LITTORAL TROUBLE:

PLACES, PROSE, AND POSSIBILITIES IN THE LAKE ONTARIO WATERSHED

THOMAS C. McCARTHY

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ABSTRACT

This thesis focuses on Lake Ontario and seeks to identify the different ways that people have related to it throughout time, starting with a frank discussion of the present state of the lake and the social conditions which surround it. The history of the region is reviewed to form a critical historical geographic survey of the watershed and cast light on how people have related to Lake Ontario throughout time. A literary review explores how artists and authors have used and represented the Lake, noting common themes and motifs. Lastly, I describe my personal fieldwork and observations to provide a contemporary perspective. From this, a few cautious anticipatory inferences are drawn to conclude this review of human relations with Lake Ontario in the throes of an indeterminate and daunting future.

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There is a tremendous abundance of available fresh water both in Lake Ontario, and within the larger Great Lakes ecosystem and watershed. Water is fundamental to all life as we know it, and particularly to us human beings who must drink, bathe in, cook and clean with it every day. At the same time, we live in a world in the throes of major social, economic, and environmental upheavals, where numerous crises are compounding each other into a broad-spectrum threat to the collective well-being of humanity and the life that sustains us.

In the American novel *The Grapes of Wrath,* John Steinbeck renders a heartfelt portrait of internal refugees fleeing the dust bowl conditions of 1930s Oklahoma and the prejudice, exploitation, and general hardship they faced as they sought new lives in California. This novel has come to mind many times as I prepared, researched, and wrote this thesis, for as California reels from yet another year record-setting wildfire and the National Oceanic and Atmospheric Administration runs out of alphabet to describe this season's hurricanes, it is hard not to envision the Great Lakes region, and our watershed within it, becoming a more and more attractive place to live. Outside my windows, the houseless population in my neighbourhood in downtown Toronto has swollen to the largest I have seen so far in over ten years here, and in my travels a common theme throughout the watershed is struggling people living in economic decline surrounding tiny islets of wealth. Despite Toronto, and the broader region's cosmopolitan and multicultural nature, anti-immigrant and xenophobic attitudes have always been a malign factor in our politics here. As the climate crisis unfolds, environmental push factors will compel people to seek to move towards areas of safety and stability regardless of whatever other socio-political

forces are at play. While the crisis is global, people in places like Port Charles, Louisiana, Paradise, California, and Fort McMurray, Alberta are certainly already living with the consequences of climate change and our society's dependence on fossil fuels. As drought becomes more frequent across the heavily populated parts of the United States, it is not hard to imagine increasing numbers of Americans considering a move towards the Great Lakes region and the Lake Ontario watershed within it across the coming decades.

With abundant water, energy, infrastructure, and arable land, and relatively rare severe natural disasters, the pull-factors of the Lake Ontario watershed are likely to grow more attractive. The social and political tensions that may arise from this are likely to follow similar patterns to past moments of rupture and crisis here, and the currents of reactionary politics that could gain ground amidst these tensions are deeply rooted and well funded. The fact that the genocides and legal swindling which enabled the creation of the province of Ontario and the state of New York—and their respective ruling classes—are still so seldom acknowledged or spoken of here testifies to the entrenched denial of reality woven into the congratulatory historical narratives that lead so many of our neighbours into a misplaced confidence in inevitable progress, feelings of isolation and disempowerment, or intense displays of patriotism and religiosity. If Canada and the United States' current track record concerning the treatment of refugees and asylum seekers is any indication, the prevailing response among those in power here towards these and other marginalized groups is to surveil, incarcerate, and/or put them to work under onerous and exploitative conditions. When inevitable contradictions stemming from rampant inequality and a declining standard of living come to a head, those in power demonize and persecute the vulnerable. At the time of writing, as we enter 2021 with the material conditions for a functioning, compassionate society seemingly degrading all around us, these

maleficent forces appear frighteningly powerful, but capitulating to their vision for the future of our society is not an acceptable option.

The threats to Lake Ontario's viability as an ecosystem that can sustain a large human population in its watershed have numerous existing technological remedies, and are ultimately social and political in nature. To even begin to grapple with the politics and motivations of the people who create- and live with the consequences of- these threats, some serious consideration and surveying of the social fabric of the watershed is required. Plumbing the depths of fiction and non-fiction pertaining to Lake Ontario and thinking about how and why the landscape around it developed into its present form can help us to better understand the people who live here now, as well as to imagine their lives in the past and many possible futures that lie ahead in sharper detail.

The central motivation for this thesis is to better understand the lake and its watershed's peoples to the end of avoiding a 'lakes of wrath' scenario wherein the region becomes rife with human depredations and exploitation of vulnerable, desperate newcomers as the ecological health of our waters remains in jeopardy. This is not to say that it isn't already so for many living here in the watershed, but I fear that these dynamics will grow to devour us all if we don't try to better understand and anticipate them. Within this fertile and productive watershed lies ample land, infrastructure, and cultural precedent to accommodate many more newcomers safely and sustainably, in a way that enriches both the people living here and the ecology and economy underpinning our lives. I hope to delineate and better comprehend the contradictions between the humanistic urge to advocate sharing the watershed's abundance with all who need it, and the hard reality of settler colonialism's dark legacy and the everlasting imperatives of Indigenous sovereignty and laws across this territory. By trying to make sense of my own lifetime and

travels in the watershed, and sifting through poetry, prose, and non-fiction writing which pertains to Lake Ontario, I have been able to better notice some of the structural political and cultural barriers to making the Lake Ontario watershed a place of general refuge for human and non-human life in the 21st century. My findings have tended towards the melancholy, a vision of the Lake in slate grey, but nonetheless containing a rainbow of blues. There is much to mourn here, much to be discarded and repurposed, and a phalanx of opponents to any broadly hopeful vision of our shared future in this watershed. For many long months while composing this thesis I succumbed to the overwhelming subconscious assumption our soulless settler-colonial society makes that we are inexorably bound for dystopia and death. And yet, in my fieldwork and in my reading, I have encountered so many embers of hope hiding under rust, so many reasons to insist that we take responsibility for our relationship to Lake Ontario so that it can continue to make good life possible around its shores. There is so much biological abundance, so many hectares of field and forest, so many gleaming accomplishments of human ingenuity, creativity, and love, and at the centre of it all one of the world's most magnificent bodies of fresh water to cherish here. With any luck, some steps towards a more hopeful collective future here may become a little easier to imagine with some of the research and analysis I present herein.

Methodology and Positionality

My research process for this thesis fell into two broad categories: observations and impressions from a lifetime in the watershed combined with three intentional circumnavigations of Lake Ontario in May, July, and August of 2019, as well as reviewing a series of novels, poetry, and non-fiction pertaining to the Lake.

Throughout 2020 and 2021, I have remained actively thinking about my fieldwork in my travels around the north shore of the Lake. I kept a series of notebooks, and did my best to fill them with my impressions and observations of the cities, towns, and countryside around the Lake. While I decided not to undertake any official interviews, the scores of impromptu conversations I had with watershed residents certainly helped form my background impressions of the places I visited. I grew up and have lived most of my life circling Lake Ontario, and I have had to resist the complacency that can come with familiarity. Transposing the free-form noise that bounces around my brain into legible methodology is a challenge, and I have certainly learned lessons about the importance of keeping orderderly research notes.

Overall, I have sought to focus in on the different ways that those who have lived in the Lake Ontario watershed have understood, contextualised, and related to this large body of water and the gargantuan hydrological network it connects to. While intrinsically relevant, the Great Lakes region as a whole became necessarily backgrounded to a more partial, yet intimate portrait of this one, smallest of the Great Lakes.

It has been a great challenge to rein in the scope of what I had hoped to include and discuss in this thesis. Like the mainsail on a schooner left unfurled to the wind, I caught a lot of momentum which blew me off course repeatedly, and learning to reef in my sails and steer a more deliberate course is still an ongoing process. The trouble with writing about water and human relationships to it, is that such fluid subjects have an overwhelming tendency to seep under, drip over, and spill across the ontological lines established by time and tradition. Moreover, wading through this settler-colonized watershed involves encountering several putrefying scents and stepping on sharp objects buried just underneath the bottom muck as metaphorical reminders of the presence of the past all around us. That being said, water will

remain the central theme: how we relate to it, define it, and make decisions about it. If our society cannot resolve to supply the fundamental human right and need for clean drinking water equally to all within such an abundant watershed, I fear for its ability to take on more complex problems as the climate crisis unfolds.

Based upon this overall survey of the past and present, I will attempt to draw some anticipatory inferences about what advocates for a deeper water-consciousness in the watershed might expect going forward into a future shaped in large part by unfolding climate chaos. While a simplified 'past-present-future' structure is helpful for covering such a fluid subject, my thinking is greatly influenced by an enduring principle of the Haudenosaunee, which instructs that seven generations into both past and future must be considered in all important decisions, one of the most sensible principles I have so far encountered. I have attempted to apply a *longue durée* approach for conceptualising the watershed, its people, and its challenges in order to help lay the groundwork for anticipating potential collective futures here. My attempts to write a coherent and concise historical narrative which would fit within the reasonable scope of this thesis have so far failed, a task for another time and collaboration with brighter minds perhaps. So, in the interest of brevity the historical timeline will be necessarily abridged as included in this document and incorporated into the chapter where my research travels and observations are discussed.

As part of my endeavours to understand how people who live in the watershed think about and relate to Lake Ontario, I have looked for novels, stories, songs, and poems which use the lake as a setting, or more frequently as a metaphor or other literary device. In my survey of artistic works pertaining to Lake Ontario, there are common threads of disillusionment, lack of fulfillment, loneliness, madness, and futility that stitch together many disparate stories from a

wide range of authors. To be sure- silken threads of joy, adventure, and freedom can be found in the overall warp of rough, depressing muslin. But on balance, many of the stories and writing I encountered about Lake Ontario have carried an underlying tone of melancholy, unrequited grief, and constant reminders of death.

While I prefer to remain rooted in a historical materialist approach, I know it is impossible for me to avoid bringing in my own personal biases and sympathies, particularly against the English, French, and Americans and with the Haudenosaunee; against the wealthy and powerful and with the downtrodden and ordinary. I am certainly also relatively privileged within the social order of this region, and strong anarcho-communist ideology and opinions which I have tried to mitigate in the interest of writing an acceptable and legible document rather than an incoherent screed. In my fieldwork explorations, it has been difficult to see the pollution of the Lake I love, the widening gulf between the lives of rich and poor residents of the watershed, and the extremes at both ends and not nurture a powerful grudge against the prevailing socio-political order that dominates the region.

As a lifelong resident of this watershed, I have tried to research and write about what I have grown up with and bring a fledgling human geographer's particular attention to this lake and the people who live close to it. Ultimately, I hope this document can help others living in the Lake Ontario watershed to more deeply consider our regional setting in the context of these uncertain times. This is a hortative plea to all of my regional neighbours to help collectively cultivate better ways of thinking about and relating to water, particularly considering how much of it we have at our fingertips, and how little of it the rest of the hemisphere (and world!) does. For those already engaged in this cultivation, I hope you will find at least a few items of interest contained in this thesis that could prove useful to your own thinking.

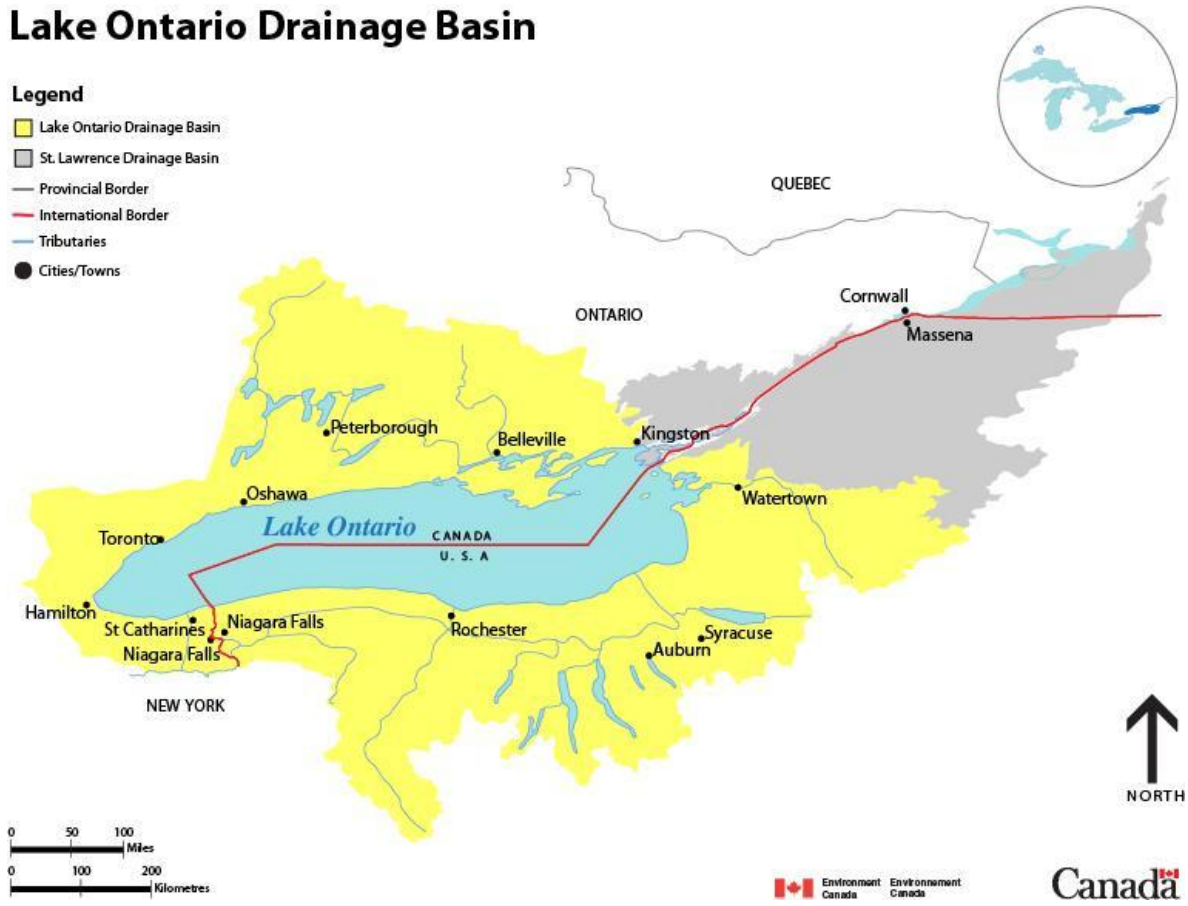

Fig. 1 'Lake Ontario Drainage Basin.' Environment Canada, 2015.

Chapter Two: What, or Who, is the Lake Ontario Watershed?

For the purposes of clarity, 'watershed' in this document will not just refer broadly to the area of land wherein a drop of rainfall will eventually wind its way into Lake Ontario. Due to time and capacity constraints, special emphasis is placed on those communities situated directly on the Lake or within a short distance of it. I wanted to focus on a region I thought I knew well, and tempting as it was to trace the Genesee River all the way to its source in northern Pennsylvania, I was not able to visit the literal entirety of the Lake Ontario watershed as strictly defined. However, this thesis is not just about water, but how we as humans living in this specific watershed are currently relating to it. Human beings are mostly made up of water, and are in a certain regard bipedal, ambulatory aquatic ecosystems. So if I have been drinking Lake Ontario

water my whole life, it follows that I am a part of its watershed, or at least a part of the Lake's water cycle; whatever gets flushed or washed down our drains certainly is! All of us humans in the watershed are fundamentally integrated with the water here, whether we like it or not, and regardless of the degree to which we are aware of this. We can't all be drinking only bottled water shipped in from Norway or Fiji. So, for argument's sake, within the framework of this thesis I will consider the 9 million or so residents within the Lake Ontario drainage basin as integrated, sentient components of the watershed.

According to the US Environmental Protection Administration, 84% of the surface freshwater in North America is found in the Great Lakes watershed, which accounts for roughly 21% of the total worldwide supply (EPA 2020). On a regional level, residents of the watershed are often not aware of the scale of the water present here in relation to other parts of Canada, the United States, the hemisphere, and the world. More often, they are reasonably well acquainted with the overall state of Lake Ontario as in recovery from the long-term degradation wrought by 20th century industrial pollution, and perhaps less aware of the lingering threats to its continued viability as both an ecology and a source of our drinking water. In my experience talking with friends, family, neighbours, and strangers around the watershed, many can name a few 'invasive' species or recall a newspaper article warning of the dangers of microplastics, but most shrug it off as just another sad environmental tale that they cannot do much about. Less common still is a deep appreciation for the potential calamities that could ensue if one or more of the watershed's ageing petrochemical pipelines or nuclear reactors springs a leak. As the Oshawa-based activist Rochelle Byrne puts it, "Lake Ontario is something that a lot of people take for granted" (Pope 2020). Having paddle-boarded from Kingston to Niagara-on-the-Lake during 2020 in an effort to raise awareness of plastic pollution in the form of both litter and the

microplastics it degrades into, she is certainly more tangibly acquainted with the issue than most. As Byrne cautions, “Microplastics are a huge problem, even in Lake Ontario. But even though we cannot see it, it’s something that affects us all in the long term” (Pope 2020).

At least nine million people live within the Lake Ontario watershed, largely in the Greater Toronto and Hamilton Area, but with significant populations in Kingston, Oshawa, and Belleville, Ontario, and Watertown, Oswego, and Rochester, New York. These nine million people, steadily growing in number, depend rather intimately on Lake Ontario’s wellbeing whether or not they realise it. However, despite significant legislative changes between the 1970s and 2000s to incorporate more public input into environmental policy making pertaining to Lake Ontario, the last decade has seen the scrapping of government bodies like the office of the Environmental Commissioner of Ontario tasked with ensuring Ontarians have adequate participatory access in policy making as enshrined in the Ontario Environmental Bill of Rights.

At a time when the stakes of spoiling the Lake’s long term viability as an ecosystem and as a source of drinking water have never been higher, ordinary people in Ontario have arguably fewer legal avenues to influence environmental regulations and policy than at any point in the past several decades. Water protectors in New York won admirable bans on hydraulic fracturing within their state over the past two decades, but the oozing, leaching legacy of the ‘rust belt’ era in Upstate New York malingers along the lakeshore, buried just below the muck. On both sides of the border, ordinary, working class people have an extremely limited and attenuated capacity to meaningfully participate in and influence major policy decisions regarding the future of water in the Lake Ontario watershed. In both countries, policy decisions that have great impact on water quality and ecological health are routinely made and carried out with little to no input from the people they affect- especially in the wake of the COVID-19 pandemic avenues for public

participation in environmental assessments and policy decision-making have decreased. Ontario, once home to some of the most globally significant legal frameworks for public participation in environmental decision-making, has severely curtailed and cut funding to the bureaucracy needed to facilitate such input. As Robert Wright, former Vice-Chair of the Environmental Review Tribunal of Ontario stated:

> At a time when government transparency and communication is more essential than ever, Premier Ford has moved to gut public participation under Ontario's *Environmental Bill of Rights*… No one would criticize temporary measures that are legitimately related to tackling the COVID-19 pandemic. But it certainly appears that the Ontario government is exploiting this moment to further erode Ontario's environmental laws and limit the public's role in environmental policy-making (Ecojustice 2020).

In New York State, there is no environmental bill of rights for citizens, and at present opportunities for public consultation regarding decisions of the Department of Environmental Conservation appear limited to occasional online webinars concerning specific and local issues.

The International Joint Commission- a special binational body established to regulate boundary waters shared by Canada and the United States in 1909- last solicited public comment and input concerning Lake Ontario in 2013, and otherwise provides opportunities for public participation on a limited basis through webinars, public meetings, and open-comment periods. While the Commission has taken some significant strides in becoming more participatory and progressive across the decades, particularly following the expansion of its mandate with the ratification of the 1972 Great Lakes Water Quality Agreement, ultimately its decisions are largely bound by the overlapping influences of hydropower demands, shipping companies' navigational concerns, and local jurisdictions advocating on behalf of shoreline property owners.

Considering the stakes involved, it is a profound irresponsibility to allow the present level of risk to the future health of Lake Ontario to continue unabated considering the significance of this water on a global scale and the numerous alternative technologies and economic models

available to us. Whose interests are served by maintaining such costly, dangerous, and overly centralized infrastructure, and what possibilities are foreclosed by choosing to maintain the status quo? As the Chemistry scholar Bhawani Venkataraman states: "The paradox of water is that the very same properties that make it essential for life also make it very easily contaminated to the point where it potentially becomes a threat to life" (Venkataraman 2018). It is essential that drinking water sources like Lake Ontario be given greater care, attention and critical thought, and never be taken for granted: as occasional watershed resident Joni Mitchell sings, "Don't it always seem to go that you don't know what you've got 'til it's gone" (1970).

On a national level from the American perspective, Lake Ontario is largely an afterthought for those not seeking to derive some form of economic benefit from it. Despite generations of attempts to raise consciousness and move towards a more ecologically harmonious culture, things like 'the environment' and 'water' in the abstract hold little currency for the average stressed, depressed, and indebted American until they can no longer afford to ignore them. Water has seeped into American headlines at several salient points in the last decade. At Standing Rock, the water protectors marching to stop the Keystone XL pipeline were met with water cannons and worse. Growing awareness of the appalling levels of groundwater contamination following hydraulic fracturing and other extractive industrial processes has prompted greater scrutiny of water quality in some of the most remote parts of the country. The beleaguered residents of Flint, Michigan still await full redress and complete confidence that the water coming out of their pipes is safe to drink. While the Flint water crisis periodically captured national attention between 2014 and 2019, it has largely since faded into the dull realization that the toxic levels of lead and other contaminants which poisoned Flint are shockingly widespread across the United States. Saltwater intrusion threatens groundwater supplies in coastal regions,

while wells plumbing the depths of the gargantuan Ogallala Aquifer are running dry across the prairies. News of drought and high temperature records being broken are routine features of every American summertime in recent memory.

In my experience, Canadians often measure their own country's social standards and policies against the exceptionally low bar set by the hegemonic United States. Or perhaps more accurately, as Margaret Atwood once said: "Every Canadian has a complicated relationship with the United States, whereas Americans think of Canada as the place where the weather comes from" (Morris 1990). More and more, the well-polished veneer of a noble and just Canada is being stripped bare to reveal the ugly, bloody foundations it rests upon, from the increasing awareness of the residential schools system to ongoing debates over statues of controversial historical figures, and growing awareness of the appalling conduct of Canadian mining companies worldwide. The Canadian federal government and the corporate and financial interests it serves, invest a great deal of effort into positive public relations campaigns that obscure the widening gap between its lofty self-regard and its actual governmental and corporate behaviour. A variety of topics call the federal government's commitment to clean water policies into question: the annual choice to spend billions subsidising fossil fuel companies and promoting unscientific dreck about 'ethical oil' from the tar sands, or the contradiction of forty years of neoliberal economic orthodoxy by nationalising the Coastal Gaslink pipeline are just two examples of this. Despite promising in 2015 to move rapidly to ensure safe drinking water on First Nations reserves across the country, the Trudeau government has failed to deliver for at least 60 reserves as of 2021; as a report from the Office of the Auditor General found: "Overall, Indigenous Services Canada did not provide the support necessary to ensure that First Nations communities have ongoing access to safe drinking water. Drinking water advisories remained a

constant for many communities, with almost half of the existing advisories in place for more than a decade" (Office of the Auditor General, 2021). This issue has garnered global attention as well- a recent report from United Nations Special Rapporteur Leilani Farha demonstrates that "more than 10,000 on-reserve homes in Canada are without indoor plumbing, and 25 percent of reserves in Canada have substandard water or sewage systems" (Farhani 2019). The overseas conduct of Canadian mining giants like Goldcorp and other large firms such as SNC-Lavalin is rife with water pollution, human rights abuses, bribes, and cover-ups, while the Foreign Ministry chides other national governments across the world about corruption and democratic standards.

After all, effective public relations and propaganda is often much cheaper than making substantive and expensive policy changes. As a dual citizen there are many things I love about Canada that make me prefer it to the USA, but living here for over ten years has made me realize that my two countries of citizenship have far more in common than most Canadians would like to think, at least the parts of them I know best around Lake Ontario. In my experience, most Americans, even those living close to the border, don't think much about Canada. Outside of a few speckled locations where free thinking and goodwill to all are the norm, there are quite a few closed and uncurious minds in this watershed; in my observation these are equally distributed between the 'rednecks' condescended to by city-dwellers and the 'cidiots' held in contempt by country folk. When considered as equal parts victims of cruel capitalist circumstance and their own ignorance and avarice, the settlers of New York and Ontario- whether urban or rural- share many of the same broad values and characteristics.

Despite some commemoration on its bicentennial, the War of 1812 and the harshness it brought to this watershed is today seldom thought of, and even less remembered are the horrors of Sullivan's genocide against the Haudenosaunee in the 1780s, the dozen or so wars that

preceded it, or the atrocious epidemics that ravaged the watershed's population in the mid 1600s. The history of the Lake Ontario watershed over the past three centuries is certainly far more violent and ugly than what I was taught in public school growing up. There is a dire need to start thinking very seriously about how to plan for unprecedented new strategic interest in our watershed, and the increasing likelihood that great numbers of Americans and others from around the world will need to relocate closer to our watershed over the coming years. Oil and precious metals were among the most lucrative natural resources of the 20th century, and increasingly futurists claim that fresh water will be the most important commodity of the 21st. Maybe I am more privy to this because I am a dual citizen with perspective on living in both respective countries, but for my entire life I have been hearing Canadians fret and forewarn about the dark future day when 'the Americans come for our water.' The 'our' in that phrase is doing a lot of heavy lifting, and settler colonial societies are ill-disposed to imagine non-exploitative, non-violent social relations, but regardless that long-voiced concern has featured prominently in my discussions with people in my life as I have written and researched this thesis. And given the increasing violence and volatility in the United States and the arrogant bravado of the Trump and Biden administrations, I can understand why so many Canadians worry along these lines.

Throughout the 20th and 21st centuries, however, it became increasingly clear that 'Canadian' and 'American' interests writ large align much more than they diverge, particularly for the wealthy and consequential people involved in making key policy decisions. Ultimately, in all likelihood, if push really comes to shove on any major issue American interests—broadly defined—will be a challenge for Canadians to deny or contest. With the recent news of water futures being listed on the Nasdaq, it is not hard to imagine a near future where Canada's vast

freshwater resources, especially those shared with the United States, become subject to increasingly aggressive attempts to privatize and claim water rights.

Will ordinary, working class residents of the watershed who stand to gain nothing from such schemes be able to do anything to stop this? From a geopolitical context, what international legal infrastructure might Canada even have to plead to in the coming years should such a dispute arise, given the steady undermining of the United Nations and other international deliberative bodies? The answers to these questions are largely speculative, but I have not encountered much evidence that they are being grappled with by those who have power over important water and environmental policies here. Regardless of its patriated constitution, Canada remains a constitutional monarchy still fundamentally linked to the British Crown and imperial legacy. The thought of desperate appeals to a post-Brexit United Kingdom for a putative King Charles' or William's aid in re-securing his dominion in a future water crisis involving the United States does not inspire great confidence in me that American interests would not prevail handily.

Current research forecasts that 'dust bowl' conditions in the prairies are more than two times more likely to occur in the coming decades and will likely surpass those of the 1930s in duration and intensity (Cowen et. al. 2020). If a future American government made decisions to stave off such conditions by claiming the water rights of the entire Great Lakes basin watershed in the interest of its 'national security,' offering Canadians a special deal on their newly privatized water, I would consider it doubtful they would need to fire a single shot to get their way as they pump out Lake Michigan to keep the fountains of Las Vegas flowing. Ten years ago, this notion would be somewhat risible, and yet not long ago Donald Trump made a serious offer to purchase Greenland from Denmark. The British North America Act, still the skeleton within

Canada's legal framework, prioritizes sub-soil resource extraction over all other forms of land use and essentially privileges the most profitable land-use possible, even when this conflicts with other land-use plans. After all, from a certain point of view, Canada exists first and foremost as a geopolitical platform for resource extraction in this 'dominion,' so for the right price why shouldn't the water be on the table?

