmen, have been debating how much urban expansion has been affecting the fruit industry, and whether anything should be done to direct urban growth away from the best fruit land.<sup>97</sup>

Subsequent research in the area confirmed fears of farmland loss and eventually contributed to the creation of the Food Land Development Branch – later renamed the Food Land Preservation Branch – of the Ministry of Agriculture of the Ontario government in 1973.<sup>98</sup> By the late 1970s, Ontario had developed its first explicit strategies and guidelines for farmland protection, demonstrating that the issue had begun to have traction at the highest levels in provincial government.

Concern at the federal level had already coalesced in response to a national conference titled *Resources for Tomorrow*, which resulted in the creation of the Canada Land Inventory (CLI) in 1961. The CLI's mandate was an ambitious yet simple one – to inventory the nation's land and assess its “productive” capabilities.<sup>99</sup> The body found that only 15 percent of Canadian territory had any potential as farmland, quantifying – for the first time – Canada's agricultural potential. Far-smaller pockets in the Montreal Plain, southern Ontario, and the Lower Mainland in British Columbia were the only areas with land deemed to be Class 1 and Class 2 – the most productive, highest-quality farmland. Not surprisingly, subsequent to CLI's work, these three areas in Quebec, Ontario, and British Columbia became the main focus of farmland preservation work in Canada.<sup>100</sup>

Given that Canada's prime agricultural land was shown to be clustered around its most populated areas, the impetus behind what might be considered the first wave of protection policies and initiatives in Ontario came in response to anxieties over the loss of farmland in the face of urbanization. In the postwar boom, agriculture was losing out to suburban expansion in the zero-sum game of land use. Yet, over time, the actual loss of farmland proved to be fairly modest, estimated at around 3 million hectares country-wide between 1941 and the early

twenty-first century.<sup>101</sup> And while farmland loss can have significant local and regional consequences, the rationalization and industrialization of agriculture meant that farming output increased at the national aggregate level despite a shrinking farmland base.<sup>102</sup> The productivist/scarcity rationale thus lost steam in the face of this empirical reality. Any worry that agricultural production would be stunted in Canada due to a shrinking land base waned in the face of a growing faith in agro-technologies to perpetually increase per-hectare yields.

In part as a reaction to this perspective and beginning in the late 1960s and early 1970s, a second wave of farmland preservation grew out of the nascent Canadian environmental movement. This was a shift in focus from the *quantity* to the *quality* of land.<sup>103</sup> Invoking Leopold's notion of land ethic, Mary Rawson was one of the first Canadians to write about farmland protection from an ecological perspective. Addressing the BC context, she noted that "the critical task of preserving food-producing lands" was, in part, a way to "nurture the growth of a new understanding of man's relationship to land, a new land ethic."<sup>104</sup> In Ontario, the Ontario Coalition to Preserve Foodland was formed in the early 1980s as an alliance of sorts between environmental groups and those interested in farmland protection. At the same time, larger mainstream environmental groups, such as the Sierra Club and Friends of the Earth, began taking on the issue of farmland preservation as a matter of key business. Within this perspective, protecting farmland was seen as a way of preserving the natural environment. Proponents of this perspective point to the environmental services of farmland – as a sink for carbon, a habitat for wildlife, preservation of the countryside, and the like.

While the environmental-protection perspective is still prevalent, a stronger influence in contemporary farmland preservation has more recently emerged – amenity protection. As Canada has become an increasingly (sub)urban country, the countryside is seen as a place to escape to for weekend getaways, summer holidays, afternoon drives, or permanent relocation. This "rural migration," as it is known, is characterized by "the movement of largely affluent urban or suburban populations to rural areas for specific lifestyle amenities, such as natural scenery, proximity to outdoor recreation, cultural richness, or a sense of rurality."<sup>105</sup> The influx of amenity migrants to the countryside has led to an exurban gentrification, whereby farmland protection is framed as part of a broader community-preservation paradigm by local governments in attempts to lure new residents.<sup>106</sup> Farmland-preservation policies are in this case bound up – perhaps subsumed by – those to accommodate the exurbanite imaginary of the pastoral rural.