In both countries, large settler majorities live lives fundamentally disconnected from the land and waters around them: encounters with wildlife and chances to observe the life-giving effects of water throughout the landscape and throughout the seasons are too often obscured by the hard economic necessities many of them face. The long Fordist hangover still forces most people in the watershed to own and drive personal automobiles to access basic needs and employment, a cruel irony in former auto-making towns like Oshawa left metaphorically stripped-for-parts by large auto manufacturers. Opportunities to access wilderness and conservation areas are largely determined by free time, discretionary income, and the use of a vehicle, and public transit options across the watershed are limited at best outside of Toronto. Further, nature is too often packaged and presented in our popular culture as the absence of humanity rather than as ecosystems that we are integrated with, participate in, and rely upon for our wellbeing. Nature documentaries often strive to keep humans out of the view of the camera, unless it is to focus on the specific efforts of biologists or to highlight the negative impacts of human behaviours. It is rare to find environmental media that is not tethered to the longstanding ontological divide between humanity and nature that has long been a prime feature of 'Western' discourse.

As Susan Peterson Gately, a remarkable writer and sailor writes: "Lake Ontario has had few chroniclers of its recent history. If current trends in publishing and entertainment continue, it

may have even fewer in years to come. Stories [about the lake] entertain, but they also inform, instruct and inspire… they are drops of rain in a rivulet running into history's vast sea of stories" (Gateley 1998). True, as she notes, William Ratigan only saw fit to devote one small chapter of his large compendium *Great Lakes Shipwrecks and Survivals* to this 'last least littlest lowest lake,' the 'shirttail-cousin' to its larger upstream relatives (Gateley 2001). And in my own research, I have noted a dearth of detailed information and critical thought about Lake Ontario in scholarly letters. In my review of Great Lakes non-fiction, Lake Ontario often gets mentioned last and least in the literature.

Many academics have examined the subject of water and governance from a policy-oriented perspective. Bakker has written extensively on issues pertaining to commodification, securitization, and transboundary governance frameworks. Her anthology *Eau Canada* contains a number of useful articles around this topic (Bakker 2007). *Water Policy and Governance in Canada* (Renzetti and Dupont 2016) displays several well-grounded legal and quantitatively-focused articles, while *Water Without Borders? Canada, the United States and Shared Waters* (Norman *et. al.* 2013) tackles similar issues from more socially-oriented perspectives. These anthologies branch out into a wide range of interdisciplinary perspectives on Canadian water issues. Further, *Boiling Point* (Barlow 2013) presents a broad, contemporary overview of the current state of water use, conservation, politics and governance in Canada that is both alarming and informative.

Heasley and MacFarlane's *Border Flows: A Century of the Canadian American Water Relationship* tells the complicated story of water management in the region with views from both sides of the border. MacFarlane's other, more locally focussed work delineates the history of the St. Lawrence Seaway and bilateral relations over water between the two federal governments and

their provincial and state subordinates, counterposing a ‘natural security’ paradigm to the increasingly hegemonic ‘national security’ justifications for changes to border policy. Likewise, *The Death and Life of the Great Lakes* (Egan 2018), and *The Once and Future Great Lakes Country: an Ecological History* (Riley 2013) provide a good overview of the region’s waters and the threats to their well-being at present; both books are intended to be accessible by a public audience. *The Women’s Great Lakes Reader* compiles a formidable assortment of first-person accounts, memoirs, poems, and profiles of women who have called this region home, stretching from pre-contact to the present day (Brehm 1998). *A Pictorial History of the Great Lakes* curates a number of interesting maps, images, and diagrams of the lakes over time with commentary (Hatcher and Walter 1963). Dempsey’s *Great Lakes for Sale* documents attempts to commodify the lakes, bottling its waters to be packaged and sold elsewhere, and makes an impassioned case against the commodification of the region’s waters (Dempsey 2008). As a strictly descriptive physical geography, Beckett’s survey of the hydrology and geomorphology of the lake’s watershed will provide solid geological and hydrological underpinnings (Beckett 1999).

For some broader historical context on life on Lake Ontario itself, Gateley’s *Legends and Lore of Lake Ontario* delves into a rich collection of stories, legends, and superstitions of those who have sailed on or lived near the lake (Gately 2013). She has another relevant publication, *Maritime Tales of Lake Ontario,* more focused on the nautical aspects of life on the lake (Gately 2012). *Gateway to Oblivion* (Cochrane 1980) is a collection of tales pertaining to the ‘Marysburgh Vortex,’ also known as the ‘Bermuda triangle of the Great Lakes,’ a stretch of dangerous waters between Prince Edward County, ON, and Kingston, ON, and Main Duck Island, ON, which is infamous for its many shipwrecks. Even more so to the point, the soon to be published

Shipwrecks of Lake Ontario: A Journey of Discovery directly focuses on sunken ships in the lake (Kennard *et. al.,* forthcoming).

Dennis' *The Living Great Lakes*, is partly a nautical travel narrative across the watershed, and partly social and cultural history that may yield some valuable insights (Dennis 2004). *A Trip Around Lake Ontario,* at times perceptive, at times perhaps a bit caustic, is a local poet's attempt at capturing the circumference of the lake, which blurs the line between fact and fiction but contains a wide range of pithy observations about its littoral communities (McFadden 1988). Pound's *Lake Ontario*, part of the 'American Lakes Series' is one of the earliest popular publications specifically on the lake, and as such is afflicted with the biases of its time, but remains useful in describing the historical development of thinking about the lake (Pound 1945). A great volume of highly localised non-fiction regarding Lake Ontario exists thinly spread across rural branches of county libraries and in the personal and community archives of local historians, in self-published memoirs that more often than not have yet to make their way onto the internet. It is my regret that I was not able to include much archival research of this sort into my methodology, but I will acknowledge that this wealth of elusive historical fragments from personal diaries and small-town newspapers largely slipped through my researcher's nets.
To the best of my knowledge, most of the existing nonfiction literature about Lake Ontario covers the subjects of water policy and governance, transboundary governance issues, watershed management, as well as a handful of local, regional, and environmental histories. Many books have been written about the Great Lakes as a whole, about water in general, or about various places associated with Lake Ontario, but relatively few works have focused exclusively on this particular lake, either as a physical geographic feature or as a conceptual device for interrogating attitudes concerning water and place. That said, there appears to be an increase in publications

about Lake Ontario in recent years. While for the most part sadly sequestered behind institutional paywalls, regional conversations about the lake and the collective futures of those living near it are gaining more interest and participation as the harsh reality of climate change and other looming crises forces individual thinkers to reckon with local prognoses for their own region. Overall, as stated before, Lake Ontario often gets short shrift within larger Great Lakes anthologies, but regardless the volume of work pertaining to our lake of interest contains many more insights than I can name in this thesis document. Alone, the most evocative novel or the most comprehensive and exhaustive and rigorous study cannot alter the trajectory of a massive, multinational region. But- taken in concert, woven together, parsed out and deciphered together in a participatory fashion by as many minds as possible, they can all serve to help shunt our region onto a more hopeful trajectory. As interdisciplinary forms of thinking come to the fore in contemporary scholarship, a conceptual framework for adaptive, anticipatory forms of critical human geography intentionally tailored to meet the complex challenges of our times is beginning to come into view.

For over two centuries, both Canada and the United States have invested massive capital into the diversion, control, and allotment of water resources. As social critic Ivan Illich observed in *H2O and the Waters of Forgetfulness*, the convenience and immediacy of tap water makes all kinds of abstractions about water possible (Illich 1988). As the elemental stuff went from being society's sewer to something that needed to be managed, buried, and filtered, and only much later as a desirable aesthetic element in urban planning, the concept of 'water' underwent several ontological changes in order to be commodified and controlled as it is today. This overall story of water's modern transformations is discussed in detail by geographer Jamie Linton in his book

What is Water?, in which he uses a 'hydrolectical' approach to explain the development of 'modern water' and our civilizational relationship to it (Linton 2013).

We are forty years past the society Illich was critiquing now, and the slowly dawning realisation of how common dangerous levels of lead and other toxins are in municipal drinking water supplies across the region is only slowly seeping in. The people of Flint, Neskatanga, Grassy Narrows, and thousands of other communities are still waiting for justice and clean water. Tyendinaga has had to dig itself out of a longstanding boil-water advisory purgatory on its own largely paid for by settler appetites for tobacco, cannabis, and cheap gasoline with next to no help from the Federal or Provincial governments. While some may recall Love Canal or Walkerton, effective protection from the more widespread, subtle, and insidious threats to human health via drinking water is the exception, not the rule in this part of the world. While the sight of pipes gushing untreated industrial effluent into creeks and ponds may be less common here than in the mid-20th century, the vast 'chemical cocktail' of microplastics, PFAS, PCBs, and countless other synthetic compounds reacting with each other and interacting with the ecology of Lake Ontario is far more difficult to observe and abate, let alone to hold polluters accountable for the damage they have caused.

Unfortunately, decades of allowing businesses and government institutions to offload their negative externalities into our public commons and wash their hands of the consequences has a very long and deleterious half-life. According to the US Centers for Disease Control, New York State has the 4th highest cancer incidence rates in the country; all seven lakeshore counties are well above both the state and national averages, particularly Niagara and Jefferson counties (CDC 2017). As of 2014, the province of Ontario had the second highest cancer incidence rates in Canada; spatial representations indicate a strong correlation between proximity to the Great

Lakes and high cancer incidence (Public Health Ontario 2014). Meanwhile, overall cancer incidence rates on both sides of Lake Ontario are growing. The geographic distribution of point sources of air pollution combined with the prevailing jetstream winds render New York state (and not far away, Ontario) particularly ill-situated to bear the public health consequences of poor air quality. A recent study drawing a correlation between air quality and premature mortality in the journal Nature showed that New York state was "the highest net importer of early deaths on a per capita and absolute basis" from harmful emissions that waft over state lines (Dedoussi *et. al.* 2020).

While air quality, hazardous consumer products, and a host of other factors are undoubtedly connected here, a recent report from the Environmental Working Group states that: "...cumulative cancer risks due to carcinogenic water contaminants are similar in magnitude to the risks reported for carcinogenic air pollutants" (Evans et. al. 2019). In other words, there is a correlation between drinking water quality and cumulative cancer risk in a given population. The report concludes by making the argument that " ...improving water quality at the tap and investing in measures for source water protections represent opportunities for protecting public health and decreasing potential disease incidence due to environmental pollution" (Evans et. al. 2019). As the water activist and cancer survivor Sandra Steingraber puts it:

> I'm only a population of one. I would not be able to say with certainty that the cause of my disease was any one chemical. We can't say that, biologically. What we can say is that, when you have carcinogens in the drinking water supply, or in an air supply, or in a food web, somebody's going to get cancer." (*Living Downstream,* 2010)

Underlying all of these interlocking water and public health crises is the sad fact that both countries, in any serious and impartial historical appraisal, are recent, illegitimate colonial constructs that have disregarded and done their best to suppress and deny the original laws of the

territories they now claim. In general, Indigenous law in the region stands in stark opposition to the concepts of property, sovereignty, and *terra nullius* foundational to settler law. As just one example from a Haudenosaunee perspective states:

> Over the past five hundred years, the Haudenosaunee have observed and recorded the impacts of the European settlers on America. Our people tried to warn the colonists of their practices that do not sustain the earth and will eventually destroy both ourselves and [they,] the newcomers. Like children possessed by a new toy, they the newcomers did not listen. The environmental destruction we see today is the result. Our communities have suffered the destruction of their natural resources. Our Nations have been confined to small tracts of land. Our Confederacy has been mocked by the young countries which do not understand the world. However, as more time passes, western society has begun to feel the limit of our resources and the message of the Haudenosaunee has begun to be heard. (Tekhanawiiaks King 2007)

Clearly, on the metric of ecological sustainability, not to mention human rights, Canada and the United States of America are indeed 'young countries which do not understand the world.' When one speaks the name of the largest city in the Lake Ontario watershed- Toronto, Ontario, Canada- one is speaking Iroquoian words that however misused and mangled by mistranslation attest to the Indigenous legacy and enduring presence on this land. Mellifluous indigenous toponyms adorn the length and breadth of the watershed: Mississauga, Oswego, Canandaigua, Gahandayuk, Nunda, Napanee, Irondequoit, Sodus, Genesee, Mimico, Cataraqui, Otonabee, Quinte. Scugog, Hiawatha, Oshweken, Tyendinaga, Salamanca are still associated with reserves, but no map of the Lake Ontario watershed is untouched by these Indigenous place names, speaking to the indefatigable and indelible presence of Anishinaabe and Haudenosaunee cultures here.

Chapter Three: Situating Lake Ontario in Time and Place

So, just what *is* Lake Ontario? This is quite a rudimentary question at first glance, but the deeper one prods into the muck beneath its waves, the harder it becomes to answer it. Lake Ontario can be thought of as many things, or, in many ways, depending on who is being asked and where they're looking from. A calculating person might view it as merely a catchment for the vast quantities of water that flow from all directions into it, to be measured, budgeted, and sold in its many capacities. A quick internet search will tell you that it is the 14th largest freshwater lake in the world, stretching across 19,000 square kilometers of space, with a maximum depth of 244 meters and a volume of about 1,640 cubic kilometers. Ask an environmentalist, and they would describe the myriad threats and disruptions that afflict it, while a shoreline homeowner might call it a menace that needs to be tamed and managed. An engineer might describe it as part of an immense hydrological machine: water contained and commanded by canal locks, turbines, and dams. Some cannot wait to set sail on its waters each spring as the ice melts, while others would not dip their toes in if you paid them for fear of its pollution or the slimy, unseen creatures within. Some, like me, love to catch and eat trout and salmon out of the lake and its tributaries and comment at length on their provenance. Others, like my sister, say "I don't want to think about Lake Ontario when I am tasting food."

Truth be told, as the smallest of the Great Lakes (by surface area, 4th largest by volume), Lake Ontario often gets overlooked by Great Lakes scholars and writers, all but forgotten to those who live beyond sight of its shores. Kids might get taught the HOMES mnemonic in elementary school, but most documentaries and books about the Great Lakes tend to give Ontario short shrift. While it may not conjure up the same foreboding, mystical aura as its immense upstream siblings, people who spend their lives on or near the Lake learn to respect its

capricious and occasionally deadly power. And for all its aesthetic value as a background, Lake Ontario is fundamentally a part of all those who live in its watershed.

In my experience, many people in Toronto react with surprise when I have mentioned the city draws its drinking water supply from the lake, a fact that many are seemingly not aware of. Living in the hustle and bustle of the Greater Toronto Area, it can be easy to go weeks without seeing or even thinking about the lake, or the 3,300 meter-long intake pipes constantly sucking in the city's water supply. Anecdotally, when you connect these dots in conversation with residents of the watershed, they tend to start taking the water quality of Lake Ontario a lot more seriously. This disconnect between the instant access at the faucet to a fundamental quotidian requirement of human life and the understanding of its actual source in what many view as an irredeemably contaminated body of water is truly perturbing to me. In this frenzied digital moment, our society at large is failing to educate each other about the ecology and infrastructure that makes our lives here possible. How can you be asked to help protect something you don't love, and how can you love something that you are only taught to think of as a catchment for sewage pipes and discarded hypodermic needles?

Those who learn to recognize the ways in which they relate to the Lake beyond whatever aesthetic value it might hold for them almost always interact with it in some deeper way. Activities like boating certainly put people out on the lake, albeit with significant costs involved, but many other ways of interacting with the lake can be accessed with fewer barriers, from fishing in its tributaries to simply visiting one of its many lovely beaches on a summer day. More and more municipalities on the lake, from Mississauga to Wellington, are installing special rubber tracks that make sandy stretches of waterfront wheelchair accessible. In my observation, grandmothers practising Tai Chi on the Toronto waterfront and the colourful landlocked anglers

of Oshawa seem to have as much, if not a deeper connection to Lake Ontario as the owners of the glitziest yachts or shoreline properties. There is no doubt that people relate to Lake Ontario in countless ways, but the ones who seem to get the most enjoyment of all from its beaches are in my view the legions of delighted toddlers set loose on its shores during fine summer days.

Though but a sliver of the erstwhile lake-bound industries remains intact, Great Lakes shipping, charter sport fishing, water rescue services, or perhaps on the odd yacht or underwater welding crew, the waters of Ontario still form the setting for their livelihoods, a far cry from the Lake's heyday as a shipping network during the 19th and early 20th century. The name "Ontario" itself is a Wyandot word for 'big water,' 'beautiful lake,' or 'shining waters' depending on the translation, and indeed even after the rampant abuses and alterations of the past three centuries of colonial malfeasance, a shoreline view of the lake on a summer evening as the sun drifts down through pastel skies remains undeniably sublime.

However, for many lifetime residents, the lake is a murky, alien zone, associated with pollution, hypothermia, and lampreys. In his own jaundiced way, Hamiltonian poet David McFadden calls the Great Lakes "half-dead rats being slowly digested in the body of the great snake that is the St. Lawrence River, small oceans on their way to the sea" (McFadden 1988). In the latter half of the 20th century, the lake's reputation fell considerably as industrial effluents were poured in with little to no regard for its ecological integrity or even to its anthropocentric usefulness as a drinking water source to millions. Standing on the shores of Wolfe Island at the start of the St. Lawrence River, one cannot help but be impressed by the mighty, unceasing flow escaping the lake. Swimming in the river can be an exhilarating but scary sensation, as what seems like a brief plunge underwater will deliver you several meters downstream before you can kick your way up to the surface. However, all-told only about one percent of the total volume of

the basin flows out the St. Lawrence each year, and water that flows over Niagara Falls takes on average six years to leave the Lake (Great Lakes Guide-Lake Ontario).

Bookended by the massive hydroelectric dams at Niagara and in the St. Lawrence Seaway, a truly vast amount of water collects in the lake's deep basin, 85% of it flowing over the massive American, Horseshoe, and Bridal Veil Falls. Though this may be hard to visualise, that amounts to roughly 1,600 cubic kilometers in the lake's basin, its floor gradually deepening to its lowest point in the southeast corner of the lake to plumb a maximum depth of 244 meters. As the last in the chain of the Great Lakes with the largest population of roughly nine million people living in its watershed, Lake Ontario is in many ways the most vulnerable part of the freshwater system and most susceptible to pollution and other human impacts (Great Lakes Guide). Within this larger context, Lake Ontario is best viewed as an integral part of one of the world's largest freshwater ecosystems and the gargantuan hydraulic machinery of canals, locks, and dams which harness and tame the mighty waters.

As mentioned above, the watershed's topography bears the marks of several glaciations, the most recent of which compressed and scoured the land as recently as 11,000 years ago with a sheet of ice several kilometers thick, carving future lake beds and depositing drumlins and moraines with its gradual recession. The massive weight of the ice compressed the region like a large stone on a memory foam mattress, and through a process known as isostatic rebound the land is still slowly expanding upwards as time and climate relieved it of its former icy burden (Sellers 2012). A good example of this lies in Prince Edward County, essentially one large slanted layer-cake of Silurian and Ordivician slate limestone dredged up on the north shore of the lake, still slowly rising after ten millennia of exposure free from the weight of the ice. The way south-flowing tributaries to the lake get blocked up and tend to form sandbars and estuaries is

another example: the continental crust to the south has decompressed slightly more than to the north.

As the glaciers receded, gargantuan proglacial lakes grew on their southern margins, as liquid water that wanted to flow north was trapped by the ice that remained. Travelling along Davenport Avenue in Toronto, or Ridge Road west of Rochester, the palimpsest of a much larger lake can be observed from the steep embankments that demarcate ancient shorelines. Even the earliest European maps of the lake show a markedly different contour of the lake, with massive inland marshes stretching west of what is now Hamilton and south of Irondequoit Bay and significant variations in the size and disposition of river mouths.

At some point roughly 12,000 years ago, the massive proglacial lake known to natural scientists as Lake Iroquois could no longer pool up any higher against the embankment of receding ice that marked its northern boundary. Its erstwhile outflow into today's Mohawk and Hudson river watersheds no longer met the hydrological demands of the filled-to-bursting proglacial lake, and in what was possibly quite a cataclysmic event, it spilled dramatically to the east until it found the sea, thus creating the great waterway now known as the St. Lawrence River (Sellers 2012). Turney and Brown estimate the collapse of the Laurentide Ice Sheet over the next few millenia raised global sea levels by 1.4 meters, which had far-reaching effects worldwide (Turney and Brown 2007).

This burgeoning ecological connection between the inland seas of freshwater and the salty oceans created the conditions for migration cycles of salmon, eels, birds and all kinds of other life to grow into the emergent post-glacial landscape. As the ice melted away, primary and secondary succession forests gave way to towering woodlands of chestnut, oak, maple, beech, and white pine bordering on lush riverine grasslands, thus creating ample habitat for biodiverse

ecologies to develop. The interplay of isostatic rebound, erosion, and climate gave rise to immense wetlands which stretched far to the west of today's Hamilton and to the south of what is now Irondequoit Bay near Rochester. At this time, I imagine if a squirrel had a mind to, it likely could have circled the fledgling Lake Ontario without ever touching the ground as it leaped between boughs- with the exception of running across the ice of the frozen Niagara and St. Lawrence in winter- due to the immensity of the watershed's Carolinian and Laurentian forests.

So far, we have established that following the receding glaciers and the emergence of Lake Ontario in a recognizable form, an ecologically abundant landscape developed and flourished. It was within this dynamic landscape and watershed that the ancestors of the Anishinaabe and Haudenosaunee peoples came together and the early nuclei of their cultures first appeared. Given this watery dynamism and the centrality of water to movement, food, and life in general, it is no surprise that both these cultures have such reverence for water infused in their cosmology, religion, customs, and even language. As Joyce Tekahnawiiaks King explains, "The Haudenosaunee have a deep respect for the waters of the Earth. For example, one of the root words for "rain" in Mohawk can also mean expensive, precious, or holy (King 2007). The creation stories in both overarching cultures describe a pre-human world of no land and all water, into which the central figure of Sky Woman fell from the heavens to land on the back of a great Turtle, who called upon all living creatures to help pile mud on its back to create all the land we walk on today. As the Oneida elder Keller George recounts being told by his grandmother: "Long, long ago, the earth was deep beneath the water. There was a great darkness because no sun or moon or stars shone. The only creatures living in this dark world were water animals such as the beaver, muskrat, duck and loon." (George 2020). The Great Spirit sent Sky Woman down to this dark world. As she fell, "The water animals summoned a great turtle and patted the earth

upon its back. At once the turtle grew and grew, as did the amount of earth. This earth became North America, a great island" (George 2020). She would go on to give birth to twins embodying the Good and Evil inherent in all human beings, who would struggle over the destiny of humankind. The Good twin eventually won out and banished the Evil one, thus making the world of humans possible, yet the Evil twin remains able to influence human affairs to those susceptible to greed, hate, and ambition from his underworld realm. Similarly, within Anishinaabe cosmology, the world began on the back of a great Turtle, where the prodigal Muskrat was able to prevail in drawing up mud from beneath the great flood that had covered the earth. As Edward Benton-Banai puts it, "The Earth is said to be a woman. In this way it is understood that woman preceded man on the Earth. She is called Mother Earth because from her come all living things. Water is her life blood. It flows through her, nourishes her, and purifies her" (Benton-Banai 2010). Overall it is essential to grasp how important water is in the Indigenous cultures of the watershed. More than being just a practical necessity of life, water is sacred, spiritual, and alive: "Without water in our bodies we are dead; not only because of the dehydration that happens in the physical domain, but because of a lack of the spirit energy that signifies life" (Anderson 2010).

Suffice to say, human beings have been present in the watershed since long before there was a recognizable Lake Ontario, following the receding glaciers' northward retreat from roughly twelve to ten thousand years ago, and fitting into the dynamic ecologies that developed following the thaw. The exhibition *Sovereign Allies/Living Cultures* at the Royal Ontario Museum provides a varied and rich survey of the societies that inhabited the region prior to and during the colonial era; items dating back hundreds, even possibly thousands of years are displayed, many of which were excavated and found as the foundations and gas lines of the

expanding GTA were dug over the past few decades. Looking at these small items such as ornately carved clay pipes, sewing awls, and beadwork jewelry, glimpses of the complex cultural milieu that has resided on the shores of Lake Ontario for as long as it has existed come charging through time to the viewer. Such experiences of connecting with the past hold within them the possibility of dissolving away the dominant colonial narrative of discovery, which mendaciously claims that progress and enlightenment only arrived in the region with the first Europeans to make it up the St. Lawrence river some 400 years ago.

For the Haudenosaunee, the story of the creation of their confederacy among five nations- the Seneca, Oneida, Onondaga, Cayuga, and Mohawk, and later growing to incorporate the Tuscarora- is central to their genesis as a major polity in the region. While the date of this union is contested, the Haudenosaunee tell of its coincidence with a total solar eclipse which we do know occurred over this part of the world in the year 1142 CE, or possibly even 909 CE (Mann and Fields 1997). The Haudenosaunee, or People of the Longhouse, are still often referred to as Iroquois, an derogatory epithet that originated in the Mahican for “Rattlesnake Men” or “evil men” twice mistranslated to French and English. Early French maps refer to them as ‘Loups,’ or wolves, as well. Clearly they were a formidable presence in the region prior to and long after their first encounters with Europeans, and as anyone familiar with 2020’s rail blockade at Tyendinaga or the ongoing standoff at 1492 Landback Lane knows, this defiant and vivacious presence endures.

At the time, Haudenosaunee lived in a contentious relationship with the Wyandot, who were called Hurons by the French. This is another derogatory exonym that has become the most widely used historical label for these people, and stems from a condescending term for an unkempt person common in France at the time (Trigger 1988). Similar to the Haudenosaunee,

the Wyandot were a confederacy of four constituent nations. The Wyandot spoke an Iroquoian language, yet when the first French arrived were longstanding enemies of the Haudenosaunee, and frequently came to conflict. The area surrounding the southwest corner of the lake was populated by people who were partial to neither side in this cross-lake contretemps, and so came to be called Neutrals by the French. Also present in the watershed at the time of first contact with the French were the Wenro and Petun (also known as Tabacco) peoples, both Iroquoian speaking but not allied with either confederacy.

Kiinomaagewapmkong, also known as Petroglyphs Provincial Park, close to the Curve Lake Reserve north of Peterborough, contains remarkable stone carvings which are understood to have been an important place for learning, teaching, and storytelling stretching back for centuries, indicating a long presence in the watershed by Anishinaabe peoples. Anishnaabe broadly refers to those who share linguistic and cultural bonds across the entire Great Lakes region and well to the north of it. According to the 'History' portion of Curve Lake Reserve website, the word Anishinaabe is "...derived from an-ish-aw, meaning "without cause" or "spontaneous", and the word in-au-a-we-se, meaning "human-body". This translates to mean "spontaneous man" (Curve Lake Reserve 2020). The main Anishnaabe group in the Lake Ontario watershed are today known as the Mississaugas, who were forced to flee northward to the Georgian Bay area during the epidemics and upheaval of the French arrival in the region and warfare with the Haudenosaunee, gaining this name from the river that French traders first encountered them on. They would return to their traditional territories in the Lake Ontario watershed across the 18th and 19th centuries.

It is important to consider that while there was certainly conflict between the First Nations of this region, by no means were the modern concepts of borders and boundaries set in

stone between them. Trade, intermarriage, the intricate customs surrounding adoption of captives following (or in lieu of) conflict, and the draw of various localized sites of seasonal abundance forged links and bonds as well as rifts between these groups. Evidence abounds of widespread precontact interaction and acculturation between the Indigenous peoples of the region. It is also important to note that there is some disagreement between certain Haudenosaunee and Anishinaabe perspectives on the historical locations of their respective territories across the north shore of Lake Ontario (Konrad 1981). That said, there is little doubt regarding the violent irredentism of the Haudenosaunee Confederacy throughout the 17th and 18th centuries and their major financial benefit from the fur trade with the Dutch and English which armed them with flintlocks. Ultimately, descendants of all the Indigenous nations of the region have found some common cause in their struggles with the colonial states of Canada and the United States despite lack of total clarity regarding historical territorial boundaries.

The beautiful carvings at Kiinomaagewapmkong (Petroglyphs Prov. Park) near Peterborough make a strong impression when viewed in person, and include depictions of human beings, animals, and spiritual figures etched into a large, exposed blister of granite nestled into a serene forest. The site is described as a place of learning, and the oldest carvings there are estimated at well over a millennium in age. Across the ‘inbetween land’ as the Canadian Shield transitions to the shales and mudstones of Great Lakes lowlands lie dramatic cliffs adorned with pictoglyphs, such as the awe-inspiring escarpment on the east side of Mazinaw Lake in contemporary Bon Echo Provincial Park. Archaeological evidence clearly links the peoples of the Great Lakes region with others across the continent, such as the oceanic shells found in many Anishinaabe and Haudenosaunee wampum belts and other artifacts. Archaeologist Bruce Trigger contends that contrary to the hegemonic notion of pre-contact Indigenous societies being static

and underdeveloped compared to progressive, enlightened Europeans, they were in fact extremely dynamic and complex, and in the case of the Iroquoian cultures surrounding Lake Ontario show evidence of significant socio-cultural development prior to and independent of European influence (Trigger 1986).

As marine archaeologist Ben Ford shows in his book *The Shore is a Bridge*, recent developments in his field have produced major changes in how we understand the role that Lake Ontario played in the lives of those who lived near it prior to the major waves of colonial invasion that would come in the 17th and 18th centuries. New technologies have enabled marine archaeologists to observe underwater evidence of a sophisticated maritime culture on the lake in the pre-contact era. The latest sonar and radar scans have revealed several ports, fishing weirs, and large sturdy canoes dating to before colonization. As Ford states, this evidence shows that far from being a barrier, "Lake Ontario's historical record also argues for the easy movement of individuals and groups between maritime and terrestrial employment as circumstances demanded" which "linked shore communities together, transforming the shoreline from a physical boundary into a cultural bridge" (Ford 2011, p. 67).

The Royal Ontario Museum exhibits several such canoes, the largest of which is nearly thirty feet long and five feet wide, with substantial displacement for a wooden vessel. Similar displays are to be found at the Rochester Museum and Science Center, and the H. Lee White Maritime Museum in Oswego. Such a vessel indicates a high level of trade, transportation, engineering, particularly following the introduction of European demand for furs and other commodities. Having first hand experience of sailing Lake Ontario, the sight of these canoes really strikes me with the extent of maritime skill and ability to discern water conditions and weather patterns required to safely ply the lake's waters in one. When one reads accounts of

early European observers, or even in Cooper's adventure stories, the superiority of Indigenous canoe design to the bulky and unwieldy boats favoured by Europeans is abundantly clear. The number of costly shipwrecks of unsuitable vessels sent to rest on the bottom of the lake has steadily climbed ever since the burning of de la Salle's *Griffon,* and in truth continues to the present day when overly-confident pleasure craft operators forget to thoroughly check the meteorological reports before setting sail.

With regards to Lake Ontario, the overarching 'metahistory' of the late 16th and 17th century was largely a story of inter-Iroquoian conflict and competition interspersed with brutal epidemics and the slow, gradually increasing presence of the French traders (Domanska 2008). What are today known by the somewhat trivialising moniker of the Beaver Wars saw a wave of Haudenosaunee irredentism and expansion throughout the 16th and early 17th century that included the violent seizure of territory on the north shore of Lake Ontario from Wyandot, Neutral, and Petun peoples. Colonial history paints this period as a simple story of the Iroquois becoming the proxies of the British and the Algonquins and Huron peoples siding with the French. In truth, the history here is far more interesting and complicated, and the European role far less significant in the 16th and 17th centuries in particular than is commonly assumed.

The Haudenosaunee Confederacy was likely formed around 1142 C.E. when the Great Law of Peace established a political union of the Seneca, Cayga, Oneida, Onondaga, and Mohawk peoples. It was by all accounts a remarkably well-organised and prosperous society from well before until long after the French and English arrived. In warfare, the Haudenosaunee were able to quickly assemble and deploy skilled warriors who could cover great distances across rough terrain in a short time. Ben Ford argues that the region's waters played a major role in the very formation of the Confederacy: "The Finger Lakes and central New York river system

formed a radiating pattern of navigable waters connected to southern and eastern Lake Ontario. The lake acted like a railroad roundhouse, connecting the spokes and drawing the region into a single lacustrine/riverine network" (Ford 2011 p. 69). The Haudenosaunee were historic enemies of the Hurons, and later the Algonquins, leading to much contention and strife throughout the Lake Ontario Watershed in the 1600s. In broad strokes, this era of Lake Ontario's history is a story of inter-Iroquoian conflict punctuated by horrible epidemics, exploited to the hilt by small but influential French colonial venture which managed to mostly exacerbate and inflame existing tensions in various schemes to extract more fur out of the region. While the Haudenosaunee homeland covered all of today's upstate New York, Lake Ontario's north shore became home to several of their villages as well, including the Seneca community of Teaiaigon near present-day Toronto. Especially following the decline of the Neutrals, Petun, and Wyandot Confederacy, Konrad contends that by the late 17th century "To the north shore Iroquois (sic), these settlements were as much home as the heartland villages of their brethren to the south of the lake" (Konrad 1981)

For much of this time, Western Europe remained embroiled in extremely violent tribal conflict that only tapered off with the growing influx of colonial revenue and the social and economic changes it engendered, to be supplanted by inter-imperial conflict over trade routes and colonies and relative stability in Western Europe between 1648 and 1789. Throughout the ensuing historical transition from feudalism to capitalist modes of production, land and water commons were enclosed, forcing ordinary people off their traditional lands and into the nascent urban industrial economy. Suffice to say, for the average English or French peasant or city-dweller, life was not very pleasant in this period of time, and the draw of riches and opportunities for social advancement to be found in the 'new world' was strong. Both countries

had ancient feudal laws and customs that bound many people to specific places and occupations, such as the French system of coerced *corvée* labour, or indentured servitude under the English. To many of these early European arrivals, especially higher up in their respective socio-economic hierarchies, the relative freedom and health of Native peoples was confounding and construed as a threat to their social order. Early European accounts show surprise at how strong and healthy the Indigenous people appeared compared to the average malnourished European person where they came from (Jackes 2008). The Jesuit Dablon remarked that the territory of the Onondagas "...would be one of the most commodious and most agreeable dwelling-places in the world, without excepting even the levee of the River Loire… the most vivid scarlet, the brightest green, the most natural yellow and orange of Europe pale before the various colours..." -- this is high praise from a Frenchman indeed (Gateley 2004).

At the time and for centuries following, the primary focus of French colonial activity in Canada was the acquisition of animal furs, most particularly the prized fur and castoreum of the beaver. This was an *extremely* lucrative trade, and once the First Nations of the region realised how much the French were willing to pay for quality furs, territories that may have been shared or at least not strongly contested between them took on a whole new level of strategic and commercial importance. But the French brought more than trade goods and missionaries with them. Several waves of smallpox, tuberculosis, and other virulent diseases made a devastating impact on all Indigenous populations surrounding the Lake beginning in the 1630s (Trigger 1986). Of all the factors in the long story of European conquest and colonization of this land, these epidemics and their deleterious impacts on Indigenous populations are undoubtedly among the most consequential. By all accounts, the mid-17th century was a time of great hardship and destruction across most of Europe and with certainty for the Native peoples of the Americas, in

particular the Wyandot and other northern Iroquoian nations. Even China was embroiled in the tumultuous transition from Ming to Qing dynasties at the time. It was quite a bad time to be alive across most of the world. Three particularly large volcanic eruptions occurred in Japan, the Philippines, and Ecuador in or near the year 1640, which likely led to several years of particularly harsh winters worldwide; this would have increased malnutrition and made populations in the watershed more vulnerable to diseases as they clustered together for warmth, especially smallpox (Jackes 2008).

By the 1670s, French accounts described the north shore of Lake Ontario as a wasteland- not because of the mass death which occurred there, but because they perceived the region to be depleted of quality furs. Perhaps the most significant and overlooked spatial process of this time period was the fallout from the extirpation of the beaver from increasing swathes of the watershed. During the summer of 2020, a good friend and I undertook a canoe trip into crown land north of Puzzle Lake Provincial Park near Tamworth, Ontario. Trusting in Google maps satellite imagery that a navigable route could easily be found, we were sorely mistaken. The route we took ended up far from direct, but our experience traversing about 15km of interconnected beaver ponds, the largest of which impounded several acres of water, was as educational as anything else I have read or seen pursuant to the overall subject of water in this part of the world.

Impressive does not even begin to describe the engineering that beavers are capable of; we had to portage around a veritable beaver ‘Machu Picchu’ with multiple terraced sections, each of which were a good two to three meters in height. Imbued with a newfound sense of respect for these ingenious creatures, it does strike me what a significant influence their constructions have on the land- and waterscape. Prior to the explosion of demand for beaver

pelts, they must have been everywhere creeks flowed and green wood grew, thus creating untold hectares of flooded land turned into aquatic habitat. Considering most human travel occurred by canoe at the time, beaver ponds likely helped link watersheds that today lie separated by large swathes of dry land. As the beaver were trapped and killed and their dams decayed, I wonder about the overall impact of their extirpation on the region's hydrology, ecology, and water quality as the filtering effect of each beaver pond gradually washed out and the creeks and rivers sped up generally across the watershed.

Through the 1600s, the French made several failed attempts to destroy and conquer the Haudenosaunee territories on the south shore of Lake Ontario, the most perfidious of which was the genocidal campaign against the Senecas under the Marquis Denonville in 1687. This atrocious act firmly ended any chance of Franco-Haudenosaunee reconciliation and ensured an alignment between the Confederacy and the British Crown.

Meanwhile, as the volume of trade increased, the Haudenosaunee entered into a long series of agreements with the British they referred to as the Covenant Chain, represented by a silver chain. The logic here was that gold was inappropriate to represent the relationship: silver tarnishes with time, and must be polished to maintain its lustre. So it was to be with the Haudenosaunee-British alliances- contingent on upstanding conduct and periodic reappraisals and reaffirmations of goodwill. A silver covenant chain is displayed at the Royal Ontario Museum, but the agreement is still very much a part of present day contention between Haudenosaunee peoples, the Canadian government, and the British Crown, and continues to serve as an important metaphor for the broken relationship between these entities in the present day. As Sir William Johnson, a key British governor and diplomat between the crown and the Huadenosaunee once keenly remarked about the Confederacy: "their location next to our

portages and frontier settlements… qualifies them for acting the part of our best friend or most dangerous enemy" (Taylor 2007).

By 1763, the last of the major inter-European wars for colonial control of the Lake Ontario watershed drew to a close with French defeat and the fall of Quebec to the British. For the Haudenosaunee, British victory came with a growing uneasiness that stemmed from the arrogance of commanders like Amherst, the ruthless cruelty doled out by English troops to enemy and neutral First Nations, and the increasing contradiction between formal treaty obligations and the actual conduct of Anglo and allied Germanic settlers within their territories. There appears to have been a real epistemological divide concerning treaties that was deliberately encouraged and manipulated by the English. For the Haudenosaunee, the Covenant Chain represented a relationship between equal peoples, an impression the British scarcely tried to disabuse them of. For the British, these dealings were merely a ruse to maintain peace while they swindled vast tracts of land out of Native control. As historian Howard Zinn notes, even before the fall of New France, some Mohawks were already raising the alarm about trusting the British:

> ...around 1750, with the colonial population growing fast, the pressure to move westward onto new land set the stage for conflict with the Indians. Land agents from the East began appearing in the Ohio River valley, on the territory of a confederation of tribes called the Covenant Chain, for which the Iroquois were spokesmen. In New York, through intricate swindling, 800,000 acres of Mohawk land were taken, ending the period of Mohawk-New York friendship.
> (Zinn 1980 p.89)

This foreshadowed yet more disillusionment among the Haudenosaunee for British rule that would come to a head with the rise to prominence of Pontiac, an Odawa leader who following the French defeat called upon all Indigenous peoples to cast aside their divisions and unify to expel all English colonists from Turtle Island entirely. Following the war, British official policy may have been to respect Native sovereignty, but the conduct of British subjects was a

very different matter. One example of this was the lead-up to the Battle of Devil's Hole in 1763. Following the capture of Fort Niagara, a new road had been constructed on the main portage around Niagara Falls, leading the English merchants there to favour the use of wagons to carry goods and telling several hundred Senecas who had been prior been employed as labour on the portage for decades that they were now out of work. As a result, "In a superbly executed military strike, Seneca warriors ambushed and destroyed a British wagon train, and two well-armed rescue parties were also annihilated. It was a stunning and total British defeat" (Ahrens 2004). While this cannot be taken out of the wider political context of the time, this was arguably one of the first instances of strike action and labour unrest in American history. The British, as they always did when they lost, called it a massacre, but the incident reverberated through the colonies as a reminder that British troops were not invincible despite victory over France, and that much of the territory claimed by their empire was far from secure. Pontiac's call to arms and unity was well-received among many disaffected Haudenosaunee, and by the end of 1763 the British had lost most of the outposts and forts gained from the French. Jeffery Amherst, by then the governor of Upper Canada, became incensed at the insurrection and wrote many unhinged letters to subordinates expressing a desire for the 'total extirpation' of Natives in rebellion against the Crown. As an early proponent of biological warfare, he wrote: "Could it not be contrived to send the *Small Pox* among those disaffected tribes of Indians? We must on this occasion use every stratagem in our power to reduce them" (Parkman 1886). As contemporary debates over the names we use for places and streets of prominence rage, let's not forget the perfidious namesake of Amherst Island, the largest island in Lake Ontario, or the towns in Nova Scotia and Massachusetts. The island bearing this name south of Millhaven is a unique and charming place, one that merits being called something different and better than for an

unrepentant genocidaire and early innovator of biological warfare. As the British Superintendent for Indian Affairs William Johnson would remark: "Our people in general are ill-calculated to maintain friendship with the Indians [sic]. They despise those in peace whom they fear to meet in war" (Ahrens 2004).

In the course of my research I found this contemporary poem entitled “Lake Ontario Park” by the Kingston-based poet Sadiqa de Meijer, which begins with a quote from Amherst himself. The poem contrasts the blunt, callous imperative postscript to a genocidal order with three taut stanzas which successively move from the carefree enjoyment of a beautiful day on the island, an introspective nod at resilience, and an affective indictment of way our society forgets its past and inures us to such odious place names. I find it difficult to discuss the man or the history concerned here in language fit for a graduate thesis, and I appreciate the way the poem pierces contemporary Canadian complacency with a painful but necessary truthful needle.

“P.S. You will Do well to try to Innoculate the Indians by means of Blanketts, as well as to try Every other method that can serve to Extirpate this Execrable Race.”

-General Jeffery Amherst in a letter dated July 16, 1763

Over the warming ground, swings toll like clock tower bells.
Squirrels spiral the trunk of a pine.
We fill a pail with sand.
The day is robin’s eggshell fine.

My mother’s shoulder had three shallow scars.
Shining archipelago.
The quiet theaters of our lives.
Immune is a sung word, skirting sorrow.

Kneeling at no registry of toddlers with amorphous voices.
Night sweats without monument.
The lake has the sea on its breath.
One man has an island.
(de Meijer 2013)

Soon enough, tensions between the settlers in Britain's American colonies and the Crown over taxation, regulations, and the curtailment of westward expansion would boil over into the War of American Independence, or Revolutionary War to Americans. Beginning with the 1775 revolt emanating out of Boston, and soon spreading throughout the 13 coastal colonies, the war saw combat throughout the watershed. Lake Ontario's stormy waves played a crucial, yet little known factor in this conflict on Halloween night in 1780. A late-October gale swept in suddenly and sunk the HMS Ontario- the flagship of British naval power on the lake and the largest vessel yet to sail its waters with a large detachment of British troops. This seriously impaired the British war effort on Lake Ontario, and while they were able to hold the provinces of Ontario and Quebec from failed American invasion attempts, they were unable to project power or ferry adequate supplies to support their Native allies further inland (Britton Smith 1997).

As the war raged on and Britain's ability to support and reinforce its inland garrisons diminished, the British war effort relied more and more upon their native allies, with the Haudenosaunee being no exception. Central New York state became a crucial strategic theater, with the rebels' victory at the Battle of Saratoga widely considered the turning point of the war by convincing France that an American victory was possible. This secured French naval assistance which would be pivotal in the eventual British defeat in 1783.

The Haudenosaunee were soon faced with a difficult choice between honouring their agreements and treaties with the British Crown, or recognizing the inevitable American victory and making peace with the winning side. This impossible situation led to a major fracturing of the Haudenosaunee Confederacy, with the Oneidas and Tuscaroras joining the Americans in

arms against the Mohawks, Onondaga, Cayuga, and Seneca who remained loyal to their agreements with the Crown.

When the British lost and withdrew from New York, the new American government relished in the opportunity to finally attack and invade the rich and abundant Haudenosaunee heartlands across Western New York. In 1779, George Washington dispatched Major-General John Sullivan to Haudenosaunee territory with the following orders:

> The Expedition you are appointed to command is to be directed against the hostile tribes of the Six Nations of Indians, with their associates and adherents. The immediate objects are the total destruction and devastation of their settlements, and the capture of as many prisoners of every age and sex as possible. It will be essential to ruin their crops now in the ground and prevent their planting more...
>
> I would recommend, that some post in the center of the Indian Country, should be occupied with all expedition, with a sufficient quantity of provisions whence parties should be detached to lay waste all the settlements around, with instructions to do it in the most effectual manner, that the country may not be merely overrun, but destroyed.
>
> But you will not by any means listen to any overture of peace before the total ruinment of their settlements is effected. Our future security will be in their inability to injure us and in the terror with which the severity of the chastisement they receive will inspire them. (Washington 1779)

By all accounts, the expedition succeeded in its goals. Thus, almost a century following Denonville's genocidal rampages of 1687, the Americans laid waste to the Haudenosaunee heartlands in a ruthless campaign of ethnic cleansing. George Washington, America's original sleazy real estate tycoon president, had long since learned of the potential value of the lands under Haudenosaunee control from his days as a land surveyor and speculator. Having arranged so that he and his fellow elite slaveowners stood to gain immensely from the sale of the newly conquered lands to smaller speculators and eventually settler farmers, Washington also knew that in such a violent, hierarchical society (whatever its democratic pretenses), in order to maintain power it is necessary to reward your soldier class lest they consider turning their weapons on

you. For, as one of the expedition's commanders Peter Gansevoort recorded in correspondence, "It is remarked that the Indians live much better than most of the Mohawk River farmers, their houses [being] very well furnished with all [the] necessary household utensils, great plenty of grain, several horses, cows, and wagons" (Taylor 2007 p.98). The Haudenosaunee, and the valuable lands they occupied, were to be the reward for joining Washington's cause.

At the Battle of Newtown in August of 1779, the Americans were able to defeat a large combined Haudenosaunee and British force, in doing so breaking the core of armed resistance to their campaign of terror. Employing a crudely effective method of warfare that would come to characterize much of their martial history, they amassed superior firepower and bombarded the enemy positions from a distance until they were blown apart. The aftermath of the battle left the Haudenosaunee heartlands open to invasion, which was thorough and merciless in its murder and destruction of food stores and crops. To this day, some Onondaga carry on a tradition of eating cicadas when they appear in late summer to remember how their ancestors survived the exceedingly difficult circumstances of the year 1780, and as a result George Washington was deemed Hanadagá•yas, or 'town-destroyer,' which became the Haudenosaunee term of use for all the following Presidents of the United States into the present (Dehowähda•dih 2018).

In the wake of this destruction came the declaration of the Central New York Military District, which distributed up to 500 acres of rich arable land to each American man who had participated in the genocide. In a large wedge emanating south from Oswego to the Pennsylvania border, arbitrary lines of property and jurisdiction were violently imposed on what had been open-access commons among the Haudenosaunee for centuries. It is of interest to note the names they chose for these new counties and townships- Manlius, Cicero, Hannibal, Scipio, Cincinnatus, Milton, Locke, to name a few. The imperial pretensions of these place names speak

to the arrogance of these men who revelled in their ill-gotten gains by invoking the grand tradition of the ancient Romans in slapdash Jeffersonian charlatanism.

Some Haudenosaunee survivors accepted onerous terms of defeat and concentrated into small, square reserves surrounded by lands that would be flooded with settlers in the years to come. A large group of survivors fled to the British garrison at Niagara, where the commander Frederick Haldimand declined to dispatch any of the troops stationed there to aid their allies and attempt to stop Sullivan's rampage. These survivors, led by the Christian Mohawk Joseph Brant, would go on to live at Ohsweken, also known as Six Nations of the Grand River, along the banks of the Grand River. Still other survivors headed to the south and west to warn other indigenous people of the need to band together against American expansion following British defeat and withdrawal in 1783, while others would continue to launch raids against the Americans in New York periodically throughout the 1790s.

Many Mohawks came north across the lake to live at Tyendinaga on the Bay of Quinte, while the large near-island peninsula of Prince Edward County was sliced up into 200-acre rectangles and given out to Loyalists to the British Crown who had fled the American insurrection as compensation for the Crown's failure to protect their property, and named after members of the royal family. Today, Ameliasburgh, Sophiasburg, and Marysburgh remain as township names there, and many roads are named after the Loyalist families who settled there. These people brought with them the stern, austere Protestant conservatism and deeply racist attitudes they had developed in places like Virginia and the Carolinas. Their expulsion from the newly-independent 13 colonies reveals that while often framed as a Revolutionary War of Independence another way to remember it might be as a civil war between settlers with competing visions for the future. For the Haudenosaunee, it was a series of blows they could not

recover from. While they remain a steadfast and formidable presence in the watershed to the present day, their homeland had been conquered and their organized military and cultural power that had ruled the region for centuries was defeated. And yet, just because settlers have claimed victory does not mean any of the fundamental issues at stake for the Haudenosaunee are by any means settled, notwithstanding the betrayal of the Crown and the malfeasance of recent, modern interloper 'Canada.' Adding insult to injury, the separation of powers supposedly embedded in the American's own early confederation was deeply influenced by the politics and customs of the Haudenosaunee, with influential 'founding fathers' like Benjamin Franklin openly acknowledging their practical and democratic mode of governance played a large role in early conceptions of the United States as a union of equal states.

So, following Sullivan's genocide, there was a major rearrangement of the people living in the Lake Ontario watershed. Haudenosaunee fled to the west and north shores of the Lake, while Loyalists populated Niagara and Prince Edward counties. Americans flooded into the areas near present-day Oswego, Troy, Rome, and Syracuse, while large parts of shoreline remained undeveloped along the south shore between Niagara and Oswego. The British reinforced garrisons at Niagara and Kingston, and dispatched troops to secure the strategic trailhead for the portage to Toronto (where Lake Couchiching meets Lake Simcoe and the easiest route between Georgian Bay and Lake Ontario lay), at the Seneca village of Teaiaigon to secure the entrance to Toronto harbour, a rare safe shelter for boats on the tempestuous and fickle Lake. Over time, the start of the road to Toronto became Toronto in the settler's minds, thus giving us the name of the largest city in the watershed.

The Treaty of Paris brought an end to the war between America and Britain in 1783, securing American independence from the Crown. For the first time, a border was drawn on the

map cleaving the Lake Ontario watershed in two. Since the glaciers melted, people had moved more or less freely across and around the Lake, using it as a hub in a regional wheel of countless rivers and waterways, a key conduit and feature in their ways of life. Now, settlers had overwhelmed their homelands, and imposed new and foreign regimes of property and accumulation of profits from all possible avenues. Part and parcel to these were the borders between jurisdictions.

From early on in American history, the profit motives of various elite factions have tended to dominate all diplomatic and political considerations faced by their federal government. Likewise, British imperial interests were first and foremost about profit, and they had plenty of other colonial schemes underway worldwide to assuage any loss of pride that came with defeat to the obstreperous Americans. Nearing the total collapse of fur-bearing mammal populations and habitats, the Lower Great Lakes region would develop an economy primarily based on agriculture, timber, and fishing for the next several decades, remaining so until demand for iron and copper rose with the era of industrialisation. This all required more people to labour, administer, and provision the growing population throughout the territory, creating incentives for settlers and land speculators to acquire more lands to sell. As Greer et. al. note, beyond being exploited to simply build up what would become Canada, "...the region's forests and watersheds were transformed into the modern world system as the Crown secured lands and timber rights during the Napoleonic Wars" (Greer et. al. 2020) As Britain's empire spread across the world, the resources to be found and accessed via Lake Ontario became increasingly integrated into a global network of trade, conquest, and exploitation that fuelled the development of the capitalist feedback cycle of accumulation and crisis which we are still locked into today.

Two major British “purchases” extended the crown’s claim of sovereignty across the north shore of our region of interest, both spurred by the loss of the American colonies and the need to secure land for Loyalist and Native-ally refugees. Under the Crawford Purchase, Mississaugas under the impression they were getting gifts from the British in exchange for rights to travel through their territories would later find they had apparently ceded the entire shoreline of Lake Ontario from Kingston to the Trent River. The Toronto Purchase similarly claimed a large tract of what is now the Greater Toronto Area in 1787. These were ‘adjusted’ over time in 1805, and it would not be until the Williams Treaties of 1923 that the main stretch of shoreline between Toronto and Belleville would be “officially” ceded into Canada. A number of other fraudulent and rushed land deals made in bad faith were imposed upon the western bend of the Lake to round out nominal British control over the shoreline from Queenston to Kingston. With the flood of refugees across Lake Ontario scarcely letting up in the 1780s and 90s, these hastily made scam treaties with the Mississaugas and refugee Haudenosaunee were in abrogation of older, more legitimate agreements over the territory, and carved the landscape into blocks governed by increasing layers of property law and bureaucracy that remain a legal and diplomatic morass to this day. Almost as soon as they were made, the agreements were steadily chipped away at by underhanded settler legal tricks, developmentalist schemes, or brute financial buying power. More importantly, each of these agreements was with the British crown, not with the future invention of Canada. The recent 2010 settlement which compensated the Mississaugas of the New Credit First Nation with $145 million CAD for the malfeasance that enabled the Toronto Purchase is only a scintilla of progress towards redressing the historical wrongs which spread British Dominion over the Lake Ontario watershed.

Since 1791, the British Dominion of Canada West had been divided along the Ottawa River into Upper, and Lower provinces. John Graves Simcoe was named the first Lieutenant Governor of Upper Canada, and promptly ushered in a land rush among Loyalist settlers in the Niagara region by mandating more favourable rates than American land barons were offering at the time. While many of those who came to settle and farm were indeed staunch Loyalists who felt they benefited from being subjects of the crown, many others were merely looking for a deal to acquire their own land and were more susceptible to republican ideals, but few of them paid heed to whose land they were claiming as their own. Simcoe ruled until a bad case of gout forced his return to London in 1796, after which he would go on to lead British forces to defeat against the brilliant Haitian revolutionary Toussaint L'Ouverture. For only having presided over Upper Canada for five years, his name can today be found all over Ontario from the large lake north of Toronto, to the statutory holiday, to a street in practically every town and city. Simcoe's tenure was marked by several early schemes to imagine Canada as a prosperous, loyal, and orderly counterweight to rowdy American republicanism; in other words to completely ignore or reinvent the history of the region and impose new, foreign, and developmentalist designs upon it.

Every time a border is imposed, borderlands are created. A century prior following the establishment of the Great Peace of Montreal in 1701, Haudenosaunee and Anishinaabe peoples had generally agreed to share the Great Lakes region amongst themselves in defiance of English and French claims of sovereignty. Now, a militarised border slashed through the heart of Lake Ontario that endures to this day. Historian Tom Dunning notes that "In these borderlands, individuals fashioned new complex selves. These peripheral peoples created regional cultures that in turn influenced the creation of national and transnational cultures. The residents of the Great Lakes borderland helped formulate such cultures and identities for an emergent Canada, an

imperial Britain, an expansionist United States, and an international republicanism" (Dunning 2009).

Ultimately, like the century preceding, in the 1700s Lake Ontario remained a source of life, and death; fishing, trade, and communication on the one hand, and as an obstacle, challenge, or vector for invasion on the other. For many of the Haudenosaunee, the Lake and the promise of refuge on its far shore literally became their best hope for survival as they fled the invading Americans. For the Mississaugas, it was a rude awakening that British promises were not to be trusted.

America and Britain once again entered hostilities in the bloody and costly War of 1812, which turned Lake Ontario into a central theatre of naval combat, and brought violence to nearly every community on its shores. York (Toronto), Rochester, and Sackets Harbor were menaced and raided, while Newark (Niagara-on-the-Lake), and Buffalo were completely torched and razed on the verge of winter, creating thousands of refugees. Failed American attempts to invade Upper Canada were stymied by the maneuvering of the brilliant Shawnee tactician Tecumseh as much if not more so than by the sacrificial defence mounted by Sir Issac Brock at Queenston Heights. Yet, with the White House smouldering and an entire region burned over, the Treaty of Ghent brought an end to hostilities in 1814.

In a major betrayal of Tecumseh and his allies, the British reneged on their promises to establish an 'Indian Barrier State' in the Great Lakes Region which likely would have been in present-day Michigan and Indiana.. Ultimately, having secured a near total victory over Napoleonic France and the disorder which followed, the British Empire had the entire world to plunder before it, and imperial strategic interest in stopping American westward expansion waned as colonial ventures in India, the Caribbean, China, and elsewhere promised more

lucrative profits and trade. “British” interests in the Great Lakes region gradually became a more provincial matter best left to their Canadian subjects, and their alliances with Indigenous peoples were no longer of vital importance as the fur trade declined and settler-colonialism and agriculture became the primary intention for the region. As historian Alan Taylor writes, “The dual process of dispossessing Indians and creating private property constructed the state of New York, the United States, and the British Empire in Canada. Their success depended on defeating the Iroquois alternative of keeping a borderland by enlisting settlers as their tenants” (Taylor 2007).