This leads to the final theme under which the impetus for farmland preservation can be grouped – the agrarian ideal. Some argue that, in the Canadian context, the notion that agriculture has both cultural and economic significance – that there is an inherent rural virtue – can be traced back to the country’s earliest history as a producer for colonial-export markets. Indeed, early farming in Canada was intimately tied to the creation of a national identity. Michael Bunce points out that there is both an economic and cultural aspect here. In an economic register, “physiocratic agrarianism – the belief that the true wealth of the nation is drawn from the land,” imbues agriculture with a productivist authority – farming contributes economically, provides jobs, supports families, and builds sturdy societies. Farmers, too, are elevated – in the famous words of Thomas Jefferson – to “the chosen people of God.”<sup>107</sup> The normative corollary of this leads to what some call the romantic iteration of agrarianism.<sup>108</sup> From this perspective, farmers come to be (unwittingly, perhaps) celebrated as land stewards, not (merely) farmers. Here, Henry David Thoreau is the patron saint, and both the urbanization and the industrialization of agriculture are seen to be the true threats to farmland. These pressures, from this perspective, can only be neutralized through a “back to the earth” movement emphasizing a culture of “traditional” farming from an idealized, bygone era. The rise of so-called agro-tainment and pick-your-own models illustrate the extent to which farmers are now cast as curators of the countryside – stewards of both the land and an idealized rural community.<sup>109</sup>

This is all to say that the impetus driving farmland preservation is not easily parsed. The truth is, there are multiple and at times competing perspectives driving these efforts. Yet, to reiterate, conventional farmland-preservation measures are typically designed to protect a particular kind of capital-intensive farming, not the land itself. *Farming*-preservation policies need to be understood as distinct from *farmland*-preservation policies, yet this distinction is rarely, if ever, made. The focus of this book – unearthing the socionatural history of the Holland Marsh and exploring the conditions and processes through which that farmland was made and maintained – reveals the specificity of the Marsh land base and sheds light on the limits of contemporary farmland-protection policies.

The following chapters draw on and develop these three conceptual touchstones – agriculture and capitalism, nature and society, and the sociopolitics of soil and farmland degradation and loss – through an empirical examination of agriculture in the Holland Marsh. It is important to understand these not as discrete categories, but rather as overlapping analytics with which to parse the ever-shifting configuration of change within the Marsh. The driver of a distinctly

capitalist form of agriculture propelled the area's initial draining – a capitalism always refracted through the liberal project of the Canadian state. We see in the story of the Holland Marsh a kind of double movement – a to and fro of capital penetration followed by periods of liberal regulation to address the (ecological) externalities of production, as described by Karl Polanyi. The latest iteration of this – the Specialty Crop Area designation – ostensibly finds a resolution between ecological and economic sustainability. Yet the apparent resolution of this contradiction of capitalist agriculture is incomplete and temporary. Importantly, this approach as used in the Marsh is reflective of broader patterns of the regulation of biophysical nature within the Canadian liberal state. We cannot understand the history of agriculture without also understanding something about the history of “nature” in Canada.

What we witness in the Holland Marsh is not a wholesale and unregulated expression of global industrial agriculture because the geologic history and biophysical composition of the area resists being so neatly integrated into industrial models of production. Yet this is not to suggest that the productivist impulses of capitalist agriculture were nonexistent in the Marsh. Indeed, they were, and continue to be, but they are continually refracted through, modified by, and complicated within the biophysical specificity of the area. More than this, as socionatural theory demonstrates, are the discursive elements and imaginaries of nature that (re)produce agriculture in the Marsh. The ideas that various actors – farmers, boosters, marketers, policymakers – have about the biophysical nature of the Marsh are a key driver in shaping the material landscape.

The most important expression of this dynamic is with respect to the soil – the *raison d'être* for draining the area in the first place. Shifting understandings of conservationism and environmentalism have modified the (re)production of the soil over time. The original drainage of the Holland River lowlands was enabled through a matrix of regulation and justified through a rhetoric of improvement as fundamentally conservationist. Fast-forward nearly a century, and the landscape is protected as a Specialty Crop Area, cased within a logic of environmentalism and farmland protection. Yet despite decades of regulation, justified within shifting discourses of conservationism, environmentalism, and farmland protection, the soil's steady subsidence has continued.