As Ben Ford writes, in the period between 1783 and 1812, and particularly following the second war, “[Lake Ontario] became a major thoroughfare, connecting not only the shore communities but also two formerly belligerent countries. Loyalists, for whom it was no longer safe to live in the USA, and “late loyalists,” interested in cheap lands, streamed across the border” (Ford 2011). Ford’s argument that “this unobstructed movement by water allowed for the formation of a pan-lake culture” is shored up with evidence of widespread disregard for trade barriers imposed by Washington and London among the residents of the watershed (Ford 2011). This fleeting, intermittent pan-lake culture was grounded in the shared material realities of life in this part of the world, and while often overshadowed by larger political and social dynamics, has been a factor in the settler world of the watershed ever since.

The Americans, close to broke after the costly war, were keen to open the territories they had so recently gained to economic development. In 1817, the state of New York commissioned the building of the Erie Canal, which connected the city of New York to Lake Erie on an inland route that avoided the potentially dangerous and contested open waters of Lake Ontario. The original Canal took until 1825 to finish digging and building the 32 locks required to move

barges between Albany and Buffalo, and relied heavily upon low-wage Irish workers who died in droves of exhaustion and mosquito-borne illnesses digging the nearly 400 mile ditch (Sheriff 1996).

It is hard to overstate the significance of the Erie Canal's construction in the overall history of the Lake Ontario watershed. When first proposed, it was viewed as risible to many observers due to the technical challenge and immense cost of building such a large piece of infrastructure, a 'canal to the moon' (Bernstein 2005). Prior to its completion, what passed for roads in the region were usually not much more than muddy trails prone to highwaymen and other perils of the road, only occasionally improved into 'corduroy' roads consisting of thousands of logs of a similar diameter laid out horizontally; remains of such a road were recently unearthed in Waterloo, Ontario (Jackson 2018). It took at least two weeks to travel by horse or wagon between New York and Buffalo, making the overland route impractical for commercial use. With the Erie Canal's completion, the cost of shipping goods (primarily grain from the rich fields of Western New York to the hungry city downriver) was reduced by close to 95% (Sheriff 1996). Between the 1830s and 1840s, the amount of grain being shipped from Buffalo to New York City increased by a factor of ten (Bernstein 2005). In the same interval, the population of Western New York grew by 50% to 150%, as large numbers of immigrants came to settle there and transit on to points west (Sadowski 2021). Beyond linking the territories along it economically, the canal was only the beginning of what is now called the New York State Barge Canal System, which artificially linked Lake Erie, Lake Ontario, and the Atlantic Ocean together and altered the natural flow and ecosystems of most of the tributaries along the south shore of Lake Ontario.

In the year 1817, the revolutionary sidewheel steamship *SS Ontario* was launched out of Sackets Harbor and began regularly ferrying passengers and goods around the U.S. shore; while the technology worked *per se,* it was rather slow moving and could not hope to match a well-crewed schooner in speed. By the 1820s, the earliest mass waves of settler immigration were drawn to the region as vast tracts of abundant land became viable for commercial farming and export through the development of these novel means of transport.

The British-Canadians north of the Lake were alarmed at the Erie Canal's success, and as it neared completion commenced the construction of the Welland Canal in 1824. When the first version was finished in 1829, for the first time ships became able to pass back and forth between Lake Erie and Lake Ontario, paving the way for further western settlement in Ontario and opening up vast territory to profitable commercial use. Following the war of 1812, the danger of sailing the St. Lawrence within range of American cannon prompted the construction of the Rideau Canal or Waterway, which connected the small outpost of Bytown with Kingston, thus creating an alternate route between Kingston and Montreal which opened in 1832. Within the following decades, this junction would swell in size and eventually be chosen as the new capital of Canada and renamed Ottawa. The Trent-Severn Waterway, a much more complicated route spanning hundreds of lakes and rivers between Lake Huron and the Bay of Quinte, began in 1833 and was constructed in increments across the 1800s, finally becoming suitable for commercial navigation between Lakes Huron and Ontario in 1904. Like the Erie Canal to its south, with each section completed it made huge areas of land much more attractive and viable for agrarian settlers to clear and exploit. These artificial waterways introduced a new phase in the overall conception of water in the region: instead of being a dangerous natural element that could be travelled upon only by skilled mariners in nimble canoes, it became subject to the plans and

designs of engineer and politicians, and took on a new significance as an essential factor in making settlement economically viable. The watershed's population began to swell with the introduction of new European populations brought in as labour, bringing the deep tensions and social contradictions of the 19th century Irish independence struggle into a new and remote context that would bring more bloodshed and drama to the watershed throughout the century.

Whatever overall peace and prosperity that developed on Lake Ontario following the War of 1812 was frequently tenuous and punctuated by several crises which kept tensions high. These decades were marked by the rise of the Family Compact, a close-knit cabal of wealthy, land-owning white Protestant men who controlled all the key capital of Upper Canada, planning and financing massive development schemes like the construction of the Welland Canal, and ensuring they would be in the right places to reap the maximum financial rewards of these public investments. The abortive Upper Canada Rebellion of 1837, the dispute over the border between British Columbia and the Oregon Territory of the 1840s, and the growing threat of Fenian raids into Canada all played into an overall dynamic of continued militarisation and reinforcement of forts and fleets on Lake Ontario. All the while, the development of more efficient and powerful steam engine and propellor designs permitted the construction of faster and larger steamships (this is the origin of the S.S. naming convention for passenger vessels), while the naval applications of the technology were soon to be amply demonstrated by the ironclad gunboats of the U.S. Civil War.

However, the significant cost of such militarisation would never have been invested had it not been worth protecting in the eyes of the leaders of the time. And such rich land, to the average settler's eye, is utterly wasted in its 'wild' condition. At the start of the 19th century, towering forests of chestnut, oak, beech, black gum, hemlock, white and red pine, maple, ash and

elm covered the watershed. Following the 19th century, much of the land was denuded and given over to the plow, or simply cut down to be burned. Forestry scientists Suffling et. al. identify the 1920s as the nadir of Ontario's forests, and comment that: "The land clearance pattern was moulded partly by the cultures of the settlers, but more so by economic and ecological goals, opportunities and constraints. On fertile soils… land clearance was almost complete" (Suffling et. al. 2003).

As increasing numbers of settlers entered the watershed from the 1830s onwards, the anthropogenic changes they produced and their corresponding ecological impacts began to accelerate logarithmically. With each new settlement came more mouths to feed, and under the settler paradigm the solution to this was to clear ever more land of its natural habitats to make way for the plow. Bearing in mind the often harsh winters and heavy snowfall the region is famous for, imagine the cumulative impact of human demand for wood on the watershed's old growth Carolinian forests at a time when it was the primary building material and fuel source. Prior to the advent of coal as a major industrial and domestic fuel source, every home required at least one fire burning every day of the year. Obviously more fuel was burned for heat in the winter, but all cooking and most bathing and cleaning was done with wood fires. Most structures at the time were built from wood, requiring strong walls and roofs to bear the weight of large amounts of snow. Whatever roads existed at the time were often made from thousands of tree trunks lined up and laid out across the undulating drumlins of the watershed. Boats of the time were constructed from wood. Potash, derived from *pot ash*, was used for a number of early industrial processes as a source of lye and as a fertilizer and soil conditioner, and was obtained by burning massive quantities of wood in large kilns and collecting the potassium-rich white residue separated from the charcoal by heat. Great Lakes regional historian Karim Tiro makes a

compelling case for the role of potash production in the collapse and extinction of the once abundant subspecies of Atlantic salmon endemic to Lake Ontario (Tiro 2016).

While colonial and commercial interest centered upon the watershed's nascent urban areas of York, Kingston, Oswego, and Rochester, vast tracts of land remained heavily forested or flooded with marsh and swamp. However, the major reason each of these four places became cities is due to the natural harbours formed by the mouths of their rivers and the potential to harness the energy of flowing water for industry.

Today, the flag of the city of Rochester reads "flour city- flower city" in homage to its early heyday as a centre for milling. South of the city, Powdermills Park is named for the major gunpowder production industry of the 19th century there, and Kingston Mills, Don Mills, and York Mills similarly denote the former presence of mills. Mills abound throughout the toponymy of the watershed. More large structures built from wood, or maybe limestone in the north-eastern reaches of the watershed; picture all the wooden water wheels turning and triphammers sounding as columns of smoke wafted and oxen-drawn carts brought bushels of grain destined to be grist. With the rise of these mill towns, we see a new view of water enter our area of interest: moving water as power to be dammed, stored, and harnessed for production.

The presently rather sleepy hamlet of Demorestville, Ontario in Prince Edward County is reputed by local historians to have once been the largest settlement in Upper Canada, exceeding York and Kingston in size between the 1830s and 1860s, growing due to the presence of mills there and the great demand for labour required to fell the forests and clear the land for agriculture. The historian and researcher Francesca Brzezicki was able to find a scrapbook entry from one Margaret Barton who was descended from original Loyalist settlers describing the town at its peak: "The first I remember of Demorestville is that it was a very drunken place. A great

deal of drinking was carried out everywhere... It seemed to be a very thriving place notwithstanding… Its drunkenness is what caused someone to give it the name of Sodom" (Brzezicki 2015). Sometime in the 1860s, the town burned down, or perhaps was burned down, leaving hardly a trace of its former self today apart from Sodom Road, and Gomorrah Road, which demarcate its former city limits. The quietly religious people who now call it home seem to eschew any memorial for what was by all available accounts quite a debauched town, though judging by the empty cans of Coors Lite adorning the sides of nearby roads, they still enjoy a drink or two nowadays. I include the story of Demorestville here to speak to the broader trend of the creation of ad hoc villages in the forest to service the labourers who cleared the land which would experience a brief boom, then fade away as economic interests favoured new locations.

In the 1840s, the first major potato famine would reduce Ireland's population by half over a decade either by death or emigration. Many of these Irish came to Canada and the United States, often bringing with them simmering hatreds for their British oppressors. Many of my own ancestors first entered the watershed around this time to the best of my knowledge. These Irish-Catholic newcomers faced major prejudices in both Protestant-dominated countries, and for the most part were low-paid labourers at the time. In *Between Raid and Rebellion: the Irish in Buffalo and Toronto 1867-1916*, Irish immigrant experiences on both sides of the border are contrasted as tensions and prejudices drove some to eschew their heritage and others to embrace it (Jenkins 2013).

The invention of the steam engine, its improvement, and proliferation across transportation and industry led to the emergence of coal as an essential commodity to fuel the engines, though wood remained the preferred fuel for most of the earlier days. For the first time, boats could travel against the wind or current with relative ease, and locomotive steam engines

revolutionised transport over land. One of the first railroads in the United States was built in 1830 connecting Albany and Schenectady, New York. By 1853, a patchwork of railways were consolidated into the New York Central Railway connecting all the major cities on the American side of the watershed.

Much like with the Erie Canal, these developments were tracked with keen interest north of the lake, and prompted several businessmen of Upper Canada to seek investors to match the Americans' new infrastructure. In 1852, a charter was struck for the Grand Trunk Railroad to be built between Sarnia and Montreal, and within a decade these cities were linked for the first time by reliable, fast land routes. However, at the time railways were on a very narrow track gauge and were good for moving people, but had yet to be designed large or powerful enough to transport industrial volumes of heavy commodities. This opened up possibilities for the first gold mine in Ontario at Deloro, close to Marmora, which set the stage for an explosion of unchecked mining activity across the northernmost reaches of the watershed in and around the mineral-laden seams in the granite surrounding Bancroft.

For all the advances of steam, canal and rail, until the closing decades of the 19th century there was no method of transport in the region that could match the speed of a Lake Ontario schooner with a trustworthy crew. As Gately notes widely throughout her works, these sail-powered vessels held their own against steam-powered side-wheel ships until the invention of the screw propeller propulsion in Oswego in the early 1840s. With these new methods of transport came droves and droves of new inhabitants to the watershed. Some came with money to buy land and start businesses, others came with nothing but their wit and skill, and still more came fleeing the horrors and depredations of the plantation slavery economy in the southern United States. The region's "old money," descendants of the genocidaires of the 1790s, got even

richer selling parcels of land newly accessible by canal or railroad, but soon cities like Rochester grew to become bustling urban centres in their own right. The renowned abolitionist and philosopher Frederick Douglass, after escaping slavery as a young man, educating himself, and gaining prominence as a convincing orator, chose to make Rochester his home. For a time, the city was a hotbed of American abolitionism, where Douglass published *The North Star* and many of the radical thinkers and freedom fighters of the time convened to plot the end of slavery in the United States.

While the American Civil War did not see conflict come to the Great Lakes region, it surely had an economic benefit to the nascent industrial economy of Upstate New York despite taking the lives of thousands of young men from the region. Such a massive war effort required very large volumes of equipment, munitions, and provisions, a significant amount of which could be furnished by the factories and workshops of Rochester and Oswego and the farms that lay between them. Following the war, there was high demand for manufacturing and labour that was needed to rebuild destroyed swathes of the re-United States.

From the perspective of Lake Ontario, after 1865 the whole of human activity in its watershed was subjected to a great industrial ratcheting; the economic development of the region into a manufacturing powerhouse, the obliteration of its forests for fuel, and the growing influx of immigrant labour began to transform the landscape. Telegraph wires flew up across the region, enabling unprecedented rapid communication between distant points. Canals and railroads now radiated from every serviceable port on Lake Ontario; rivers were dammed, diverted, and dredged to suit economic growth.

Prompted in no small part by the alarming victory of burgeoning Yankee industrial production and military might over the slaveowner’s rebellion, Her Majesty’s loyal Canadian

subjects put forth a proposal for greater autonomy from London which was approved, thus bringing about the Dominion of Canada as a mostly self-governing jurisdiction within the British Imperial Commonwealth in 1867. On the north shore of the Lake, Toronto became a major destination for immigration, which increasingly made ambitious feats of engineering possible such as larger and more reliable railroads, bridges, lighthouses, and dams throughout the northern half of the watershed. Following the U.S. Civil War many Irish-American veterans joined the call to arms of the Fenian Brotherhood, and began to gather at strategic points along the border. This created quite a stir along the north shore of the lake, where memories of 1812 lingered and there was a general distrust and contempt for the Fenians and the Americans who were perceived to be in support of them. In June of 1866, the most pitched fighting occurred when Fenian soldiers crossed the Niagara and won the Battle of Ridgeway against a Canadian militia before making a tactical retreat back to New York. This short, but dramatic episode had the effect of bolstering Canadian nationalism, and although the Fenian plot was ultimately thwarted it was yet one more step on the long road towards Irish independence.

As the march of industrial progress quickened, so too did the harnessing of all the hydrological, agricultural, and human resources deemed necessary for the profitable economic growth of the region. The so-called ‘gilded era’ was either a time of robber barons or one of ‘captains of industry’ depending on one’s views and biases. What is inarguable is that amidst massive flows of immigration into factory towns like Rochester and Hamilton, a small financial elite on both sides of the Lake Ontario watershed made enormous profits in a time largely prior to the advent of modern unions, consumer safety standards, and even the most basic rights for workers such as the eight hour day (Zinn 1980, ch. 11, 12). In discussion of historical wealth inequality in late 19th century Ontario, economist Livio di Matteo uses probate data to show that

while the relatively less developed northern half of the Lake Ontario Watershed may have produced fewer extremely rich individuals than in the United States, the newly-minted Province of Ontario was rife with inequality with ownership of key productive industries concentrated in the hands of a small economic elite (di Matteo 2001). Journalist Gustavus Myers wrote meticulously and at great length about the development of the economic elites of North America across his three volumes of *History of the Great American Fortunes* and in his later work *A History of Canadian Wealth* (Myers 1910, 1914). Myers' unflinching accounting makes it clear that those who amassed great personal fortunes in North America between the 16th and 20th centuries did so largely through fraud, bribes, corruption, and often murder- contrary to the hegemonic archetype of the self-made inventor-genius succeeding on individual merit.

From about 1867 onwards everything in the Lake Ontario watershed began to speed up, from the rate of deforestation, to the speed of transportation and communication, and especially with regard to the growth of the population. The relative stability that prevailed between Canada and the United States throughout this period allowed for the wholesale extraction of all that could be profitably extracted within the technological means of the time. The first gold mines in Ontario were dug out of the precambrian edge of the Canadian Shield near Deloro up the Moira River north of Belleville. Early methods of separating gold from ore involved the use of large quantities of arsenic and cyanide, and over a century later the legacy of these mines continues to impact the headwaters of the Moira today.

By the 1880s coal began to supplant wood as the primary energy source in the watershed, and by then the forests here had been cut back to a sliver of their former sylvan glory. The tributaries that led to the lake were dammed and penned up as inland waterways were altered, drained and connected. Increasingly, factories were built near rivers which could provide energy

and serve as a repository for all kinds of noxious waste. The ecological consequences were severe, particularly in the case of the endemic subspecies of Atlantic Salmon that had once been a keystone predator species and seasonal staple food source in the watershed. As Great Lakes historian Karim Tiro writes,

> For the duration of the nineteenth century, people all around Lake Ontario had understood that the salmon population was dwindling as a result of fishing and land use practices and economic development. The salmon had been extinguished as a result of changes that were both wide and deep. Despite a desire for the continued existence of Atlantic salmon in the lake, the economic and social rewards of destroying both the salmon and their habitat proved irresistible."
> (Tiro 2016)

It was not long before technological advances made it possible to generate electricity from the damming of rivers and the use of the controlled flow to spin turbines and generators. The mighty Niagara River appeared tantalizing for early advocates of electrification, and by 1902 was supplying about one fifth of the electricity produced in the United States (National Park Service 2019). Proximity to this immense source of hydroelectric power caused manufacturing businesses and other heavy industry to gravitate toward the western half of Lake Ontario, and cities like Niagara Falls, Rochester, Hamilton, and Toronto grew rapidly along with the rise in demand for labour.

The First World War brought the United States and Great Britain into a close alliance, curtailing the general frostiness that had lingered in the Lake Ontario watershed throughout the century following the War of 1812 and the Fenian Raids. Throughout the Great Depression of the 1930s, hard times bit into the region as they did elsewhere, yet the great industrial churn devouring the watershed was merely slowed, never halted. Effluents rushed from the pipes leaving the factories, mixing their toxins and chemically reacting with each other and the environment. While many factors contributed to the economic growth that brought an end to the

Depression years, the mass mobilization and militarization brought about by the Second World War was the most consequential of them. Lake Ontario was once again put to martial use, this time as a training ground for pilots and sailors and a large basin connected to the Atlantic capable of furnishing the armaments and vehicles needed to wage the war.

Following the defeat of the Axis powers in 1945, both Canada and the United States emerged relatively unscathed, having been spared by geographic distance from the horrific destruction wrought by the fighting across Europe, Africa, and Asia. The United States, in particular, had victorious standing armies in Germany and Japan, and was left the sole major industrialized power in the world that hadn't been flattened by years of aerial bombardment, and was in a strong position to grow into the hegemonic superpower it would soon become on the strength of its nuclear arsenal. While the Second World War meant the defeat of Nazi, Italian, and Japanese forms of fascism, almost immediately after the last shot had been fired, the United States pursued a strict anti-communist foreign policy that plunged the world into another four decades of Cold War. This brought with it a number of consequential impacts in Lake Ontario watershed which were of temporary economic benefit or expedience, but which we are living with the legacies of today.

Namely, it created an impetus for the damming of the St. Lawrence River, and the construction of the St. Lawrence Seaway between 1954 and 1959. It was a massive engineering feat which effectively made the Great Lakes accessible to transoceanic shipping, but it came with a host of deleterious ecological consequences. Namely, the near extirpation of the American Eel, once pervasive throughout the Lake Ontario watershed and of great significance as a staple food in the region, and the introduction of dozens of invasive species ranging from the Round Goby to the Quagga mussel. Environmental historian Daniel Macfarlane has been an engaging chronicler

of the Seaway and the complex circumstances which brought it into being. He contends that Canadians were motivated by a form of 'hydraulic nationalism' rooted in a "...'high modernist' conception of the environment and river resources as something to be controlled and manipulated to further the goals of the state" (Macfarlane 2017). Meanwhile, the Americans were unwilling to allow the development of an entirely Canadian seaway, and weighed heavily on the occasionally contentious negotiations to establish the Seaway to ensure their economic and national security interests were prioritized. Macfarlane's key point is that both countries act in their own self-interest (often narrowly defined) with regards to transboundary water and environmental policy, and neatly summarizes the legacy and salience of this history today:

> Over the course of the St. Lawrence negotiations, the U.S. pressured Canada into abandoning its unilateral plans and allowing American participation; we are likely approaching a point where the U.S. begins to more actively seek Canada's abundant water resources, be they waters solely in Canada, such as in the north, or shared resources, such as the Great Lakes."
> (Macfarlane 2010)

In a parallel vein of 'high modernism', both countries commenced with the construction of the 18 nuclear reactors which now stand on the shores of Lake Ontario. The Darlington and Pickering Plants on the Ontario shore came online between 1971 and 1986, Both plants have had serious close-calls throughout their long lifespans, and past efforts to refurbish reactors have cost public coffers up to five times what initially budgeted for each project. There has never been a nuclear industry project in Canada that has been performed on time or under budget. The federal regulator and the semi-privatived crown corporation called Ontario Power Generation who together administer these ageing plants today are well-connected to the political power establishment in the province, securing hugely expensive pledges from Doug Ford's government to keep them running well past their designed lifespans at enormous public cost. Together these two plants produce between 25 and 35% of the electricity generated in Ontario, and keeping

them open means denying limited space on the grid to introduce more renewables (Gridwatch 2021). The lack of a long term solution for the storage of nuclear waste means that most of the radioactive byproducts of these two plants remain sitting in ‘temporary’ storage next to the reactors that spawned them. Canada’s Nuclear Waste Management Organization (NWMO) has faced resistance to its plan to collect nuclear waste from across Canada and the United States and bury it beneath Lake Huron, which is intolerable from a water security perspective throughout the Great Lakes region at large. In 2020, the Saugeen Ojibway Nation voted by a margin of 85% against allowing the NWMO to proceed (Saugeen Ojibway Nation 2020).

On the New York shore, between the one reactor of the James A Fizpatrick plant and the two running at the adjacent Nine Mile Point plant, a significant cluster of radiological contamination sits along the lakeshore in the town of Scriba. Nine Mile Point reactor #1, that venerable flower child of uranium which came online in the year 1969, holds the dubious honour of being the oldest continually operated nuclear power plant in the United States. Closer to Rochester in the town of Ontario, New York, lies the R.E. Ginna Nuclear Power plant. This single pressurized water reactor came online in June of 1970, making it the second oldest continuously operated nuclear reactor in the United States, only outshone by its cousin in Oswego. The Ginna plant has had a number of close calls over the years, but keeps on ticking past a half century of keeping the lights on in Rochester and Monroe County.

I don’t wish to dwell long on the possibilities for a catastrophic accident like what happened in Chernobyl or Fukushima striking one of these plants, because even one meltdown in the watershed could result in everything from Lake Ontario out through Quebec to the ocean being poisoned and spoiled for human use for thousands of years. All this fretting about fresh water in the region would become moot, and the watershed would no longer be a suitable place

for the great numbers of future refugees of a changing climate who might otherwise seek shelter here. For all their claims of safety, these old nuclear reactors pose an unacceptable risk to the long term water quality and ecological health of Lake Ontario. After all the sweeping changes, genocide, and ecological crisis wrought by settler-colonialism and capitalism in this watershed, these ageing atomic monuments to our unsustainable technological society threaten to destroy the basis for human life here entirely. As Susan Peterson Gately says in her conclusion to *The Great Atomic Lake,* even without a catastrophic meltdown occuring:

> Ultimately as radionuclides continue to migrate into rivers, groundwater, seep out of rusting barrels on the ocean floor, blow with the wind to settle onto gardens and vegetable fields, and enter the food chain and the biosphere in a number of ways too numerous and complex to even imagine, a greater portion of society will bear that cost with each passing generation. We should stop. There is another road to take (Gateley 2002).

My father, aunts, and uncles have told me many times of going to the beaches in Charlotte north of Rochester on summer days in the 1960s when there would be millions of dead shad, whitefish, and ciscoes floating on the surface of Lake Ontario as far as the eye could see. By the 1970s, landmark environmental protection legislation and policy like the Clean Air Act and Clean Water Act came into being in the United States, alongside similar changes in Canada, and namely the Great Lakes Water Quality Agreement of 1972. Between the 1980s and 2000s, Lake Ontario finally caught some respite from over a century of maximized exploitation of all it could offer to the burgeoning economies of Canada and the United States. However, the damage to its ecological health is permanent and profound. From a biodiversity perspective, the Lake pales in comparison to its former self, with a few dozen species of fish living in it today where hundreds once swam.

Many individuals and environmental NGOs have done important work throughout the past several decades to raise public awareness of the ecological state of Lake Ontario and

connect people in new and exciting ways to the water here and the defense of the non-human life that we share it with. The organization Swim Drink Fish is just one, but as its name states, the group's mission and purpose is to ensure that all three of these activities can be enjoyed in perpetuity for all who call this watershed home. The fate of the Lake today remains in jeopardy. For those of us who live here now, and especially for those who will need to in the coming decades, it is imperative that we do all we can to safeguard, maintain, and heal this tremendous and unique freshwater resource.

Chapter Four: Lake Ontario in Literature and the Arts

"On this trip I am meeting a few random people who live close to the Lake, people who are strangers to each other, but are being touched in their lives by the presence of the Lake and are therefore becoming of one tribe whether they ever think about it or not."
-David McFadden, *A Trip Around Lake Ontario (1988)*

"Sounds of the seas grow fainter, sounds of the sands have sped;
The sweep of gales, the far white sails, are silent, spent, and dead.
Sounds of the days of Summer, murmur and die away;
And distance hides the long, low tides, as night shuts out the day."
-Pauline Johnson / Tekahionwa, *"Good-Bye" (1913)*

"I'm getting tired of the petty life I live, the nine to five lies;
And I don't like my tired eyes and cut up hands and broken back, I cannot stand;
I'm gonna ride my bike into the Lake!"
- from the song "Lake Ontario" by Toronto band *Superlion* (2015)

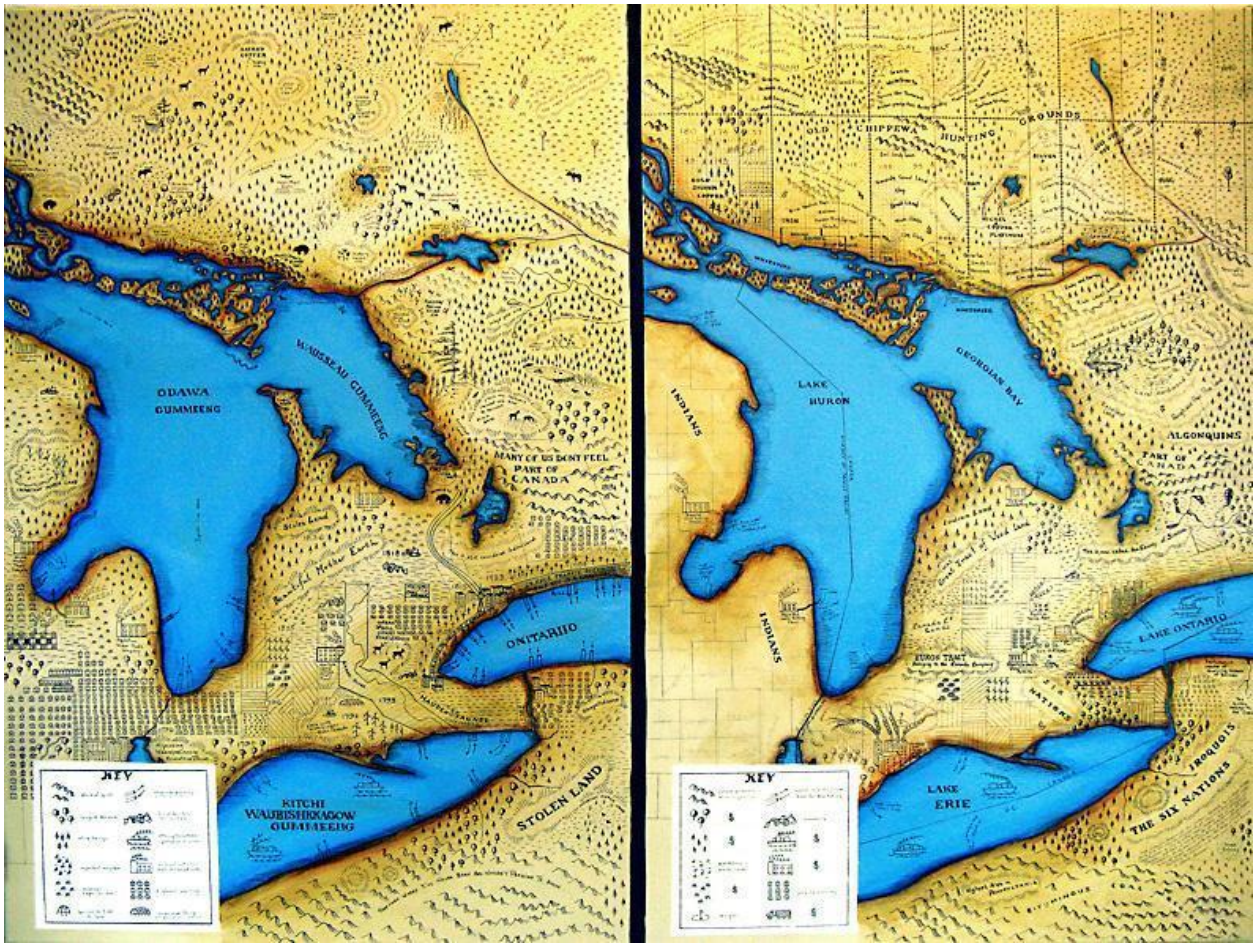

Fig. 2 "Goodland" by Christi Belcourt (2008) www.christibelcourt.com/water/goodland/

Although her frame of perspective in the above artwork is shifted slightly to the north and west from mine, in this piece the artist, activist, and philosopher Christi Belcourt manages to elegantly express much of what I am grasping at in this thesis. This is indeed very good land, and her juxtaposition of the land between the lakes seen from two radically different paradigms makes this abundantly clear. The left frame shows this territory from a decolonized perspective of a land and water defender; the image is peppered with succinct truths like 'the Haudenosaunee were robbed," "water pollution = criminal activity," and "nobody stops to help the stranded" written in place of the Queen Elizabeth Way. On the right, the same space is shown through the capitalistic settler's avaricious gaze; priceless natural treasures are reduced to dollar signs, and the land is weighed down under unnaturally rigid grids of human roads, sprawl, and pollution.

This Gestalt juxtaposition of two distinct and mutually exclusive views of this 'good land' at the centre of my thesis is refreshing. At first glance, much of what has been created concerning Lake Ontario is on the order of anodyne watercolour paintings which fail to capture its fierce range of hydrological expression with any justice, or niche military hagiographies written by amateur historians with a boyish love of martial personalities and warships. These are the creative waves and ripples: they are obvious, common, and greatly influenced by the capricious winds of the day. As one wades deeper, a more resonant, slower rhythm becomes discernible: the seiche. Like the great underwater slosh which rocks back and forth through Lake Ontario every eleven minutes, this is something more hidden and more fundamental, brought about by a conspiracy of water, wind, gravity, geology, and tidal forces. The underlying theme of the Lake's literary seiche over the past two centuries, in my best estimation, is death. Death by drowning, death by sorrow, death by murder; the slow death of non-conforming life under a stifling social order; the death of fish, plants and animals; the death of great forests, great

factories, great dreams. In our present moment on the precipice of climate chaos and mass extinction, is the Lake trying to tell us that we are all heading for death on this present trajectory?

While literary accounts almost universally praise and flatter the Lake descriptively, I have found that most of the literary and artistic treatments of Lake Ontario tend to be dampened with melancholia, homesickness, confusion, and existential terror. It appears to me that the Lake inspires some form of dread to the artistic settler's eye, a watery reminder of the fleeting nature of modern society and the shakiness of its foundations and assumptions against the epochal, elemental forces of the Great Lakes. The heyday of sailing vessels on the Lake was a time of high at-work mortality for the men and women aboard the schooners, barges, and freighters that plied its waters, which perhaps contributes to its enduring literary associations with death. As previously mentioned, I grew up hearing about horizon-spanning fish kills and saw a man drown in the Lake as a child, so I acknowledge my own bias in this matter.

But, the jaded views of contemporary settlers do not encompass the entirety of Lake Ontario's figurative range. These selected works are not able to capture every narrative presentation of the Lake; undoubtedly I have missed and omitted several, especially in the forms of Indigenous characterizations and representations of the Lake and its spiritual and life-giving dimensions. The Lake is not only a surly, grey menace hoping to snatch every sailor's life, and when properly contextualised, has great potential to draw our attention to the interconnectivity of life in this watershed. My framework over the remainder of the chapter reviews and analyses eleven novels which feature Lake Ontario as a setting and a literary device. I have arranged my analysis in order of the novels' publication by year.

From the time the glaciers receded, the native peoples of this territory have related to Lake Ontario as a source of life, something to be revered and respected. Since Europeans arrived

with their lust for extraction and control, a tremendous metaphorical pall malingers across the watershed stemming from the genocides, the brutal rollout of colonization and industrialization, and the generations of broken dreams attending individual hopes and dreams drawn into the gnashing gears of progress in and around Lake Ontario. Looking backwards, this watershed, and the landscape it fills has been marred everywhere by rampant capitalist hubris in a tiny 200 year sliver of Lake Ontario's ~12,000 years on the planet. Once the gateway to a vast inland sea teeming with life, in the span of a century much of the watershed was denuded of forests, gouged and dredged to suit the changing whims of industry, poisoned with pollution, and yoked by gargantuan concrete dams constantly whirring to power the extraction of profit from an exhausted, overleveraged region.

The mid-twentieth century bubble of prosperity which seemed so bountiful to the region's residents in the 1950s gave way to deindustrialization and the proud, polished steel of countless factories were shuttered and left to rust largely by the end of the 1970s. With this, the paths to upward social mobility began to shrink, both national 'dreams' became less about honest, unionized work and pensions, and more about stepping on each others' necks to scratch out a marginally better arrangement in the hellbound handbasket of capitalism. It is no wonder then that in the years since authors who set out to sketch out characters and stories in this region tend to dwell on the maddening and immiseating nature of living in a landscape of broken promises and shattered dreams, smoothed and molded by the crude workings of power in service to profit regardless of cost.

Of course, the American Dream was not simply a post-War polyethylene fantasia; it is deeply rooted in the American veneration of the rugged individual freedom-lover who charts his own path and through charm, guile, and force gets his way in a world stacked against him.

Canadian variations on this theme tend to merely hew the individual out in rougher relief; even more austere, humble, and tough than the Yankees of warmer climes.

I: *The Pathfinder* (1840)

If there ever were an early archetype for this type of rugged, charming, lethal frontiersman, a strong contender would be James Fenimore Cooper's serialised hero Natty Bumppo, also known as Hawkeye, Deerslayer, Pathfinder, and a dozen other names. Throughout the five novels known together as the *Leatherstocking Tales,* Cooper gained worldwide acclaim for his romantic, exciting portrayals of life in the early American frontier written and published between the 1820s and 40s. Perhaps most famously recently played by Daniel Day Lewis in the 1992 film *The Last of the Mohicans*, the character is steeped in the tropes and cliches of American self-regard. He is tough, self-sufficient, fair and good natured but murderous when crossed. In stark distinction from his effete European cousins, he is adept at navigating the harsh frontier and dealing with its native inhabitants who are either painted as wise, senescent and stoic sidekicks or treacherous, lupine and dangerous enemies.

In *The Pathfinder, Journey to the Inland Sea,* set against the backdrop of the Seven Years War in 1759, Cooper's eponymous hero finds himself charged with safely guiding 20 year old Mabel Dunham to her faraway-stationed father upon the shores of Lake Ontario after the death of her mother. Chaperoned by her cantankerous and salty Uncle 'Cap' and the gallant young Jasper, known as *Eau Douce* for his skill on freshwater, the group is saved by the Pathfinder and his Delaware companion Chingachgook from certain death and capture at the hands of the "Mingos" allied with the French. Through cunning, subterfuge, and violence the Pathfinder safely carries his charges down the Oswego river to Fort Ontario, where they must travel yet further to deliver Mabel to her father. The Pathfinder finds himself fallen in love with the young

Mabel and in competition with Jasper for her attention and hand in marriage, which he eventually concedes and resolves to continue his rugged, sylvan ways. The protagonists' journey by boat from Oswego, bound to relieve an English garrison in the Thousand Islands but are waylaid by an easterly gale which sends them to the Western end of the lake. Cap begins the journey haughtily incredulous that freshwater can mount any challenge to an old salt like him- "D---e if I regard this here Ontario, as they call it, as more than so much water in a ship's scuttle-butt!" (p.173), but after the storm is forced to concede the Lake's frightful power.

Pathfinder is rendered as a thoughtful, wizened, wry character marked by a deep integrity to his own personal code inflected by philosophical meanderings on the conflict between the freedom of the peaceful woods and the gradually encroaching regime of property and 'civilization.' Cooper has the Pathfinder carry on at great length about the differences between 'Red' and 'White' customs and in his view the merits and shortcomings of each. And while the character is downright laudatory towards the Delawares, he is scathing in his condemnation of the 'Mingos,' or Iroquois allied with the French whom he refers to often as 'cunning riptyles.'

Flowing descriptions of the landscape prior to the European interventions of axe, musket, and plow abound throughout the novel, granting imaginative glimpses of the towering forests and untrammeled rivers of the time. By 1840, New York state was being busily deforested, its rivers dammed and altered by the Erie Canal, an expanding quiltwork of orderly rectangular pasture belted with roads and peppered with church steeples. Cooper was certainly a champion of such 'progress,' yet in *The Pathfinder* he is unabashedly romantic about the wild landscape so radically altered in the last few decades of his life. The forest is described as almost a sea unto itself that for most is only traversable by water in a canoe, accompanied with vivid accounts of travel by canoe and combat between Natives, English, and French. In describing the bounty of

the land, Cooper writes that “Oswego was particularly well placed to keep the larder of an epicure amply supplied” and discusses how even the lowest soldier in the fort was eating fine meals of salmon and venison that officers in other garrisons would be jealous of (p.123).

The dialogue is often long-winded, but carries a number of themes that shed light on the people and customs of that era. The seasoned, ocean-going Cap is incredulous at the sight of a freshwater sea, disdains the Lake and condescends to its sailors, yet comes to respect it deeply through experiences in its gales. The most sympathetic character is the headstrong and capable Mabel, who is heroic and determined in the face of all the pressures and prejudices arrayed against her. Portrayed mostly as a damsel in distress, Cooper balances her out somewhat by having her intelligence upstage and surprise confidently-wrong male characters at several points in the story.

Throughout it all runs a debate and exploration of the pros and cons of both Native and European cultures, with Pathfinder’s admiration of the Delaware’s customs, his libertarian streak, and the joy and comfort he finds in the woods representing an archetype of a gentleman on the frontier who is a stalwart friend but a lethal enemy. Cap, the Searjant, and Mabel are all expressions of genteel English arrogance, propriety, and morality, and in dialogue with the Pathfinder come to adapt to the harsh realities of life in wartime on the frontier. Pathfinder lives by his own code and says he never takes a life he doesn’t have to, but ultimately remains loyal to overall Anglo-American Christian society and by extension their rules and boundaries. Mabel gets her choice of the suitors in the end, happily marrying the dashing young laker Jasper Eau Douce, not least due to Pathfinder’s virtue and magnanimity. Jasper represents Cooper’s ideal fusion of the civilized world with the knowledge and freedom of the frontier, who is capable and honest and bound for a bright future. Cynical modern readers are not likely to find much

plausibility in this coiffed heroic figure, but as bright minds have noted his very name implies a certain domestication or taming of Lake Ontario's fierce waters under the stoic, sobered skill of an idealized Anglo-American colonizer determined to master the elements.

As a work of historical fiction, it retells the pre-American past in a way which critiques staid European conventions in contrast to an ideal of a pragmatic, charismatic, honest, and lethal frontiersman. Cooper gained widespread fame and acclaim for his writing, and was firmly ensconced in the elite Manhattan literary circles of his time. Curiously, while set in the throes of the Seven Years' War, the Iroquois are ahistorically cast as the mortal enemies of the Yankee-English heroes. A half-century following the American genocide against the Haudenosaunee heartland in 1779, one of the most popular American authors of his time inveighs against the Haudenosaunee through his protagonist time and again despite the fact they were by and large loyal allies to the British Crown throughout the conflict. The degree to which Cooper was aware of this is unclear, but ultimately his tale serves to romanticise its Yankee protagonists at the expense of historical fidelity.

Yet, as Bagby notes, Cooper was publicly rather conservative in his public life, yet "...as an artist and a visionary, he [was] able, at the same time, to see beyond his own discursive thinking; it is this radical and visionary side of Cooper's mind -- his imagination -- which finds expression largely in the character of Natty Bumppo and which sees, as few political thinkers in America have ever seen, the limits and dangers and dark sides of our 'craving after property' " (Bagby 1991). To be sure, *Pathfinder* is a useful and entertaining window into the past, from the past. With regard to Lake Ontario, it skillfully shows the dynamism of the lake, the skill required to navigate it, and its nature as a conduit for both trade and conflict. One observation distills a

core truth about the lake: “Ontario is like a quick-tempered man, sudden to be angered and as soon appeased” (p.282)

II: *In the Skin of a Lion* (1987)

Michael Ondaatje’s novel *In the Skin of a Lion* is replete with watery metaphors. The main protagonist, Patrick Lewis, is born and raised helping his father clear logjams with dynamite so the lumber could keep flowing down the Napanee River to market. In time, Patrick is drawn to Toronto, where he loves and labours among the city’s Depression-era underclass and becomes an anarchist. Nicholas Temelcoff, a Macedonian immigrant, works to build the Bloor St. Viaduct, risking death daily as an expendable pawn in the schemes of the manically driven Commissioner R.C. Harris who envisions himself as destined to build great, glorious things for Toronto. Patrick finds work in Harris’ grandest scheme of all: to construct a ‘palace of purification’ to provide the city with clean water. In order to build this, Patrick and hundreds of other men and mules must dig tunnels for the water intake pipes that stretch out several kilometers underneath Lake Ontario. These were some of the best scenes in the book, the sense of dread about tunneling in such an unnatural place and the unbelievable costs and difficulty of the project are truly impressive. Having worked a few years in construction myself including three underpinning jobs, these scenes gave me flashbacks to digging into soft sand underneath three stories of 100-year-old bricks above your head. Ondaatje really makes the labour come to life with his prose, and instills a deep respect for the workers who toiled and died to give Toronto a water plant which still provides much of the city’s supply. Patrick becomes furiously radicalised by the conditions he lives with and after time in prison descends into a mad quest for revenge. This leads to his feat of swimming up through one of the tunnels with plans to dynamite the plant and kill Harris, but once they meet their two distinct madnesses neutralise each other in

an anti-climax and sad reckoning of the limits of individuality against the tempest gale of societal progress and upheaval. To this day, Toronto remains a site of dangerous and difficult labour, yet it no longer has the Byzantine columns or mosaics and brassy Art Deco motifs of Harris' time; it's concrete, glass and steel thrown together in the most profitable way possible for developers with little thought for the future. Water is used throughout the novel as a metaphor for the emotional changes in the characters as a force which shapes and relocates them, but also as a conduit towards elusive and uncertain moments of liberation. Overall, it is an evocative portrait of early 20th century life in Southern Ontario, particularly in the churn of a rapidly changing Toronto.

III: *A Trip Around Lake Ontario* (1988)

The late poet David McFadden reached his greatest prominence in the year 1980 with his wry accounts of travelling around Lakes Huron and Erie with his wife and young children. In 1988's *A Trip Around Lake Ontario*, our somewhat jaundiced poet is divorced, lonely, and on the hunt for meaning. Shadowed by a scraggly crew of film students who documented his journey in the film of the same name, McFadden sets out from Toronto in a clockwise fashion and takes a long, scenic clockwise drive around our lake of interest. The book is full of little gems in-the-rough, which McFadden only polishes enough to catch a glint of homely genius, never so much as to remove them from their humble surroundings. He skewers provincial Canadians and arrogant Americans alike while managing to tenderly draw out the subtle similarities linking them together due to shared seasons, waters, airwaves and lifeways. Like many poets of his time, McFadden has an acerbic and cynical shell that hides a sensitive and compassionate perceptiveness only partially warped by booze and heartache. In the course of 108 vignettes, he depicts the people of the Lake Ontario watershed honestly, with equal parts respect, bemusement,

and contempt. One passage struck a chord with me and my own faltering attempts to make sense of this lake:

> Lake Ontario was deep, cold, remote, ancient, and always full of strange beauty. You glanced at it from any angle and received your momentary blessing, a moment of clarity, and then you turned back into the murk of your life. A year to walk around it would be better than a week to drive around it, for there would be only so many chances to meet and speak with randomly interesting people who lived close to the lake, people who, although strangers to each other, were being touched in their lives by the presence of the lake and were therefore becoming of one tribe, whether or not they ever thought about it. (p. 20)

Often blurring the lines between a faithful accounting of his trip and artistic embellishments, McFadden lingers in the dark sides of this region and the people who live in it, rejoices in the beauty of the land and water, and manages to find dry comedic silver linings in all of it. The 1985 short film *A Trip Around Lake Ontario*, directed by Colin Brunton, is a good companion piece that is artfully put together and full of delightful candid shots of people and places surrounding the Lake in the early 1980s.

IV: *CivilWarLand in Bad Decline* (1996)

The novella *Bounty* comprises the bulk of George Saunders' delightfully dim and dystopian collection of stories called *CivilWarLand in Bad Decline.* In a future United States that has been poisoned, polluted, and bombed into an even more grotesque accentuation of that country's dark side, Americans have been divided between 'Normals' and mutated, enslaved 'Flaweds.' The Flawed protagonist risks life and limb in a cross-country journey to find his sister, and much of the story takes place in western New York where he works for a time as a human barge-puller on the Erie Canal. One succinct line describes the lands south of Rochester very well: "the country opens up, all dips and rises and cool shadowed blue places" (p. 124).

Saunders imagines a setting where Americans continue to fret about status and consumption and even presidential elections while the world around them is actively crumbling

and they are surrounded by abject misery; where their collective psychosis keeps the country delusionally humming amidst utter social collapse. There are a number of sad and upsetting scenes, but Saunders writes with a great sense of humour and a strong grasp of American culture:

> What a beautiful country this must have been once, when you could hop in a coupe and buy a bag of burgers and drive, drive, drive, stopping to swim in a river or sleep in a grove of trees without worrying about intaking mutagens or having the militia arrest you and send you to the Everglades for eternity. (p. 139)

After working several truly odd jobs in this bizarro-USA, the protagonist's hidden Flaw is revealed and he must make a narrow escape onto a freight train railcar, prompting the following imagined depiction of our lake of interest: "Next morning Lake Ontario's out the open door, The beach is littered with seagull corpses, which people are scooping up like mad for dinner. Fishmongers on the shore shriek at consumer advocates passing out pamphlets about the hazards of eating lake fish" (p. 143). Overall, this is a deeply dark yet comic view of the future in an America which lets its best parts decay and die off and remains stuck on its frighteningly reactionary rails; a place where villains thrive and gentle souls perish. Yet, it ends on a hopeful note, with the siblings reunited and the protagonist committed to fighting for something better instead of meekly accepting the awful state of things.

V: *The Widows* (1998)

Suzette Mayr's *The Widows* (1998) follows an eclectic cast of German-Canadian women who finding their needs and desires thwarted by a cold, misogynistic society choose to assert themselves dramatically by succeeding in the daring heist of a purpose-built barrel with plans to ride it to glory off the edge of Niagara Falls. The story centres on sisters Hannelore and Clotilde, shaped by destitute childhoods in 1950s Germany, challenges in life and love as they immigrate to Canada, and eventually a simmering anger at feelings of being cast aside, devalued and ignored by a society that seemed to no longer have any use for them. Joined by Clothilde's lover

Frau Schnadelhuber and Hannelore's gifted granddaughter Cleopatra Maria, the four head off on the run across Canada to their destination of Niagara Falls. The events motivating each of the characters in their lives leading up to their fateful plunge and the action of the day itself are neatly interspersed into two parallel narratives.

Overall, water and the towering cataract of the Falls are used for many flowing, gushing metaphors about the characters' lifelong struggles with mortality, sexuality, and asserting oneself in a society which is often cruel and difficult for unmarried women above retirement age despite the social changes of the 20th century. In the same way our society is quick to forget the past and treat it with disrespect, the elderly in both Canada and the United States are overwhelmingly not well cared for, especially older women. Similarly, older queer voices are often not given such rich characterizations as Mayr provides. While Mayr does not pull her punches in criticizing stale and conservative Canadian conventions, she makes a nuanced rendering of the overall lack of fulfillment this outwardly abundant society seems to leave in most of its members as they reach their final years. For me, the hopeful message was that the four protagonists were able to work through their constrictions, traumas, and hang-ups together. Indeed, these feelings can really damage and sour a person if they aren't shared and discussed with sympathetic others. Niagara Falls becomes a place where the women can figuratively 'tap in' to the force of the water, empowering them to better understand what terms they want to live on, and then to better live on those terms. When I feel particularly depressed about this thesis project, like the whole region is just getting sucked downstream to a hellish future, I would do well to remember how Mayr's characters found one spectacular way of asserting themselves by trusting, learning from, and caring for each other.

VI: *Brown Girl in the Ring* (1998)

Nalo Hopkinson's *Brown Girl in the Ring* is a compelling story about a young woman who must access arcane powers to save her Grandmother's enchanted heart, reconnect with her mother, and ultimately defeat her evil Grandfather thus saving the city of Toronto itself from the rapacious system sucking it dry. Part science fiction, part Afrofuturism, the protagonist Ti-Jeanne must learn to control and harness her Obeyah powers in order to save the day. Hopkinson's description of a dystopian future where Lake Ontario has dried up into a giant mud flat is frightful:

> Imagine a cartwheel half-mired in muddy water, its hub just clearing the surface. The spokes are the satellite cities that form Metropolitan Toronto: Etobicoke and York to the west; North York in the north; Scarborough and East York to the east. The Toronto city core is the hub. The mud itself is vast Lake Ontario, which cuts Toronto off at its southern border. In fact, when water-rich Toronto was founded, it was nicknamed Muddy York, evoking the condition of its unpaved streets in springtime. Now imagine the hub of that wheel as being rusted through and through. When Toronto's economic base collapsed, investors, commerce, and government withdrew into the suburb cities, leaving the rotten core to decay. Those who stayed were the ones who couldn't or wouldn't leave. The street people. The poor people. The ones who didn't see the writing on the wall, or who were too stubborn to give up their homes. Or who saw the decline of authority as an opportunity (p. 3)

Ti-Jeanne eventually outsmarts and overcomes her villainous Grandfather's plan to sacrifice her Grandmother's heart to be transplanted into the feckless and corrupt Premier of Ontario, and in doing so manages to command the Premier to enact sweeping changes to save and rejuvenate a beleaguered Toronto.

VII: *Consolation* (2006)

From the 1840s looking back a century, to the present looking back to the 1840s, Michael Redhill's novel *Consolation* (Redhill 2006) spins a moving dual narrative. One, set in the year 1845, follows Jem Hallam, an apothecary's son dispatched to Canada to open a franchise of the family business in the frosty setting of a young Toronto faithfully depicted as a very muddy

York. Hallam is intimidated out of his business by unscrupulous Scottish competitors, depressed and lonely in the vicious winter, and on the brink of failure remarks “this country is marvellous soil for despair” (p. 210). The protagonist frequently marches around the city mournfully, often ending up at the harbourfront:

> ...then that same lake, frozen to stillness between December and April, ice-clenched with nothing coming in or out of it. And centred in it, with misplaced pride, a stuttering attempt at making an English town out of nothing, like a voice straining to be heard from a great distance. It would actually be funny, Hallam had thought, if he didn’t have to live here.

In a time when overland transportation in the region was arduous and uncertain, especially for those hailing from across the Atlantic, Lake Ontario’s seasonal duality as a gateway to the world and an icy barrier against it must have imposed a great frustration on many a homesick European. Even in modern times with the possibilities of air travel, the Lake’s wintry plain of ice often conjures a foreboding invitation to oblivion when viewed on a grey January day.

With his business verging on ruin, and facing a return to England in shame, Hallam takes a leap of faith in partnering with the libertine yet earnest Irishman Samuel Ennis, a practitioner of the emergent art of photography. Together with their assistant, the resolute and resourceful widow Claudia Rowe, the three form a strange family of sorts out of necessity against the cold and unforgiving society surrounding them, rendered in a careful and touching way by Redhill. Eventually, the three find success in gaining a commission from the government to photograph every address in town, forming a comprehensive photographic record of the city to burnish Toronto’s bid to become the capital of Upper Canada. Jem then surveys everything from the churches, to the mansions of Boulton and Baldwin, to the half-burned shacks where the poor scraped by. Overall, he sees a “patchwork of damage enlivened by defiant architecture and

freshly painted signs" (p.366) and experiences doubts about duping others into moving to a city he knows all too well can be harsh and unforgiving, "a place always in the process of being erased" (p. 396). Hallam scorns the rich and comfortable who "look out toward the lake and the railway, their faces turned away from the squalor" and only seeing a pleasant waterway, while from his jaded perspective "they had no idea at all, did they? No, they did not see this tabula rasa lake that he saw… flat-on waiting to be named by action: something to be crossed, to be tamed, to be survived" (p. 396) However, this premonition of lacustrine lethality comes tragically true upon Hallam's return from a successful exhibition of the photographs in London, where his vessel is swamped by an autumn gale and carried to the lakebed within sight of Toronto Harbour, carrying him and his pictures to a watery grave.

Consolation's other narrative follows John Lewis, a somewhat listless son-in-law to disgraced history professor David Hollis. In failing health, Hollis is driven to suicide by the fact that his insistence a cache of immeasurable historical value-- Jem Hallam's photographs-- lays precisely beneath a lot slated for development of a highrise hotel, a contention which has cost him the respect of his academic colleagues, put considerable strain on his relationships with his wife and two daughters, and placed his health in terminal condition. A conversation between David and John reveals the core insight of the book, and Redhill's method:

> You can't be direct with people if there's something important you want them to understand. If you say to them *there is something here of great value*, they will stare at you until you produce it, and then they will wait for you to name it and catalogue it and square it away for them. But if you say *I believe there may be something here,* then there is a chance, however faint, that they will want to look for it themselves…. There is a vast part of this city with mouths buried in it, mouths capable of speaking to us. But we stop them up with concrete and build over them and whatever it is they wanted to say gets whispered down empty alleys and turns into wind. People need to be given a reason to listen

John unwittingly enables David's suicide by driving him to the lakeshore at his insistice, enabling him to jump off the Toronto island ferry which leaves his wife Marianne bereft and his daughters Bridget and Alice angry and confused. John is forced to come to terms with his guilt by working with Marianne to vindicate David's claims against his wife's wishes, a journey which gives him renewed purpose and orientation, but at the cost of his own marriage. David is eventually proven right, and the work crews unearth part of the sunken ship, but Marianne and John are powerless against the combined forces of an unsympathetic City Hall, the developers and their lawyers. The ship is once again entombed, this time under dozens of stories of concrete, and Hallam's collection is likely lost forever.

Consolation is a very Torontonian novel, filled with melancholy and pierced with moments of brilliance. The core themes of emotional repression, trauma, suicide, and the churn of 'progress' as it constantly upsets and erases things which in a more compassionate, conscious society would be cherished blend to create an affective portrait of Toronto in two eras and a few sensitive souls looking for beauty and truth within it. Lake Ontario in *Consolation* is an unforgiving maw which prompts introspection but swallows two of its sympathetic protagonists, one by choice and one by chance. It is careless and unbothered by the affairs of individuals, always described by Redhill in loving, almost painterly tones with an ever-present undertow of capricious menace lurking beneath a picturesque surface.

VIII: *Station Eleven* (2014)

In terms of fiction that deals with visions of future life in the Lake Ontario watershed, the genre appears entirely dystopian. Emily St. John Mandel's *Station Eleven* starts out in a Toronto beset by a deathly flu pandemic that wipes out the majority of the population, viewed through the

eyes of a wheelchair-bound highrise dweller, a grim vision of the precarity underlying our modern urban life if our infrastructure and institutions were to fail catastrophically.