## Chapter Overview

In the following chapter, I take up a discussion of the very earliest history of the Holland Marsh area, from roughly 14,000 years ago up until roughly 1925, and

explore how various aspects of the past have enabled and shaped the current-day Marsh. I focus explicitly on how relevant social and natural elements collided and eventuated in the production of the material agricultural landscape of the Marsh – in other words, how the physical land came to be produced out a “dismal swamp.” Within this context, the geology of the area stands as a sturdy foundation, serving as the biophysical canvas on which the socionatural activity of muck farming would eventually emerge. Before the farms, however, was the wetland, a complicated, vernacular landscape accommodating to various uses before it was transformed into fields. I discuss how a wider regional reclamation geography, enabled by a shared Great Lakes basin geology, provided the early Marsh boosters – in particular Professor William Day – with examples of drainage projects to study in southern Ontario, Michigan, and Ohio. While Day and the Holland Marsh Syndicate would draw on other similar projects throughout the region, ultimately they would create their own social and political configurations in order to mobilize the resources (not only financial but also political) necessary to drain the Holland River valley.

In Chapter 2 I attend to the period of time between roughly 1925, when the excavation of the canal system began, through to 1935, by which point meagre commercial agricultural production had begun. This is the period during which the material landscape of the Marsh was thoroughly transformed from an abstract idea of land into actual, farmable fields through a confluence of policy, technology, labour, and capital. I discuss the Herculean efforts required to dredge a twenty-seven-kilometre-long canal out of the peaty bog and argue that the spectacle of it all whetted the appetite of would-be farmers and hungry consumers alike. The transformation of the landscape was also predicated on a host of institutional and legislative supports that preceded the draining, establishing important legal and discursive precursors to the agricultural activity to come. As the fields emerged out of the swampy water, they were thrust into abstract exchange relations, assigned (inflated) value, and propelled into a complex and multispatial political economy of food and agriculture.

For the farmers in the Marsh, the timing of the land’s emergence could hardly have been worse. I begin Chapter 3 (1935–54) by exploring the hardships those early families had to endure as a result of the effects of the Great Depression. The socionatural confluence of low consumer demand, on the one hand, and prodigious supply crowding the newly minted fields, on the other, made for a disastrous start to commercial agricultural production. As I detail in this chapter, the crops emerge as a stability strategy for the farmers, while agriculture in the Holland Marsh truly flourishes during the immediate postwar years.

Farmers there (and elsewhere) leveraged their newfound clout, as producers of calories to feed the war effort at home and abroad, to engage in unprecedented social organizing. The Marsh emerged during this era as part of the “modern countryside.” Liberal notions of an ordered, productive, and profitable rurality animated state-making projects, making farms and farmers an important part of the postwar transition. At the same time, advances in chemical synthesizing, cooling technologies, and transportation infrastructure began to change farming in the Marsh and elsewhere. For the farmers, who had typically only ever shipped to the Toronto area, improvements in produce durability and transportation and storage technologies suddenly made markets accessible around the country, the continent, and even overseas in Europe. This empirical reality resulted in a period of profitability and stability in the Marsh, though this was not to last.

The enthusiasm with which farmers embraced the tenets of an emerging mechanized, productivist, and chemical-dependent global agriculture continued well into the post-Second World War period. In Chapter 4 (1954–80) I explore how these tendencies and related socioecological contradictions led to crises of farming in the Holland Marsh. The period is bookended, on the one hand, by Hurricane Hazel (1954), a devastating and deadly storm that exposed the hubris of modernist notions of human domination over nature. Hazel demonstrated that the Marsh boosters had not in fact conquered nature along the Holland River. This lesson would inspire farmers, with ample state support, to redouble their efforts to expunge the area of nature and its inherent contingencies and unpredictability. By 1980, on the other hand, this cavalier attitude toward the biophysical environment had resulted in the emergence of ecological and public-health disasters that would put the production of nature in the Marsh under intense external scrutiny.

In Chapter 5 (1980–present) I pick up on the theme of crisis in the Holland Marsh by exploring the details of two prominent crises that surfaced in the early 1980s – elevated birth anomalies in and around the area, and algal-bloom outbreaks on Lake Simcoe. The “smiling farm” narrative was severely undercut by revelations that Marsh agriculture was implicated in both of these quiet disasters. This, in turn, catapulted the area into a constellation of emerging regional environmental politics. As a result, farmers have been made to adjust to prevailing environmental sentiment through various regulatory and legislative measures. At the same time, (sub)urban expansion has accelerated in recent years, bringing suburban yards in almost direct contact with the fields and resulting in increased tensions on both terrains. As the social and political conditions within

which nature is produced in the Marsh change, farmers have sought to enlist biophysical nature in ever-more efficient ways to search for ways to control their fields and crops with (ostensibly) increasing precision in order to get as much out of the biophysical nature as possible. Ultimately, however, uncertainty and contradiction persist in the fields of the Holland Marsh.



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