The protagonists end up in a travelling orchestra fending off marauding wasteland raiders, the elements, and a malign millenarian cult to try to keep the flame of culture and humanity alight in a post-apocalypse Great Lakes region. Critics have often described Mandel's style and delivery as understated, and the narrative juxtaposition of the harsh main quest with an intimately stressful pre-collapse subplot subtly jars the reader between timelines. Mandel skillfully contrasts the hypermodern stress of a young actor living in Toronto with the survival imperatives and relative clarity of purpose that might come in a life-or-death post-collapse Great Lakes wasteland. Another thing the book does well is conjure up a frighteningly plausible and realistic vision of the aftermath of a much worse pandemic than the one we are living through at present, highlighting the fragility of the society and material abundance we now largely take for granted. The author makes one lesson abundantly clear: if things get bad over the coming decades, steer clear of creepy white guys from rural Michigan sporting long hair and claiming to be Jesus!

IX: *Bleeding Darkness* (2018)

Brenda Chapman's *Bleeding Darkness* (2018) is a contemporary detective novel set in Kingston which slowly pieces together the threads that link two brutal murders separated by fourteen years in the windswept marshes of the Cataraqui wetlands. The story follows protagonist Kala Stonechild, an Anishinaabe homicide detective who must balance raising her niece, prejudice and politicking in the office, and solving her cases. The dying patriarch of the toxically dysfunctional McKenna family reveals a closely guarded secret which unearths old guilt and suspicions. The sympathetic daughter Lauren is worn down by a strained relationship

with her mother and the officious condescension of older brother Adam, but is unable to overcome suspicions about troubled middle-child Tristan. The story resolves with Stonechild solving the case in no small part thanks to Lauren's sleuthing at their mysterious Romanian neighbour's home. Though the villain is an epitome of hackneyed negative stereotypes about Eastern Europeans, the book manages to colorfully depict the twisted nastiness which afflicts many outwardly stable and happy Canadian families ensconced in their parcelled subdivisions across Southern Ontario. Chapman does a good job of exploring the ugly underbelly of Kingston, but the story could have easily taken place in Whitby, Brampton, or Stoney Creek. The wintry fury of Lake Ontario squalls and the difficulties they throw at motorists are well rendered, and the grisly murders among the thickets of cattails and phragmites are chilling. Lake Ontario provides a cold, unforgiving background for the grim maneuverings of Chapman's characters.

X: *Days by Moonlight* (2019)

Days by Moonlight (2019), the fifth novel in the Quincunx Cycle of novelist Andre Alexis, is a reverie tour of the 'Canadian Gothic' headwaters of the Humber and Credit full of puzzling encounters, amusing detours, and deep insights into the people and culture of Southern Ontario. Its Torontonian protagonist Alfie Homer has just been left by his girlfriend, was recently orphaned when his parents died in an accident on the 401, and is generally at a loss as to what to do with his life. He agrees to accompany an old friend of his parents, Professor Bruno, on a trip to search for clues that might shed light on the little-known life of local poet John Skennen, subject of Bruno's life's work. Through a series of bizarre encounters with eccentric locals, Alexis is able to muse rhapsodically on the varied and quirky forms of life, love, art, faith, culture, and history endemic to this deceptively pastoral landscape. This forces the Professor to

admit that "...in the end, the place he'd come from, this dull patch of Ontario, was more mysterious and threatening than he'd remembered" (p.79).

Dancing on the line of magical realism, yet rooted in uncanny plausibility, towns like Schomberg, Nobleton, New Tecumseth, and Feversham become the settings for unexpected and provocative events that blur Alfie's sense of reality and leave him awakened to powers and gifts within himself he never could have expected. Overall this novel sneaks up on you, flooding your ankles with inviting descriptions and gradually immersing you in the author's thoughtful, emotionally tuned world until you finish the book swimming in it. It is a delightful read. Given the sheer volume of Lake Ontario's water steeped into coffee or tea and consumed in red waxed cups queued up for in drive-thrus daily (not to mention my own shamefully frequent patronage of the ubiquitous Canadian franchise) I feel this particular passage of dialogue merits full quotation:

> We stopped for coffee at the Tim Hortons in Seaforth...It made me wonder what an alien species would make of our civilization if Tims were the only thing left of us.
> -That's a fascinating question, said Professor Bruno. Do all the Tims survive or just one?
> -Do you think it makes a difference, Professor?
> -Of course it makes a difference, Alfie. If your alien species comes upon a single Timmy's in the middle of a wasteland, they won't know what to make of it or us. This lone Tim Hortons would be a mysterious artifact. But if all the Tims survived, like Canadian industrial cockroaches, they'd think we were insanely fond of plastic and bad coffee.
> -But if that's how you feel, Professor, why did you want to stop at Tims?
> -I'm Canadian, son. I *am* fond of bad coffee and plastic! (p. 184)

Though the story all takes place in lands drained by its tributaries, Lake Ontario figures in directly only at the very end, as something of a lodestone welcoming a changed Alfie back to his hometown of Toronto. On the last page, standing on the shore, he remarks:

> I looked out at the lake before me. The water nearest shore was greyish-green. In the mid-distance it was dark green, and far away it was dark blue. Above me a

> handful of clouds pretended they did not move, daring me to catch them at it as they made their way across the sky. Behind me was my city, Toronto, soothing for being a faithful presence, a boisterous Eurydice: cars passing on Lakeshore, people speaking, the occasional cries from the seagulls, the not-quite-autumn wind that was not quite cold" (p. 218).

XI: *The Widowmaker* (2019)

The Widowmaker: A Maritime Tale of Lake Ontario (2019) by Susan Peterson Gately tells the story of Mollie, a young widow who inherits her family's schooner the *Gazelle* after her husband's untimely death in the year 1880. This was the heyday of sail transport of goods across the lake, a time when stifling Victorian restrictions made life difficult for a free-spirited, independent, professional woman like the book's laker protagonist. Nevertheless, Mollie is a skilled mariner and shrewd bargainer, and despite a series of mishaps and obstacles is able to keep the *Gazelle* afloat through the worst gale in the lake's recorded history. Bouncing between the Lake's ports with loads of coal, grains, and lumber, the crew has lively encounters with unscrupulous competitors, suffragettes, and veterans and survivors of the underground railroad. Overall, the characters are refreshingly hopeful and interesting, confidently and humanely making the best of their challenging lot in life by working together. Other than the ever-present danger of the Lake, treated with great respect by Gateley (a seasoned mariner herself!), which the crew faces together, there is not a general theme of death and depression in this novel unlike many of the others pertaining to the Lake.

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So overall, throughout time, there has been a gradual literary progression. In earlier representations, Lake Ontario is presented as an almost magical place, an inland sea of potable water who lulled unsuspecting sailors into her sweet waters then capriciously took their lives with her sudden squalls. For Pathfinder, the lake is a hub for countless highways that could take
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him wherever he chooses, but for his English friends it is a formidable and untrustworthy force of nature. In *Consolation,* the frozen lake ice becomes a barrier trapping the denizens of early Victorian Toronto and condemning them to ride out the winter in their draughty and damp abodes. For *Widowmaker*'s Mollie, the lake affords freedom and opportunity, yet for Brenda Chapman's victims it provides an eerie and soggy final resting place. For Mayr, the great falls feeding the lake flow as a metaphor for the pent up emotions of her protagonists, while for Alexis the majestic and unceasing lake is there waiting for Alfie to guide him home. McFadden shows us how whether we think about it or not, those of us living near the lake are united by it in subtle but profound ways. Throughout, we see Lake Ontario as a place of reverence, of both freedom and danger, power and tranquility. A place that, though shrouded in uncertainty remains a repository for human emotions, a vast lacustrine screen upon which the full spectrum of human emotion can be cast.

Clearly, none of the future settings described herein are desirable, and hopefully they can help caution and inspire us all to work towards a more positive trajectory for the watershed and its peoples. But in all three, good people persist in the most inhospitable surroundings, making the best out of a terrible situation through working together to create safe spaces for human decency. Like most fiction that attempts to imagine the future in North America, these three novels certainly do not have a rosy outlook. Based on a sober appraisal of the *status quo* and prevailing trends in the Lake Ontario watershed, it is easy to imagine a dark future here. That said, there is hope embedded within these dystopian novels, proved by the mere fact of their characters' resilience and courage in the face of a shattered and predatory world around them. Especially in *Brown Girl in the Ring*, the nightmarish picture of an absent Lake Ontario and the polluted mudflats that remain ought to jolt every Lake Ontario watershed resident into a reflexive

stance against any inkling of future plans to drain the Great Lakes watershed in order to prop up a desiccated American Sunbelt and Southwest.

All in all, the narratives I have selected here that take place in or around Lake Ontario seem to have a core theme of longing and unfulfillment that can only be overcome through finding one's strength in relation with others, and fighting together to carve out fertile spaces for free thinking and living. In this dynamic and often harsh waterscape, where conditions can change so quickly and without notice, and where winters are long and unforgiving, community is really the only thing ordinary people have to protect and nourish themselves. In this land, only those who can work together can survive. In the short slice of time since the industrial butchering of this watershed upon the altar of capital, the Lake Ontario watershed has swelled to include people from all corners of the Earth. For all our flaws as a society north and south of the border, I believe there is great potential in this part of the world to show the way towards a brighter collective future, towards better ways of relating to each other, the water, and all the non-human life that could thrive in perpetuity here if given half the chance. I am grateful to these writers for their own perspectives on people and water in this region, and hope that more literature develops that can help engender a deep respect and love for Lake Ontario and the role it can play in linking us all together physically, metaphorically, culturally, and spiritually.

Chapter Five: A Personal Geography of the Lake Ontario Watershed

"As I wend to the shores I know not,
As I list to the dirge, the voices of men and women wreck'd,
As I inhale the impalpable breezes that set in upon me,
As the ocean so mysterious rolls toward me closer and closer,
I too but signify at the utmost a little wash'd up drift,
A few sands and dead leaves to gather,
Gather, and merge myself as part of the sands and drift….
Ebb, ocean of life, (the flow will return,)
Cease not your moaning you fierce old mother,
Endlessly cry for your castaways, but fear not, deny not me,
Rustle not up so hoarse and angry against my feet as I touch you or gather from you.
I mean tenderly by you and all,
I gather for myself and for this phantom looking down where we lead,
and following me and mine."

-'As I Ebb'd With the Ocean of Life' from *Leaves of Grass* by Walt Whitman

This chapter contains an account of my memories from thirty years of living in the Lake Ontario watershed, as well as a collection of my observations and analysis from the intentional fieldwork I conducted here between 2019 and 2020. My initial desire to carry out fieldwork in this watershed came from my impression that few have really tried to focus in on Lake Ontario

itself and what makes this particular part of the Great Lakes Region unique. I was originally quite intrigued by the work done by Geographer Caitlin DeSilvey, and the unrestrained, personal way she writes about places which bear the scars of our misguided collective past. In developing the idea of 'anticipatory history,' DeSilvey weaves together her own experiences and emotions, historical geography, and an attunement to the likely needs of the immediate and distant future in order to determine what needs to be preserved, what must be left to decay, and what must be purposefully dismantled in a given place, and how those questions might be addressed in a holistic and participatory manner (DeSilvey 2011). At least for me, her work made me realize that grappling with deep, academic ideas and their attendant jargon is not mutually exclusive to personal, affective, and poetic accounts of one's experience in the world-- if anything, when done well the two enhance each other greatly.

Primarily, I care about the Lake Ontario watershed and the people who live here now and in the future. My cousins, friends, and peers are starting to have children, which makes efforts to help make a better future here all the more personally imperative to me. In my fieldwork travels I saw many things that made me smile, and many things that made me sad. But overall I saw a watershed bursting with life-giving potential, held back and chained by the legacies of colonialism and capitalism which persist malevolently whether subtle or stark. I spent a few years in my early twenties as a card-carrying member of the Industrial Workers of the World dreaming of helping to organize radical, emancipatory unions in every workplace- one big union for workers around the world. While I no longer pay my dues, I remember one important lesson pressed home in organizer training meetings that helped animate my fieldwork: the first step towards forming a union is always what the 'Wobblies' call mapping and charting. You aren't going to get far with any plans to organize people unless you understand the terrain that everyone

is working in, the complex and dynamic webs of social relationships and hierarchies that determine much of their behaviour as individuals, and the material conditions surrounding them. While I don't have quite the same optimism as I did in those days, I still dream that my homeland here in the Lake Ontario watershed can be a place where people from all over the world can live together sustainably, in harmony and solidarity against our violent histories and precarious present.

So, my fieldwork and analysis to follow are my attempt at 'mapping and charting' the Lake Ontario watershed, grounded in my personal experiences as a lifelong resident; as a worker in many different trades; as someone motivated to get restitution, justice, and increased jurisdiction for the First Nations of this land; and as someone deeply committed to the non-human life we live around and among. In the most intentional phase of my fieldwork travels, I kept thinking about the contrast between the abundance and potential of this watershed (and the lives of those who presently benefit from and own it) with its stark racial and class divides and beleaguered post-industrial infrastructure (and the lives of those condemned to toil and poverty therein). On both sides of the Lake, affluent islands pepper a landscape given over to industrial monocrop agriculture, asphalt, sub-par housing, rust-belt vistas in varying states of decay, latent nuclear nightmares, and a general sea of poverty and diseases of despair.

Tentatively, if the coming decades are to be shaped by climate disruptions and mass human migration, I submit that our best option as current residents of this watershed is to bet long on solidarity. If the present power elite in Ontario and New York, Canada and the United States remains in place, I am convinced we will be in for a very ugly future here if and when things get much worse in the United States and millions of emotionally-disturbed, brainwashed, and heavily-armed Americans decide they want to move to the part of their country where there

aren't frequent hurricanes, dust storms, major earthquakes, wildfires, or aquifer-desiccating drought. We have to build on what is already here and do more to strengthen ties among ourselves across that border, within our watershed, to make some steps towards rekindling what Ben Ford calls our 'pan-lake identity' unique to this particular watershed. If we can do that, there is some hope that we can prevent mass violence, oppression, property, and exploitation from being the broad themes of the century to come here. I hope that this fieldwork, and my observations within it, might help the reader to better 'map and chart' the watershed for themselves so that more people can participate in the thought and action we will need to write ourselves a brighter future in this part of the world and leverage its enormous natural and hydrological wealth not for profit, but to transform it into a place for peace, healing, and general refuge for human and non-human life. A new paradigm in which the Lake, and the life sustained by it, is given the best protection and stewardship possible; a meaningful break with the ideologies and practices which have left so much trauma in their wake.

I was born in Rochester, New York, to a Canadian mother and an American father. With family living in Toronto and Kingston, Ontario and Sodus, New York, I have been circling around the Lake for my entire life. I remember so many summer days spent rolling in the surf of Lake Ontario, playing in the sand, and scanning the beach for interesting flotsam. My Dad is from a family of eleven children, and I have twenty-eight cousins on that side of my family; family gatherings were always large and loud, and frequently took place at my Great Uncle Max's house in Charlotte, right up on the beach a short walk from where the Genesee River enters the lake.

Lake Ontario has always been a touchstone for me. Whenever I am feeling distressed or dismayed, knowing that I can travel a short distance to set my eyes on its vast, enduring presence

is always a comfort in all seasons. It makes me think of family, life, death, and freedom. It has a limitless grace and range to it, from the most rosy, pastel skies and glass-like calm to the fiercest of November squalls and the rainbow of greens and greys they draw up from the depths. While I have made countless memories that relate to Lake Ontario in one way or another in a lifetime of drinking from its watershed, a few stand out in particular.

At an early age, I learned to associate the Lake with death. I was about 5 or 6, and my Dad took me fishing by the outflow of the Russell B.B. Station coal power plant.
Far out along the rip-rap pier an elderly angler wearing chest waders lost his footing and was quickly carried away by the current. My Dad and two other men tried swimming out to save him, but by the time they reached him he had drowned. The fire department got a boat out there to retrieve the body. I remember waiting by the shore under the shade of a tree for what felt like hours until a reporter from a local news team asked me what I was doing there. When my Dad swam back up ashore in his underwear, as we had not planned on swimming that day, she was waiting to interview him. It was surreal seeing him on the six o'clock news that night, the 90 second spectacle made out of a man's death. I still don't know what to make of that day other than that from a young age, I learned that Lake Ontario was to be respected, revered even. Even on a sunny, calm day, it can snatch your life away in an instant.

When I was 11, my cousin Jake sailed aboard the *St. Lawrence II*, a brigantine tall ship out of Portsmouth Harbour in Kingston that operates an educational summer program for kids. Listening to his tales of sailing the lake, I was enamored, and begged my parents to let me join him for the next two summers for about a week aboard each time. I count myself lucky and privileged to have sailed aboard that ship, weaving around islets in the St. Lawrence and tacking into the long fetch of Lake Ontario's winds.

Climbing high up into the yardarms to reef in the mainsail during heavy rainfall was a harrowing, but confidence-building experience. The sight of a starry night in the middle of the lake, free from light pollution, is breathtaking. In order to even begin to appreciate the full palette of colours that Lake Ontario and the sky conspire to produce, one must be awake and on the water at all hours, for several days, observing. On the water, watching an advancing curtain of rain sweep towards you over the swells is a thrilling sight. Learning about the workings of a tall ship and the coordination among the crew required to sail it was exciting to be a part of. One of the older girls aboard expressed disgust at how many American flags there were on the U.S. shore compared to the Canadian side; the War on Terror was in full swing and evidently winning over few hearts and minds among the youths of southeastern Ontario at the time. I remember a close shave on "shore leave" in Cape Vincent, New York, where myself and my adolescent mateys ran afoul of some local street toughs who mocked us for being Canadian, narrowly avoiding an altercation. Although it was a minor incident, seeing the real animosity that can bubble up between Canadians and Americans was surprising to me at the time.

As I grew older, I developed a major interest in salmon fishing. Not far from where I grew up, several creeks flow that host significant runs of salmon and steelhead trout each fall and spring. At least once every fall, we would drive out along Route 104 along the lakeshore to Oak Orchard Creek, and stand with dozens of other anglers along the riverbank hoping to hook into one of the impressive, hulking fish. I remember in the fall of 2008 after the financial crisis a noticeable increase in the numbers of fishermen eager to put food on the table in difficult times. Mucking around in creeks is one of my favourite activities to this day, with or without a fishing rod. Following a creek from its headwaters to its mouth almost opens up a parallel dimension where the riparian thickets and the rush of the water can drown out the overall din of modern

industrial society and its roadways. At the height of the run, the salmon fill the river, travelling as far inland as they can to mate and spawn in gravel beds under the streams. If you walk slowly and don't mind getting wet, you can get right up next to them as they hold steady against the current in shallow parts of the rivers, their dorsal fins cresting above the water like freshwater sharks. The majority of the salmon run in Lake Ontario is comprised of Chinook salmon, introduced from the Pacific throughout the 20th century; these fish can easily reach over three feet in length and in excess of 30 pounds.

It is simple to 'snag' a salmon in the river by deliberately setting your hook in its back, but this is illegal for good reason and injures the fish. It saddens me each Fall to see how many anglers still rely on this method. By the time they are sluggish enough to snag, their bodies have begun to turn black as they have completed their spawn and are near death. But, early in the run, if you manage to legally hook a salmon in the mouth- that is, get it to bite a hook usually baited with salmon eggs, the power of that fish on a taut line will leave a lifelong impression whether you manage to land it or not. And, if you know how to prepare them and have a mind to, they can be delicious to eat.

By the time I reached the end of high school, I was eager to leave the United States. I took advantage of my Canadian citizenship to apply to the University of Toronto and the affordable tuition available to me there relative to any American schools. Like it is for so many who come there from smaller cities far and wide, moving to Toronto was a welcome major change. Being around so many people from all corners of the earth, becoming aware of dozens of interesting arts, cultural, and subcultural venues, meeting new friends and also, being closer to my grandmother Bev. As I completed my undergraduate degree I worked at the big LCBO store at King and Spadina, by volume the busiest store in the whole liquor board at the time. In three

years working there, I was exposed to a massive cross-section sampling of the alcohol-purchasers of downtown Toronto in all their varied effervescence and torpor. My girlfriend at the time worked at the Amsterdam Brewery on Queen's Quay; her shifts ended later than mine and I would usually bike down to meet her after work and sit on the harbourfront, dazed from our long days at the cash register. The bright city skyline would glimmer off the calm waters of Toronto harbour in the inky night, and my quotidian stresses always seemed to melt away looking at the water.

After graduating, I worked a delivery job for a year, did several tree-planting contracts with Local Enhancement and Appreciation of Forests (LEAF), and then worked in residential construction as a labourer for nearly three years. Each of these jobs took me all over the Greater Toronto Area, to all kinds of places I wouldn't have had any reason to ever go otherwise, such as vast industrial tracts of Hamilton, Milton, and Durham region, countless subdivision backyards in Newmarket or Vaughan, and inside the walls of century-old Toronto row houses.

It was always interesting to note the soil composition and quality when I planted trees throughout the region; some of the richest I've ever seen rests unexpectedly in backyards in Parkdale and Scarborough as dark, fragrant, loamy lacustrine deposits where it seems like just about anything that could handle our climate would grow. Conversely, what was recently productive farmland in places like Woodbridge or north of Whitby is now hard compacted clay strewn with bits of Tim Horton's cups and construction waste; slow digging where a shovel is of little use and a pickaxe is required. Whatever organic humus once lay there was bagged up and resold at stores like Home Depot long ago. Between tearing apart old houses during renovations, I've spent many days taking truckloads of demolished building materials down to the waste transfer stations in Toronto's portlands, watching where massive machines push the garbage into

towering piles and eventually onto freighters bound for landfills in Michigan. And above all, I have spent a lot of time in Toronto traffic, on the region's congested roadways. For a region seemingly designed and built for car travel above all else, the GTA sure can be frustrating and dangerous to navigate in a motor vehicle. However, the delivery jobs have taken me down a lot of streets I would never have otherwise had occasion to see, leading me past many unexpected locations and points of interest far from the main thoroughfares.

In 2017, my mother and father bought a four acre lot in the northeast corner of Prince Edward County, partially to have a more rural retirement but mostly to be closer to family in Kingston. My mother got a job at the Home Hardware in Wellington, Ontario, which has opened an interesting window into the local culture of the County. This has led to me spending increasing amounts of time in that part of the watershed over the past two years. It occurs to me I might have written this entire thesis on Prince Edward County and its ~750 kilometers of scenic, irregular Lake Ontario shoreline. I plan to live on, or close nearby, that land for the rest of my days slowly coaxing a compacted clay former pasture into a biodiverse permaculture forest. In three years, the number of different bird species I have observed there has significantly increased which I take to be a hopeful sign that we are helping to foster a healthy habitat for our non-human neighbours.

The bulk of my fieldwork for this thesis project took place during the summer months of 2019, when I drove around Lake Ontario three times, and bounced around the Ontario side quite a bit more than the New York side all in all. In 2020, the Covid-19 pandemic made non-essential travel across the border impossible, and given my roots and family on both sides of the line, it is still hard to get used to not being able to drive across those bridges when the mood strikes. By now, my inveterate grudge against American excess and authoritarianism has probably bled

through my attempts at impartial and reasoned discussion, and in 2019 the ugliness I had come to associate with the Trump era was on full display at the border, on the billboards lining the highways, and in the towns and facilities I attempted to visit. By cutting my own hair (badly) and wearing an old jean jacket, I tried to blend in with an outfit equally out of place in hip urban cafes and dusty sideroad gas stations. Being a white-skinned man has definite social privileges that are on full display when snooping around the outside of nuclear power plants, military bases, factories, abandoned industrial lots, and ICE facilities. Perhaps most of all, the privilege comes through when accidentally trespassing on the private property of wealthy white people, where I am more likely to prompt a scowl than a police investigation, and can more often than not simply strike up a conversation to defuse any tensions.

Luckily, at no point was I questioned on suspicion of espionage or criminal motivations, and my plucky 2007 Volkswagen Jetta was able to limp through the necessary road travel between points of interest. The odometer climbed from around 300,000km in 2018 to just below 400,000 km before the transmission broke in 2021, effectively killing the car; not all of that driving was 'fieldwork' *per se* but the Jetta did not leave the Lake Ontario watershed during that time and it enabled me to cover a lot of ground. A part of me wishes I had found the gumption and wherewithal to walk the distance as I had originally hoped to (only a small portion of Josephine Mandamin's legendary trek!) but I didn't. At least as it turned out, the car enabled me to both travel further and backtrack to revisit more remote locations of interest multiple times.

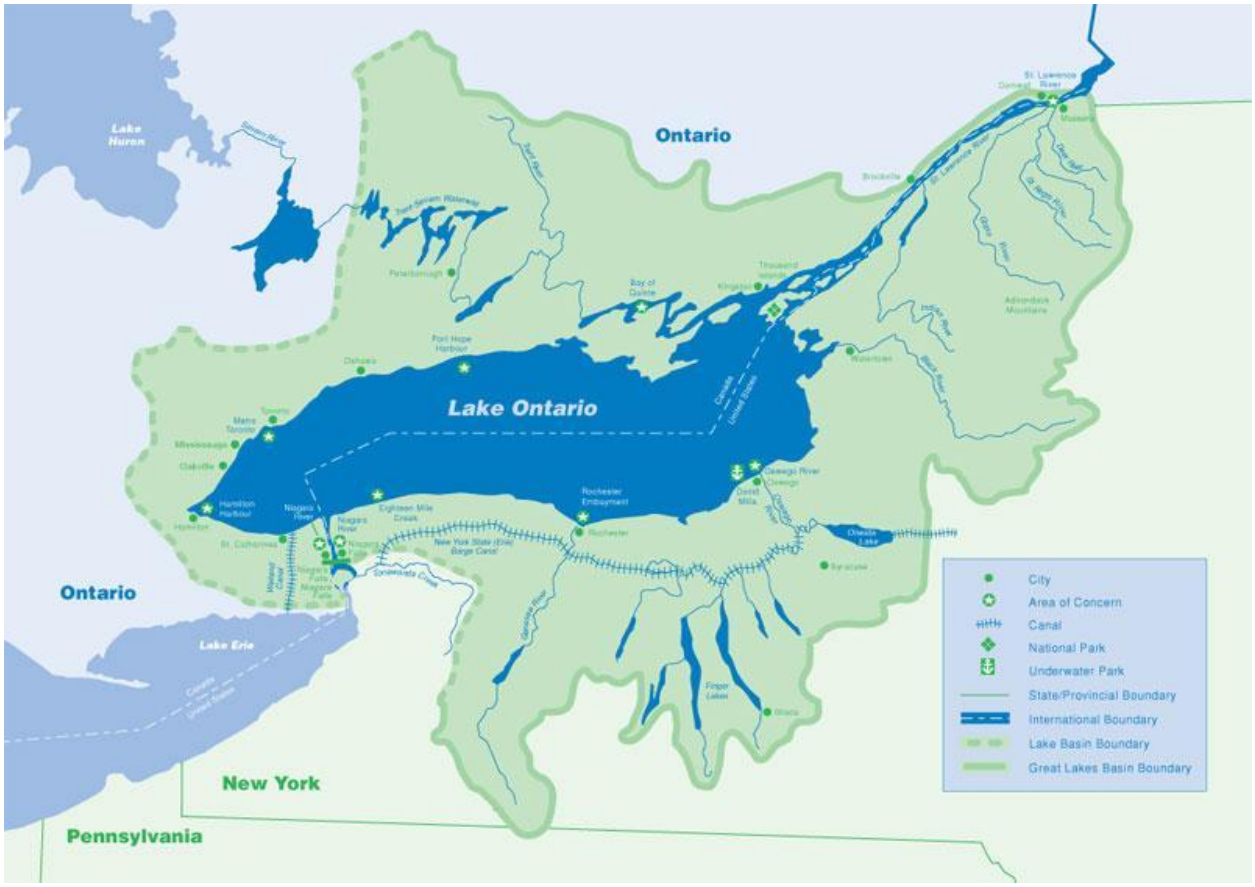

Fig. 3 'Lake Ontario Fact Sheet' from the Michigan Sea Grant, 2012

A watershed is simultaneously an abstract idea and tangible, living thing you can touch. For a large catchment like Lake Ontario's, it can be difficult to conceptualize without surveying a wide range of fragmentary places and perspectives. What follows is a clockwise description of my fieldwork travels around the watershed, divided into the sub-regional jurisdictions which surround Lake Ontario and based on my own observations and notes in traversing the area intentionally in an effort to survey, observe, and uncover a patchwork snapshot of the watershed and its people between 2019 and 2020. I will start at Niagara Falls, head west, north, and then curving east on the Canadian side, linger around the irregular shoreline of Prince Edward County and the islands of the eastern part of the lake, and finally upon reaching the start of the St.

Lawrence will bend south and west tracing a curve around Mexico Bay across the green fields and rolling hills of Western New York to return once more to the tumbling, rushing Falls.

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Niagara (Canadian Side)

In my personal experience Fallsview Casino is a bad place to spend your time and money, but it sure does lure a lot of people into its noisy and disorienting liminal space looking for a dopamine hit. Avoid the roulette tables, matter of fact avoid the whole place except for one visit just to take in the spectacle and the cavernous glass atriums of that moneyed complex, a glittering tower in a deindustrialised garbage dump alongside one of the mightiest cataracts on the planet. Once the honeymoon capital of the country, its revolutionary hydropower electrifying thriving factories all along the river gorge, the Canadian city of Niagara Falls is a shadow of its former self. Factories gave way to landfills of dismantled industrial leftovers and byproducts. Tourist traps full of overpriced kitsch, Circle K's and e-cigarette vape stores are spaced out every three to five boarded-up storefronts in the hard hit area near the Greyhound station, away from the casinos. You can walk across a bridge to America, and peruse pamphlets enticing you to come see the tortured, landlocked sea creatures of nearby Marineland. The well-planned and planted parks along the riverside offer stunning views that serve to distract from the less savoury elements of the place, and even my cynical eye couldn't help but note the joy and excitement on the faces of small children and international tourists alike at the sight of the thunderous Falls for the first time. Like so many other locations around Lake Ontario, the city leaves an impression that it was once- and still could be- so much more than its uneven and depressed present. Yet, at the same
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time, all Ontarians can thank Niagara for keeping their lights on- about 24% of the province's electricity is produced in the massive hydropower complex that surrounds the city (Gridwatch).

A short drive north along the winding Niagara gorge with its vertigo-inducing cliffsides leads past the storied (to Canadians at least) battleground of Queenston Heights, where Americans and Fenians alike were repulsed by loyal Canadian subjects of the Queen. At the mouth of the Niagara lies the commercialized Potemkin village of Niagara-on-the-Lake, a town where shop is spelled 'shoppe.' With expensive restaurants and designer boutiques lining the main drag, it is in appearance a stark contrast from Niagara Falls. Formerly called Newark, burned to the ground in 1814, the town feels very artificial to me with its cheery 19th century facade, like a Canadian WASP's version of Disneyland. The remains of the ramparts of Fort George, and visible across the river Fort Niagara, lie in stony testament to the historical strategic importance of this gateway to Lake Erie and all that lies above it.

St. Catherine's, Ontario's 'garden city', with its industrial warehouse tracts and floodlit billboards facing the highway is in fact a rather charming place that should not be judged by its roadside appearance. True to its nickname, the city's inhabitants must be commended for their horticultural efforts; when I drove through its side streets many a front yard was festooned with bright flowers. There lies great potential here for a genuine economic and social revival despite the scars of deindustrialisation, and overall it seems like a fine and pleasant enough place to live.

On the outskirts lie the richest agricultural lands in Canada, and you can see it in the trees. Big, beautiful Black Walnuts and Willows drape the roadsides and creek ravines, and where cleared give way to orderly rows of fruit trees and grapevines. This part of the watershed, nestled between Erie and Ontario, has tremendously rich soils and a relatively moderate climate, and produces bountiful harvests of grapes, apples, and stonefruit each summer. It was here I met

Ernie Grimo, a brilliant autodidact fruit tree farmer who has spent a lifetime breeding cold-hardy cultivars of fruit and nut trees to endure Canadian winters. Likewise, this area hosts dozens of vineyard operations, many of which are gaining increasing praise from oenophiles around the world, and attract busloads of thirsty tourists. At the various lift bridges affording passage over the Welland Canal, halted motorists can behold the strange sight of a massive freighter appearing to travel across land at eye level, perhaps reminding them of the far-flung anthropogenic network of waterways which links Ontario to her four upstream sisters and east to oceanic ports around the globe.

Continuing west along the lakeshore, the Queen Elizabeth Way cuts a broad swath of pavement through these verdant and abundant soils, and around the site of the beached 'pirate ship' near Grimsby, a keen eye on a clear day can first begin to perceive the glittering spires of Toronto from across the west end of the Lake. Distilleries, vineyards, and hectares of greenhouses producing cucumbers and cherry tomatoes year-round spread out atop the loamy abundance smeared across the top of the Niagara Escarpment. Among the tasting bars and antique shops, it is easy to forget the sad story of how the provincial government forcefully ploughed the QEW through these orchards against widespread local opposition in the 1930s. Though it serves motorists well, the highway is truly "a serpent in the garden" as A. Suzanne Hill puts it, which "...has altered the way in which people perceive their ability to control the environment, governments, and their lifestyles" as much as it has the physical landscape (Hill 2002).

By going at a turtle-like "geographer's pace" (thankfully slightly faster than the infamously glacial 'botanist's pace'), I noticed a few things that are hard to see from the highway. One, it appears that a lot of the furrowed fields are lined up to optimally drain water,

sediments, and nutrients off their surfaces while topographically-contoured plough lines were rarely seen. According to agronomist and runoff specialist Da Ouyang, “Soil erosion and sedimentation causes substantial waterway damages and water quality degradation, and remains as one of the main environmental concerns in the Great Lakes Basin" (Ouyang et. al. 2005).

Secondly, between the idyllic vineyards and orchards, it is easy not to notice the cramped rows of bunkhouses and trailers which house the vast numbers of migrant labourers who make the entire agricultural economy of this region possible in the first place. I got the overall sense that the placement of these dwellings is generally intended to remain out of sight of the tourists. All those who sip a glass of Niagara riesling or sink their teeth into a ripe late-summer peach should be made to consider how essential these migrant labourers are to our regional economy and way of life. Considering the currently byzantine and exploitative nature of Canada’s temporary foreign worker and agricultural visas and the poorly regulated labour standards of the industry, the ones who toil in the hot sun and humid greenhouses deserve a far larger slice of the proverbial pie made with the fruits of their labour. The agricultural labour that makes cultivation of this rich territory possible often takes the form of watering the crops: the hands which draw the life-giving water from Lake Ontario and spread it on our future food deserve to not be overworked, underpaid, taxed, harassed, detained and deported, as so frequently is the case in this abundant stretch of shoreline. In all my years thinking about social issues and the environment, I have noticed that healthy people and healthy ecosystems go hand-in-hand, as do their opposites. No discussion of Niagara Region would be complete without mention of the people who do the difficult labour of cultivating this fecund and fruitful part of our watershed.

Hamilton Region

Following the lakeshore west, we come into Stoney Creek, getting our first glimpses of the subdivision tract housing which now coats so much of this watershed, filling in the spaces between arterial roads lined with the ubiquitous corporate big box brands of Southern Ontario and the bevy of familiar fast food offerings. Where this mode of development prevails the ground is capped and sealed under asphalt and concrete; water sloughs spilled solvents off the hardtop quickly, making streams accelerate and water tables sink.

The highway splits; carry on straight over the Skyway bridge to catch sight of the eternal flames which signal the active steel mills of East Hamilton as you crest over the harbour north into Burlington. In brief moments near dawn and dusk when the sun shines sideways one can really see the 'golden horseshoe' of bustling municipalities that connect Hamilton with the GTA and beyond. Alternatively, before you hit the bridge take the Nikola Tesla Parkway to see those flaming steel mills up close and personal as you head west into Hamilton itself.

I am hugely biased towards this city and its friendly but tough populace. I have had many occasions to visit the city over the years and made good friends there, and it is currently home to my sister. Aesthetically, culturally, and geographically it is a midpoint between my two hometowns of Rochester and Toronto. The city's decline from its heyday as a steel producing and manufacturing town is present throughout, from its shuttered factories to its chipped sidewalks and chain-link fences topped with razor wire. But all that erstwhile industry required housing for workers, leaving a legacy of walkable neighbourhoods filled with modest homes, parks, churches and schools.

Hamilton is a city with character, and it is no wonder that increasing numbers of prospective homeowners are flocking there to buy property. Just ten years ago, many a Torontonian looked down their nose at Hamilton, but now an overheated real estate market has

driven up housing prices so far that small post-war bungalows routinely sell here for thousands of dollars over-asking price. Hamilton is unique in Southern Ontario in the fact that the Niagara Escarpment abuts its grittier downtown district, separating it by wealth and elevation from the more affluent communities above the smokestacks and smog.

Anecdotally, attempts to prettify and capitalize on Hamilton's rough charms under the slogan "Art is the New Steel!" have been met with utter derision by the city's longstanding inhabitants. Art doesn't provide a lot of union jobs with good wages, pensions, and benefits, which the people of Hamilton stand to benefit from far more than yet another shop that sells house plants and angular jewelry or artisanal doughnut shops with irreverent names that like to call the police on protesters. At the end of the day, Hamilton has a lot of heart, and gives me hope as a place where people have endured much hardship and managed to keep pockets of real working class solidarity alive against an economy broadly hostile to their collective well being.

The hiss of slag meeting water and the pounding of fresh steel still rings out across Hamilton Harbour, arguably the most polluted part of Lake Ontario. Yet further inland, away and upwind from the sounds and smells of Dofasco and ArcelorMittal, lies a paradise- Cootes' Paradise. Paradoxically, this public area of forest and wetlands abounds with wildlife, and makes a great destination for a summer afternoon paddle on a rented canoe or kayak; herons, kingfishers, and even bald eagles can be seen here along with a host of other wildlife. Along the escarpment, creeks descend dramatically at places like Tews Falls where eons of sediments replete with fossils are stacked in vertical timelines along the sides of the gorges; above, stunning vistas can be taken in from the cliffside redoubts overlooking the town of Dundas and below it Hamilton. Travelling north/northeast along Old Ancaster Road involves changes in height that are hard to find elsewhere in the watershed, winding up and down through stretches of

recovering Carolinian forest in between gullies carved by seasonal rivulets. Atop the summit of the hill is the majestic Sikh temple known as the Gurdwara Shaheedgarh Sahib with a sublime panoramic view of the areas I have previously described south and east, particularly at sunrise.

Not far to the west of here lies the territory of the Haldimand Tract, originally granting all lands stretching six miles from the east and west banks of the Grand River from its source to its mouth on Lake Erie which were granted by the Crown to the refugee Haudenosaunee fleeting Sullivan's genocide in 1784. Duplicitously chiselled away over the years by unscrupulous land speculators to a fraction of its original size, the Six Nations reserve at Oshweken remains home to the largest Haudenosaunee community in present times.

Halton Region

Having traversed the westernmost part of Lake Ontario, the shore rounds over to the east and levels out across Burlington and Oakville, gradually becoming more densely populated and urban, undeniably integrated into the sprawling built environment of the Greater Toronto Area. To the north lie the largely 'bedroom' communities surrounding Georgetown, not far from Guelph and the 'triple cities' of Kitchener- Waterloo-Cambridge, linked to the metropole by the GO commuter rail line and the 401. In the middle of Halton region lies the conglomerated outlier of Milton, a perverse combination of poorly-zoned, contradictory development priorities that uncomfortably juxtaposes tract housing, farmland, and massive industrial distribution centres. If you order a product online in the GTA, there is a good chance it passed through a warehouse in Milton.

Within the broad floodplain carved by the retreating glaciers and the flows of the Bronte, Sixteenmile, Credit, and dozens of smaller waterways lie a few 'islands' of the Niagara escarpment that afford a commanding view of the surrounding areas. One such high spot is today

named the Rattlesnake Point Conservation Area, which is home to some of the oldest Eastern White Cedar trees in all of Ontario. Some of these ancient sentinels are estimated to be over 1,300 years old, and cling to the side of dramatic cliffs with twisting knots of root and trunk in configurations which thumb their noses at gravity. Like most of the old growth trees standing today in Ontario, these wizened Cedars were spared from the whipsaw by the sole virtue of their unprofitably hard-to-access locations. From on top of Rattlesnake Point, the view to the west takes in encroaching roads, quarries, and golf courses punctuating what remains of field and forest until rising up the impressive cuesta of the Niagara Escarpment. Halton region contains at least 24 aggregate mining operations, which gouge the landscape and water table to access the raw material of our built environment: sand, clays, and gravel. One can really only begin to appreciate the size of these operations from above, as they are often well hidden from surrounding roads by fences and berms.

A few years back, I spent a whole summer mixing mortar and schlepping bricks for a proficient but lazy mason. Watching the mixer spin for hours and developing my own system for getting thousands of bricks up three storeys of flimsy scaffolding got me to thinking a lot about bricks. Few people realize that more than half of all the bricks made in Canada come from the operations of one company in Burlington, currently known as Meridian Brick. Like Prince Edward County's quarries in the 19th century, Burlington's clay deposits have been dug up, formed, fired, and shipped to be laid in walls and foundations throughout the watershed. Many of the bricks you see from Niagara to Napanee all came from the same place. Meridian holds a lease from the 1970s which permits them to clear cut over 40 hectares of what is now rare riparian forest habitat to access the clay underneath; their ongoing battle with local activists and

conservationists may be a reliable bellwether for the wider struggle to protect Lake Ontario in the years to come.

Following Bronte Creek down to the lakeshore, past the peri-industrial sprawl lining either side of the QEW and the hastily built townhomes and mid-rise condominiums clustered by each highway exit, signs of real wealth in the watershed first appear. Stately doesn't begin to describe the opulent mansions which line Lakeshore Boulevard between Burlington and Oakville, which give the fanciest lots in Forest Hill or the Bridal Path a run for their money. It probably will not surprise the reader to learn that I find these structures obscene and offensive, particularly as single-family dwellings. These properties boast some of the biggest and most impressive trees along the whole lakeshore in their idyllic strand; stout silver maples tower over gated driveway entrances guarding luxury automobiles that menace any humble cyclist or pedestrian who might want to enjoy this well-heeled and well-manicured stretch of shoreline without being a millionaire. The pier leading to the shuttered former coal plant that became the infamously-expensive aborted Oakville natural gas power plant still juts out far into the lake, creating a breakwater which affects the flow of ice, water, and sediments in its proximity.

Peel Region

East of Oakville, the built environment thickens; parcelled lots of property get smaller and more densely packed together. The 'Whole Foods' neighbourhood of the Trafalgar Road area gives way to the more 'No Frills' districts of Erin Mills and Clarkson. By now, the land which rightfully belongs to the Mississaugas along the Credit River has been divvied up and sold several times over notwithstanding the dubiously remunerative settlement which paid the First Nation $145 million CAD for the historic value of their land. Where the river meets the lake lies the town of Port Credit, which has grown to host a sizable marina and attracted a number of

retirees to purchase summertime townhomes from which they flee southward in wintertime barring pandemic restrictions. While this demographic gives it something of a Floridian vibe, the town is largely pleasant enough to walk around, and incorporates a bustling business district with the contours of the river and waterfront neatly, making for scenic views of the mouth of the Credit River.

Continuing east, the built environment thickens yet more upon entering the outsized grid of highways and arterial thoroughfares which knit together the city of Mississauga, linked with the purpose-built 410 highway to Brampton above it. A half century ago, most of this was farmland. Today, Mississauga is struggling to reinvent and redefine itself as a city out of a collection of sprawling 20th century suburbia. While large urbanized corridors of tall buildings stretch along Hurontario and Lakeshore, satellite imagery reveals a quiltwork of winding suburban lanes and cul-de-sacs neatly divided by a grid of arterial roads from ruddy districts of warehouses and industry, only occasionally pierced by the verdant riparian ravines which follow the flows of water to the lake. While often suborned to and shadowed by Toronto, its larger immediate neighbour, Mississauga is growing rapidly and has become a diverse and in many ways thriving city in its own right, far more than just a series of bus routes leading to Square One Mall. Increasingly, many of the GTA's up and coming cultural and musical talents call Mississauga home as the city comes into its own in the 21st century.

Moving northwards, Brampton is similarly suburban, and increasingly so as Doug Ford's good friends at Mattamy Homes and other megadevelopers hungrily grind prime agricultural land into gormless, overpriced tract housing. Like so much of Canada, and especially Toronto, the most interesting and vibrant places in Peel are brought to life by immigrant cultural contributions, with the large and diverse South Asian-Canadian communities there providing

most of the breaks in the drab, commercial monotony of prevailing development patterns. To the east, the older residential neighbourhoods of Bramlea and Malton shudder with the reverberations of overhead jet engines flying into YYZ: Toronto Pearson International Airport, the busiest airport in Canada, essential conduit for international imports and travel, and a massive employer of local workers. It is here that the supercharged 500 kilovolt hydro lines running from the largest nuclear power plant in Ontario plug into the high electricity demand of the Greater Toronto Area.

York Region

Similar in many ways to the sprawl of Toronto's western neighbours, the municipalities of York Region eagerly compete for public infrastructure funds and private development schemes. You could take a picture on any given residential street in Woodbridge, Vaughan, Markham, Richmond Hill, Newmarket, Stouffville, or Aurora and have a very difficult time discerning which town you were in if a rare local landmark were not in the frame. I don't mean to be dismissive of York Region, which still retains many hectares of pastoral views and shady glens, but here the power of real estate speculation and unsustainable development in the GTA is on full display. For a region designed and planned in total genuflection to the personal automobile transportation, the daily sclerosis heading both ways on thoroughfares like Highway 7 and Major Mackenzie Boulevard is remarkable. The 407, a private toll road built largely with public funds, is routinely under capacity while provincial and municipal roadways are thronged with single-occupant vehicles. Attempts at building higher density housing here should raise more than a few eyebrows given that they are few and far between and poorly supported by public transit and are only 'walkable' if you include the handful of businesses in the adjacent

strip malls. There are a lot of new hospitals, schools, and other such public institutions freshly constructed there, which are necessary improvements. Yet, in my observation these are largely indications of different levels of government trying to play catch-up after failing to meet the needs of a growing population for too many years and allowing low-density sprawl to dominate.

Despite the enduring successes of the Ontario Greenbelt and Oak Ridges Moraine conservation schemes, the whole of York Region is a testament to the failures of such efforts to curtail Toronto's sprawl. While significant areas remain shielded from ill-planned development, they are increasingly becoming fragmented and further apart. As the region continues to grow haphazardly, advocates and lovers of Lake Ontario, particularly those downstream in Toronto, ought to consider carefully how to help regulate the soaring energy demand, unchecked land use, and increasing flows of waste directly upstream of the watershed's largest city. Everything that leaks or flows south of the Oak Ridges Moraine will eventually end up pouring into the shared drinking water supply of Ontario's capital and largest city. As farm fields become asphalt-capped parking lots and hard-packed residential lots and extreme summer rainfall events increase, less moisture soaks into the water table and instead runs off into the dendrites of ravine and storm drain which filter south through the most urbanized part of the watershed.

Over the past several decades, York Region and the whole of the GTA at large has expanded prodigiously, but the bulk of this development has failed to serve the needs of the working class of the region who are increasingly priced out of downtown Toronto and forced to relocate towards its ever-expanding fringes. Shoddily constructed condominium townhomes at $700,000 a piece are not a viable housing solution for the people whose labour makes the functioning and prosperity of this region possible in the first place. Under the Ford government, exemptions and loopholes in the policies designed to protect essential green spaces and wetlands

have steadily chipped away at the ecological underpinnings of the region. Evictions remain a scourge of working class tenants and renters.

Toronto

Toronto is a city shaped and watered by Lake Ontario, and as the largest jurisdiction in the watershed has arguably the greatest responsibility (and incentive) to ensure its overall health and well-being. Anything that improves or serves to safeguard the water quality and ecological health of Lake Ontario is in Toronto's long-term material interest. Efforts to protect the Lake and connect people with it through education and outreach must be decoupled from the selective, self-interested narrow liberalism that too many have come to associate with environmental activism. Protecting Lake Ontario and ensuring a safe drinking water supply is of paramount material importance to the daily lives of every single person who gets their water from a tap in the GTA.

I met a old bearded man on Isabella Street once who had a parrot on his shoulder and wore a purple beret, and stopped me to demand that I listen to a poem of his wherein he called Toronto something along the lines of 'a provincial puddle of a town' and proceeded to regale me uninvited about the superior bohemian virtues of Montreal in the 1960s. What can I say? In the words of famous Torontonian urbanist Jane Jacobs which are painted in block letters on the east side of Christie Street just north of Davenport Avenue: "Cities have the capability of providing something for everybody, only because, and only when, they are created by everybody." And sadly, in my time here there appear to be a decreasing number of people involved in the more impactful parts of that creative process even as the region's population grows. The Toronto I fell in love with during visits with my lovely dynamo of a grandmother as a child, full of strange

sounds and smells and thrills like a five-year-old's first trip on the Spadina streetcar, seems harder and harder to find these days. I moved here in the fall of 2009, eager to begin my adult life in the big city far removed from the stuffy suburbs of Rochester I had known. In the decade since I have seen the downtown neighbourhoods that I have frequented and lived in change at a rapid pace, as many of the people and places that made Toronto such a rich environment for my development as a youth have been swept off the urban fabric entirely.

I haven't even lived here that long, but I do remember neighbourhoods like Kensington Market, Dundas and Ossington, Parkdale, and Broadview and Gerrard as very different than they appear today. Watching the churn of gentrification divide and conquer the city has been sort of like being a frog in a pot coming to a slow boil; so many of the people and places that made these neighbourhoods unique have been priced out and replaced with generically 'authentic' hipster businesses that invariably fail after a few months and are replaced with another harebrained, short-lived business plan. Every once in a while, something sticks, like gourmet hot dog franchises or bespoke tattoo parlours, but a proper *pasteis de nata* custard tart is becoming difficult to track down in so-called 'Little Portugal.'

Meanwhile, the street people have been pushed around, beat up, and cleared out, and regardless are seemingly increasing in number every time I leave my house to walk around the block. The city's failure to provide sufficient shelter and housing space to those in need is exacerbated by punitive policies against those living in tent encampments within city limits who are routinely rudely awoken to have their belongings stolen and destroyed by police who seem to relish in their misfortune. So often, houseless Torontonians are pushed to seek refuge in the city's heavily forested ravines, shaded out by thick canopies of Norway Maples where the water flows

in deep cuts below multimillion dollar homes. Even there, they are not safe from often violent harassment by police officers and municipal employees.

The authoritarian excesses of Bill Blair's police department during the absurd militarization of the city during the 2010 G20 summit still lingers over a city which shells out over one billion dollars a year for policing while insisting yet more rounds of austerity and cuts to public infrastructure are needed. Cops prowl the city flaunting the fresh gunmetal-grey paint jobs on their brand-new cruisers, generally either making life difficult for racialised, in particular Black and Native people on the street, or standing around at road-work construction sites looking at their smartphones and failing to direct traffic while raking in lucrative wages. The stories I could tell from my days at the LCBO when police officers would come in nightly to take the shoplifters in to be booked, when I suppose their guard was down and they felt at liberty to joke and speak freely… let's just say not all those in uniform are Toronto's finest.

All in all, if you don't have a lot of money, Toronto is becoming an increasingly difficult place to keep on living. If I hadn't been lucky enough to find a rental apartment owned by an eccentric, independently wealthy sculptor, I seriously doubt I would have made it so long in this expensive city. Since claiming the title of Canada's financial capital from Montreal in the 1970s, Toronto is fast becoming a playground for the rich, with its real estate holding steady as an excellent and stable investment opportunity for wealthy people from around the world. As vast volumes of capital flow through the Toronto Stock Exchange each day, the city's streets are plagued with luxury-brand sport utility vehicles that zoom around stopped streetcars with reckless abandon while imperiled gig-economy cyclists veer out of their way. Towering condominiums spring up anywhere that developers can get their hands on legally or (allegedly) through greasing certain palms at the Ontario Municipal Board (OMB); many Torontonians take

umbrage with the OMB's veto powers over development and land use policy decisions. Venues for alternative art, music, and discussions have been drying up and disappearing for years now, replaced by overpriced cocktail bars, derivative boutique shopping, and sterile condominium showrooms. What passes for democracy in Toronto took a devastating blow in 2018 when following a comprehensive redistricting to increase the number of city councillors to 47, the provincial government abruptly and brusquely halved the number of councillors to 25 in the middle of municipal elections. Appeals to reverse the decision led to the Ford government's use of the *notwithstanding clause* to force it through, although the matter is due to come before the Canadian Supreme Court this year.

In the meantime, this severely curtails the democratic accountability of Toronto's municipal government and a whole range of options for enacting beneficial policies for the people living here or in efforts to protect Lake Ontario. Yet such Provincial diktats are not without precedent, Modern Toronto as we know it was forced into being by the 1998 amalgamation of five formerly independent municipalities of Metropolitan Toronto, Etobicoke, North York, East York, and Scarborough under the mayoralty of Mel "Bad Boy" Lastman and the disastrous slash-and-burn austerity premiership of Mike Harris.

But despite it all, Toronto remains a city interwoven with rich ravines, lush parklands along Mimico Creek, the Humber, the Don, and even Canada's first urban national park along the Rouge River. The city is well underway in rewilding the mouth of the beleaguered Don River and restoring wetlands and a natural, unimpeded flow into Lake Ontario. Some even call it 'a city within a park,' and on certain downtown streets lined with mature hardwood trees it certainly can seem that way. Large and well-designed parks pepper the city, from the sprawling grounds of Centennial and Downsview to the hillside vistas of Riverdale, to the more intimate

Christie Pits, Trinity Bellwoods, Withrow, or Cedarvale parks. If you pressed me, I would say that Toronto has five particularly sublime patches of green space: the forested refuges of High Park, Rouge River Park, and the Don River Valley, and the lakeside escapes offered by the Leslie Spit and the Toronto Islands, which together provide an incredible public resource for the city's inhabitants. Honorable mentions in contention for my esteem are the Humber Bay Park, Guildwood Park, and the Scarborough Bluffs, to name but a few. Unfortunately, even the parks are marred by the city's spatial and racial inequality: generally maps of poverty, disease, and crime congrue perfectly to maps of the least-treed parts of the city.

Truth be told, Toronto does better than most North American cities in curtailing its environmental impact, but the city still ships huge volumes of solid waste to other, less fortunate jurisdictions, and routinely has to proscribe swimming off its shores after rainstorms which cause its sewers and storm drains to merge and overflow directly into its drinking water supply. But, with all the problems and increasing challenges to ordinary people living there, Toronto remains one of the most cosmopolitan and multicultural cities in the whole world. There is so much untapped potential in the city's diverse population to change and collectively shape the future of our city in more hopeful and positive ways. As just one example of this, in the leadup to the Parkdale Rent Strike of 2017, a company called Metcap which is one of the largest urban landlords in Canada began aggressively harassing and 'renovicting' tenants across its properties. Metcap sought to dramatically hike the rents across their buildings, despite leaving repairs undone for years and forcing tenants to pay already exorbitant rents for unfit and often illegal living conditions. Overcoming a wide range of linguistic and cultural differences despite serious constraints on money and time, hundreds of working class tenants organized themselves across 18 high- and mid-rise apartment buildings to wage a victorious struggle against a powerful

corporate foe. Over three months, increasing numbers of tenants joined in a rent strike, and by collectively withholding payment forced Metcap to try evicting them en masse at the Ontario Landlord and Tenant Board. When several hundred angry tenants and their supporters flooded the proceedings, the LTB was forced to create a novel, *ad hoc* form of collective bargaining between tenants and landlords wherein Metcap was forced to pay for a venue for arbitration and negotiations. This meant that their executives and high-paid lawyers were forced to sit down across a table from elected representatives chosen by floor committees of neighbours in each building. In the end, Metcap was forced to drastically reduce their above-guideline rent hikes and agree to pay for a long list of overdue repairs. An eclectic coalition of Tibetans, Chinese, West Africans, Vietnamese, Anishinaabe, Trinidadians, Hondurans, Irish, Polish, and dozens of other peoples had found a way to win against the supposedly implacable brute force of gentrification and redevelopment in their neighbourhood. In coming together around shared material concerns and demands, these stalwart tenants of Parkdale demonstrated the power that can be wielded by confident, organized, and empowered people when they come together.

Just west of Parkdale lies the Ontario Food Terminal, a massive complex of warehouses tractor-trailer bays where over a million trucks a year ferry produce from farms across Ontario and from around the world in a steady stream down the 410 highway from Pearson airport. This 42 acre facility is the largest produce distribution point in Canada and the third largest in North America; food that passes through this building ends up on shelves from Manitoba to Newfoundland and all points in between. Virtually all the imported and much of the domestically produced fruits, vegetables, and flowers bought and sold in eastern Canada make a stop at the Ontario Food Terminal. Like Ontario's nuclear power plants, this extremely crucial node in regional food distribution is exemplary of the hyper-centralized infrastructure that the strange

marriage of public funding and private sector schemes produces here. And while efficiency of profits is prioritized, by other more material metrics this system is incredibly wasteful, with up to 58% of all food produced in Canada being lost or wasted (Second Harvest 2019).

Durham Region

To the east of Toronto, heavily urbanized and continuously developed landscape continues unabated through Pickering, Ajax and Whitby, only slightly attenuating into mixed farmland before hitting the old manufacturing behemoth of Oshawa, followed thereafter by Bowmanville and Newcastle. From the eastern edge of Scarborough to the end of Whitby, the landscape is very similar to that of Peel Region: subdivisions of tract housing, arterial roads, limited and poorly-planned green space and transit infrastructure, and the same retail brands in nearly identical strip malls to anywhere else in Southern Ontario.

Notably, this highly urbanized and densely populated region is home to not one, but two ageing nuclear power plants. Pickering Nuclear Generating station is currently running six reactors out of eight total; the earliest of these still in use came on line in 1971 with a designed lifespan of about 45 years. A few kilometers further east are the four reactors of the Darlington Nuclear Generating Station, nestled on the lakeshore between Oshawa and Bowmanville and having come online between 1981 and 1986.

Oshawa, once a thriving automotive manufacturing centre, is arguably home to some of the most ravaged tracts of hollowed out, post-industrial blight in the watershed or at least on the Canadian side of it. The so-called ‘Dirty Shwa’ is far too often maligned by outsiders, but my walks around its tattered downtown and especially in the rougher areas south of the 401 produced the only moment in my fieldwork when I genuinely felt concerned for my personal

safety. It is hard to describe the devastation that befell the city following the closure of the General Motors assembly plant in 2019- the last major manufacturing employer in town- combined with the explosion of deathly fentanyl into the ongoing opioid crisis. I have never seen so many human beings passed out unconscious on the sidewalk as I did during perhaps four hours spent walking around the city in August of 2019. It is a very sad indictment of the overall failure of our society to adequately support communities like Oshawa and the people who live there. Anecdotally, a friend tells me that last fall he saw guys walking around South Oshawa with shopping carts full of salmon and trout they have pulled out of the many creeks that flow through town, shouting out they're going for 'ten bucks a head.' Personally, last September while fishing the salmon run in a creek near Newcastle, I saw a man spear about ten fish and hastily stuff them in plastic garbage bags. He looked very hungry and it seemed like he might have had mouths to feed at home, so I looked the other way and pretended not to notice his overharvesting which would earn him hefty fines if he was caught by an enforcement officer from the Ministry of Natural Resources.

For what it's worth, Lake Ontario still provides sustenance for those who pay attention to its ecological cycles and find themselves in need of food. It would be nice to live in a society where people didn't feel the need to excessively spear spawning fish to survive, but that's the cold reality for many residents of our watershed. That said, with the possibility of Ford Motors opening a new plant for making electric vehicles there in the near future and the overflow of first-time homebuyers priced out of Toronto real estate causing housing prices to soar throughout Durham region, hopefully things improve somewhat in Oshawa over the next few years. Northwards, the rapidly expanding satellite towns of Uxbridge and Port Perry border the Kawartha Lakes region, draining through the human-altered Lake Scugog into the 'eastern

ditches' that flow south to the big Lake. This lake forms a shallow ring around a large oblong island, which is home to the Mississaugas of Scugog Island First Nation. The lakefront city of Bowmanville shares many of its rougher aspects with Oshawa, while Newcastle gives way to more recently built tract housing between the highway and the Lake; the tributaries which flow through both have significant fish runs each fall and spring. "Jungle Cat World" of Orono is the sad and bizarre home to at least one hundred animals including dozens of big cats kept in patently unsuitable conditions, do not visit this place if you care about animal welfare.

It took several years to build the extension of Highway 115 to the 401, but in 2020 it finally opened, shortening the drive between Peterborough, Kawartha Lakes, and the GTA. Meanwhile, the imposing towers of the St. Mary's cement plant south of Bowmanville loom over the highway, spewing emissions and presiding over one of the largest aggregate mining operations in the watershed that goes right down to the shore of Lake Ontario. Construction on upgrades and expansion to the plant are visibly underway and fast increasing the size of this already massive facility.

Northumberland Region

The long stretch of the Northumberland coast is blanketed by a gently rolling landscape of apple orchards, cattle pasture, and fields of corn and soy that undulates over hills and into the wide valleys cut by the south-draining creeks and rivers of this heavily-eroded landscape of rich glacial till. In the case of Northumberland County, five significant towns punctuate the otherwise agrarian lakeshore, each with its charms and all sharing a great number of red bricks in the quaint vernacular architecture that lines this whole distance of Highway 2, the main thoroughfare prior to the construction of the 401.

The first of these is the well-preserved town of Port Hope, which boasts 270 heritage-designated buildings including a number of multi-story 19th century brick storefronts lining the main drag. The historical aesthetic of Port Hope has drawn a number of film productions there, and the local residents seem rather proud of their tidy and well-maintained burgh. Seated at the mouth of the Ganaraska River, which due to its ideal upstream gravel beds boasts one of the largest runs of Lake Ontario salmon and steelhead trout each year, fishing is the main reason that many come to Port Hope each fall and spring to try their luck in the 'Ganny.' However, the town and its harbour are recognized as one of the worst sites of low-level radioactive contamination in Canada, due to uranium and radium mining and refinery operations upstream in the early 20th century. Efforts at remediation have been deemed partially successful but much more observation and action is required to completely mitigate the lingering threat to ecology and public health. Contaminated soils remain unabated around Port Hope, and much of the radioactive waste from the area has been collected at the Welcome and Port Granby nuclear waste facilities.

Next comes the town of Cobourg, similar in many respects to Port Hope except slightly larger today. In the 19th century these two towns competed to build different railways north to Peterborough and the resource-rich country around it, leaving an indelible line marked upon Rice Lake where a foolish attempt at constructing a very long bridge was once made that is today visible in satellite and aerial imagery. Cobourg was the port-of-call for a successful ferry service that ran due south to Rochester for the first half of the twentieth century before the advent of the personal automobile reduced demand for tickets. However, that cross-lake link and its usefulness to Cobourg in terms of tourist income over the years remains evident in the amount of impressive architecture still standing there covered in ornate carved stone reliefs. The largest and most grand

of these is Victoria Hall, which serves as the seat of town government and a concert venue. Cobourg has invested in creating a sturdy boardwalk along its share of waterfront that looks out on a fine sandy beach and is overall a pleasant lakefront town.

Continuing east, Grafton, Wicklow, and Colborne meet the lake along stony pebble beaches as quiet country towns surrounded by orchards, fields, and several horse farms. Travellers on the 401 may recall the 'Big Apple' roadside attraction nearby which charged hungry tourists premium prices for pretty mediocre products in my humble opinion, but seems like a fun place for kids with its petting zoo and mini golf. North of here lies more splendid countryside stretching up through Warkworth and Campbellford, both home to surprisingly vibrant and active visual arts communities.

As we reach the end of Northumberland's lakeshore, we reach Brighton and its nearby Presqu'ile Provincial park. Similarly stacked out of reddish bricks, Brighton has a pleasant park downtown, a nice cafe, and two good used bookstores. It also provides the westernmost road access south across the Murray Canal to Prince Edward County. Presqu'ile Provincial Park, as the name suggests, is a teardrop-shaped peninsula narrowly joined to the mainland almost but not quite forming an island. Lush wetlands surround the park, which although battered by the record high lake levels of the past few years remains a lovely place to wander about on a sunny day. At certain points in the year, the park is visited by large flocks of migratory birds, some of which nest on its shores.

Quinte West/ Hastings Region

After Brighton comes the larger town of Trenton, located at the southern terminus of the Trent-Severn Waterway where the Trent River meets the Bay of Quinte. Home to the largest

Canadian Armed Forces air base in Southern Ontario and other significant military facilities, it has a more apparent and widespread military presence than any other Canadian city in the watershed. Like the Northumberland towns discussed above, Trenton's downtown architecture points toward a prosperous 19th century, but the city is fairly run down by Southern Ontario standards and far from its former heyday. East of the city lies the massive airbase, home to a wing of fighter jets and legions of heavy transport aircraft which frequently circle the area as they return from long-distance flights from whatever distant locations our government has deemed necessary to encamp with Canadian troops, in their infinite wisdom. A friend of mine spent several years as a Combat Engineer in the Forces, and one day while discussing this thesis with him, he mentioned a bad experience getting caught in a hangar when a fire alarm went off. In order to prevent explosions, modern air bases are equipped with massive tanks of expanding chemical foam which can quickly coat a large area waist-deep in foul-smelling orange fire retardant goo. My friend did not enjoy having to hose down the runway for hours following this accidental deployment and mentioned it all got washed into nearby ditches and creeks. While I can't verify what chemicals are used currently in such applications, I am willing to go out on a limb and suggest that they are not beneficial to aquatic organisms or drinking water supplies.

The largest city on the Bay of Quinte is Belleville, a curiously large city considering its lack of major industry or public institutions. That said, a handful of small factories keep Belleville ticking along with the standard retail and customer service jobs that come with adapting to the needs of an ageing population. You won't see a lot of young people in Belleville these days, but all the same it has some strong urban fundamentals that could help it blossom into a much larger and more prosperous place one day. Centred on the Moira River as it meets the Bay, Belleville has a number of stately brick buildings and churches filled out with mid-20th

century cinder block architecture. Ornate Victorian houses on side streets hint at the city's more prosperous past, echoed by the great number of post-war bungalows on the east side of downtown built in anticipation of growth that never quite came. Train tracks run along the waterfront, and amongst the buckthorn and goldenrods I was surprised to see sizable tent encampments had sprung up in the summer of 2020.

Highway 62 goes south over a large bridge from Belleville into Prince Edward County, while carrying on east north of the bay leads to the town of Shannonville and then Tyendinaga, the territory of the Mohawks of the Bay of Quinte. Nestled around the mouths of the Salmon River and Marysville Creek, the reserve is beautiful in springtime especially when the trees put out new growth and migratory birds start to return. The road signs are in English and Kanien'keha (Mohawk), and those in range can tune into the eclectic rockabilly programming of 92.3 CKWE '*the Kwe'* radio station, which frequently broadcasts wise words from Haudenosaunee elders, simple 'talk more Mohawk' clips to broaden your vocabulary, and occasionally some far-out discussions of aliens, cryptids, and the like. I have spent many nights listening in from my shed across the Bay.

The most visible part of Tyendinaga's local economy is fuelled by the discounted prices local merchants can offer to settler consumers on gasoline and tobacco products, which led to several gas stations being built along the roadside. Practically as soon as Justin Trudeau took office in 2015 on a platform of legalising cannabis but prior to any legislation, a number of cannabis dispensaries opened up along Highways 49 and 2 inside the reserve. From my own observation, this has brought a lot of helpful revenue into the community that seems to have been put to some good use as a language school, a community centre, housing for elders and a number of other beneficial buildings have been constructed or improved upon in the years since. For a

community that until very recently has emerged from over a decade of annual boil-water advisories and no action from the federal government, the Mohawks of Tyendinaga appear to have found one way of getting the funds they need to improve their community without relying on false promises from Ottawa. In the February of 2020, before the pandemic when the BC and Federal governments were violently forcing a pipeline through unceded Wet'suwet'en land the people of Tyendinaga acted in international solidarity by barricading the CN railroad where it cuts through the reserve. For 18 days their blockade stopped all CN and Via Rail traffic between Toronto and Montreal, which according to CN documents obtained by journalist Kenneth Jackson prevented roughly $350 million dollars worth of goods from moving each day the blockades were up (Jackson 2020). Tyendinaga was a spark that inspired dozens of other First Nations to join in blocking the commercial flows of Canada in solidarity with the Wet'suwet'en. While the OPP violently cleared the blockade, it was really the Covid-19 pandemic which took the wind out of the sails of this Canada-wide demonstration of the power of united solidarity between First Nations and their supporters. The point had been emphatically made that Native people, in particular the Mohawks of Tyendinaga, have the power to shut down Ontario's infrastructure at a moment's notice if they feel it is necessary. This further underlines how the critical infrastructure which keeps the region's cities supplied with food, water, transportation, and energy has become very centralized and vulnerable to disruption.

Prince Edward County

Life in 'the county' as it is frequently called has a surreally Gestalt social fabric. From one angle, PEC is a thriving tourist destination full of busy beaches, fine dining, art galleries and

quaint B&B's. Yet from the opposite angle, it is a familiar 'Canadian Gothic,' an often deeply conservative and rural area, with proud farming families and a struggling underclass.

Nowadays, people who grew up in the County mostly cannot afford to live there, and benefit little from the odd form of rural gentrification that has taken place there since the millennium. Message boards on local news sites like CountyLive.ca host a lively debate between these different camps, revealing surprising tensions between the more established, long standing residents and the newer, more liberal minded and tourist-friendly entrepreneurs and 'Toronto people.' Driving through Wellington, Bloomfield, and Picton, the influx of hipster cafes, boutiques, and fine-dining restaurants overlays uncomfortably on the more standard rural Ontario sights; the swanky cafes close around 4pm, but the Tim Hortons has an active parking lot social scene in all hours of the day and night. In the summer of 2020, pandemic anxieties here reached a boiling point as tourists flocked to the County's long stretches of sandy beaches at North Beach and Sandbanks Provincial Parks, creating traffic jams on rural roads and high tensions between locals and visitors: it is no wonder that locals have taken to calling the summer the 'silly season.'

However, there are a lot of reasons to come to this Ontarian Crimea- it is truly a gorgeous part of the world. With over 750 kilometers of shoreline along its rugged and variable coast, there are endless beaches to explore, and large parts of it are publicly owned and accessible. Sandbanks Provincial Park has been lauded as one of the best freshwater beaches on Earth, and is a home to a rare and unique freshwater sand dune habitat. Plaques along the wheelchair-accessible Wellington Rotary Beach tell tales of the days when fishing villages dotted the shoreline, and during seasonal whitefish and smelt spawning, men would drag huge nets through Wellington Bay. Around the time of World War I it is said that Prince Edward County produced about one third of all the canned fruits and vegetables in Canada, and ghostly cannery

towers remain around quiet backroad bends and along pastoral shorelines. Today, the agricultural richness of this land endures and the unique microclimate formed by its encirclement by Lake Ontario makes it possible to grow a wide range of fruits here, especially wine grapes in the growing number of vineyards replacing dairy pasture and cornfields. However, the limestone present here has made the county a centre for large-scale aggregate mining, with a number of massive quarries that ship large volumes of material out of Picton Bay. In the 19th century, most of the bricks in the entire watershed were made from clay dug out of Prince Edward County, giving the historic districts of all the lakeshore towns their vernacular reddish tinge.

Further south, in the right sunlight conditions the linear fractures of giant chunks of limestone off Point Petre create a spectacular azure underwater quilt that stretches out into the Lake. From here east to the end of the South Marysburgh Peninsula at Point Traverse, the scrubby windswept thickets of juniper and wetland have been knit together to create a large and wondrous refuge for migratory birds. Travelling down Babylon Road and out towards the federal migratory bird reserve, it is hard to believe you are in Ontario with such broad marine vistas over Waupoos Bay or the secluded cove at Little Bluff. At Point Traverse, an abandoned fishing harbour where the last commercial fishing boats to sail the lake were stationed. The limestone shelf abruptly drops off into deeper water here, creating fascinating fissures and cleavages along the shoreline rife with fossils and interesting shapes.

Looking out to the southeast, the plume of steam from Oswego's nuclear plants is often the only thing visible on the horizon to betray the limited size of Lake Ontario, while to the east small islands lie in the surf. The area between here, Kingston, and Main Duck Island is known to some as the 'Marysburgh Vortex' for the great numbers of shipwrecks to have occurred in these

capricious and treacherous waters. A sturdy vessel and an able crew are the bare minimum for cruising this part of the Lake, even on seemingly calm days.

Main Duck Island is a mysterious and remote place which juts out from the surf about 18 kilometers southeast of Point Traverse, and has so far eluded my attempts to visit it. Once home to a fishing community, then purchased by a series of increasingly powerful men, it is now owned by the Federal Government and is uninhabited and only accessible by private boat. According to Susan P. Gateley, a wealthy man attempted to raise a herd of buffalo there for a time in the 1920s, before much of the island was purchased for use as a vacation home for none other than John Foster Dulles (Gateley 2013). I won't digress too much on this other than to briefly wonder what kind of nefarious machinations might have been made here between John and his even more sinister and powerful brother Allen on their late summer retreats between the 1940s and 1960s. Today, a handful of YouTube adventurers have documented the ruins of these cottages and the broader island, which are filled with a shocking number of snakes of several species for a location in Canada. The island is hard to reach and foreboding, and could stand to benefit from deeper research and archaeological exploration, and perhaps could serve well as a fictional setting of some kind.

Lennox & Addington

Back on the mainland, east of Tyendinaga is the village of Deseronto, which has not visibly benefitted from the influx of tourist dollars to the stores on Highway 49 and to the south in Prince Edward County. Still, the town has some real architectural charms along its waterfront and among its brick buildings. Not far further east lies the largest city in the region, Napanee, famously and proudly home to the singer Avril Lavigne. Napanee was clearly once a far more prosperous town than it is today, attested to by its ornate, romanesque-revival style post office

and stately town hall square. Yet like the other communities I have described, signs of poverty are noticeable in this relatively smaller city, and among the several large and interesting historic buildings lining its river bank in various states of decay lies potential for rejuvenation into a truly unique place in the watershed.

Travelling north along Highway 41 leads to the headwaters of the Salmon and Napanee rivers, while the agricultural patchwork becomes dotted with lakes and succumbs to a resurgent forest as the glacial till transitions to the Canadian Shield. I spent a great deal of time in Puzzle Lake Provincial Park last summer among the beaver ponds and backwater lakes of this park and its vast surrounding crown lands. I paid a heavy blood-price to the area's mosquitoes and blackflies, but was rewarded by encounters with otters, beaver, deer, countless small ducks, and even a family of Trumpeter Swans with eight young ones in a very secluded area. Seeing the baby Trumpeter Swans made me thrilled and filled with emotion- this majestic species came so razor-close to extinction in the 20th century, and I take it as a very hopeful sign that they are able to breed and raise young in the Lake Ontario watershed once more. I even had occasion to sneak up on a Fisher in a canoe; catching a close up view of this impressive large mustelid was very special although we were equally surprised by the brief encounter. Safely traversing this winding landscape formed by the mind-blowingly industrious beaver by canoe was a physical and intellectual challenge that induced a deep respect for all those who have travelled through this landscape before me. The month or so I cumulatively spent in the park in 2020 was a much needed escape from human built environments and really grounded me in the need to steward and protect this watershed on behalf of the many incredible non-human species we share it with. I don't want to live in a world without Trumpeter Swans!

South of Napanee lies an irregular coastline formed by the mouth of the Napanee river and the long reach of Hay Bay. Like the opposite shore in Prince Edward County, it almost resembles bits of a puzzle with the Bay of Quinte forming a void running down its centre, and the numerous secluded inlets invoke sepia-toned tales of smugglers who used the area as a base of operations to run illicit cargoes of alcohol into New York State during the Prohibition Era. At Adolphustown, the Glenora Ferry connects the Loyalist Parkway to Prince Edward County, and runs along the pastoral shoreline through Bath and Millhaven towards Kingston. South of Millhaven lies the poorly-named Amherst Island, which is serviced by its own ferry and is home to a few dozen or so very lucky landowners who live among its dreamy, bucolic pastures.

Frontenac Region

Kingston, the largest city in this region, is a place of scholarly erudition and erstwhile incarceration. Its downtown district along Princess Street and surrounding Queen's University is replete with stately limestone buildings, while the large municipality sprawls out to the north and west into subdivisions surrounding industrial areas along the railroads and 401. Looming over Portsmouth Harbour, the ramparts of the Kingston Penitentiary or "the Pen" attest to the city's long history as a centre for Canadian prisons. Today, the building which once housed the supposedly most dangerous criminals in Canada offers rather expensive tours inside, a phenomenon I have a hard time fully understanding the appeal of.

I have a lot of family in Kingston, and appreciate the city's well-planned waterfront and much-celebrated Gord Downie Pier, which brings hundreds to this urban lakeshore during summer months. Kingston is a lot more affordable than many other cities in the watershed, and while growing in size retains a historic character downtown. Overall, it is a city with tremendous potential for sustainable growth and a diverse and well-educated population. North of the city, it

does not take long until one is plunged into the semi-wilderness of the Frontenac Arch, a region of forests, wetlands, and lakes that together forms a UNESCO world biosphere preserve. Towns like Sharbot Lake and Westport hint at the region's past as a logging area and connection via waterways to the Rideau Canal that links Ottawa with the Cataraqui River which flows east of Kingston into the Lake.

From the docks of downtown Kingston, boarding the Wolfe Island Ferry is a simple matter, which takes pedestrians, cyclists, and motorists across the headwaters of the St. Lawrence to the largest of the Thousand Islands. The ferry reaches its terminus in the village of Marysville, a quaint town with excellent baked goods. Wolfe Island retains a 19th century feel strangely overlaid by an immense grid of eighty-six towering 21st century wind turbines which on misty days gives the island an eerie pall as their blinking red beacons intermittently stain the clouds. The Big Sandy Bay Management Area on the island's southwest shore facing Lake Ontario is indeed big, and sandy, and is an excellent secluded beach well off the beaten track for those passing through the area. Most motorists bound for the United States follow the 401 east of Kingston to the bridge at Ivy Lea over the great flow of the St. Lawrence where it connects to Interstate 81 near Alexandria Bay, New York. However, a less-frequented option better suited to those with an interest in Lake Ontario is the small two-car ferry which links the Wolfe Island hamlet of Alexandria Point, Ontario, with the small harbour at Cape Vincent, New York forming the quietest border crossing in the watershed.

NEW YORK SHORE

Jefferson County

Cape Vincent is a quaint town with much to share with other previously discussed lakeshore communities on the Canadian side, in that it has several historic brick buildings and practically screams out its vaunted past as a more prosperous port in earlier times. Following the shore south through Chaumont and Dexter one traverses the mouth of the Black River which brings water from far uphill to the east into the Adirondack highlands. In fact, this whole area where the foothills of once-mighty mountains descend into the post-glacial floodplain has a decidedly Appalachian character, for better or worse. Although it is set downriver in neighbouring St. Lawrence County, the 2008 film *Frozen River* does a good job of depicting this windswept region and the tough people it produces. Small dairy farms and foreboding rural compounds line the roadsides as you head south to Sackets Harbor, famed for its role in the freshwater shipbuilding arms race of the War of 1812. The town boasts large marinas and far-ranging vistas of the wetlands which nestle inside the bays and among the islands of this irregular stretch of shoreline. Out towards Main Duck Island lie the Galloo and Stony Islands, home to massive gull and cormorant colonies in this wind-battered eastern end of the lake.

East of Sackets Harbor lies Watertown, the largest city in Jefferson County ideally suited along a drop in the Black River during its 19th century heyday as a mill town and into the 20th century when hydropower gave rise to a modest yet prosperous manufacturing district that claims to be the home of the safety pin as well as the ‘Little Trees’ air fresheners often hung under motorists’ rear-view mirrors. Today, the town largely exists in the shadow of Fort Drum, a 434 square kilometer base operated by the United States Army and home to the elite troops of the 10th Mountain Division as well as about twelve thousand other enlisted and support-staff living on the base. Driving around the base’s heavily guarded perimeter one is struck by the overwhelming largesse of America’s military-industrial complex; huge buildings full of

expensive military hardware, firing ranges echoing with exploding tank shells, and watched over by the hulking heavy transport aircraft and MQ-9 ‘Reaper’ drones steadily taking off from and landing there. The name of these drones really inspires warm feelings of security and safety knowing they are keeping watch in domestic skies.

Heading south from Watertown, Interstate Highway 81 makes a beeline for Syracuse as it skirts the western edge of the Tug Hill plateau, famed for its heavy snowfall. Along the lakeshore stretches over 30 kilometers of nearly uninterrupted sandy beaches sculpted by wind and wave into a barrier sandbar that shelters a large network of protected wetlands and freshwater lagoons. Dotted with small cottages and campgrounds, this idyllic stretch of shore fixes the eye to the west across the seemingly endless expanse of freshwater visible in that direction. Taken altogether, the curvature of this shoreline forms the edge of Mexico Bay, the name for this southeastern section of Lake Ontario which descends down into the lake’s darkest depths.

Oswego County

Remove the red-white-and-blue bunting draped throughout the town of Pulaski, and you couldn’t be blamed for mistaking it for Port Hope or Cobourg. Another former mill town with palimpsests of bygone prosperity lingering along its main street, the keen eye will detect familiar reddish hues in the town’s abundant brickwork. From here to the south, the country flattens out in verdant alluvial soils which support healthy crops of corn and soybeans. Curving around the bend of the lake through Mexico, the vast cooling towers of the nuclear power complex ahead come into view, casting a Simpson’s-eque pall over the outskirts of Oswego. The farm fields quickly transition into car dealerships and strip malls running south of the massive local employers: the sizable Novelis Aluminum plant, and the twin nuclear power plants that rest on the lakeshore and power the city, sending their surplus to feed the massive demand downstate. A

massive coolant tower reminiscent of *The Simpsons'* Springfield dominates the surrounding landscape, and the plume of steam which emanates from it is visible from Prince Edward Point on the far Canadian shore. The first time I saw the plume, not realizing its constant presence, I freaked out and began checking for news of a meltdown across the lake. These plants are relics of a time when upstream on the Oswego River lay a significant manufacturing district centered on Syracuse that was hungry for electricity; today much of the power flows downstate to help keep the lights on in New York City.

As you follow NYS Route 104 west into Oswego, it becomes Bridge Street and runs through an orderly urban grid with handsome churches, banks, and homes from the 19th century blended with tightly packed 20th century workers' bungalows. The core of the city runs along a riverfront that is a mix of historical buildings and the lingering activities of its heavy industrial port, one of the busiest on the lake. I met Susan Peterson Gately for lunch here in June of 2019, and had a great conversation with the most prolific writer of all things relating to Lake Ontario, which gave me dozens of exciting leads to track down and new questions to consider. Her perspective on local history and wealth of knowledge about Lake Ontario has proved invaluable to the development of this thesis, as has the stack of her books which she gave me at our meeting.

Walking down to the end of the pier lies the H. Lee White Maritime Museum, which manages to fit a wealth of archaeological exhibits into a rather tidy and compact series of galleries. The items tell the story of navigation on Lake Ontario, from the eras of canoe, sail, steam, and diesel, in an engaging and well-planned manner. In the entrance, a massive Works Progress Administration mural from the 1930s adorns the wall displays a romanticised rendering

of Pontiac, the famous tactician and statesman who helped lead the pan-Indigenous revolts of 1763.

On the east bank where the river meets the lake lies the steadfast ramparts of Fort Ontario, the oldest point of Anglo-American construction on the lakeshore. Here, where battles furious battles raged in the 1750s and 1810s, is today a commemorative park with sprawling green lawns surrounding the battlements looking out over the wide expanse of silvery-tan water formed by the silt-laden plume emanating out of the river into the churn of the open lake.

During World War II, it became the site for the Fort Ontario Emergency Refugee Shelter, the *only* site of refugee resettlement opened in the United States during the war, where close to one thousand Jewish refugees were housed in barracks behind fences awaiting an uncertain future after a harrowing escape from Europe. There is a modest, but impactful series of plaques and installations at the site that commemorate these refugees' experiences between 1944-45, after which many remained to make western New York their home. Thinking of these people gazing out upon Lake Ontario in such difficult circumstances, made me think of the many refugees of past generations in the watershed, from the Beaver Wars and plagues of 1600s, the various French depredations, and the American genocide in the 1780s, during the hard winter of 1813, and over the past two centuries generally as human beings have come to the watershed from all corners of the earth seeking refuge. Overall, the commemorations at the site are affective on the viewer and impart a sense of moral obligation to help those in need who seek shelter in our part of the world.

Therefore, when I left the park by a different street than I had approached it, my stomach turned when I saw a row of several dozen identical green and white vehicles in a nearby lot. My worst suspicions were confirmed: armed guards in green military fatigues and jackboots tramped

around the lot ringed with razor wire atop its chain link fence. Upon closer inspection I saw what I can only describe as a 'forward operating base' for Immigration and Customs Enforcement, the infamously racist and militarized arm of the federal Department of Homeland Security. It seemed to be one of the most active buildings in Oswego by my reckoning. I grew up in America, I remember being a child when 9/11 prompted an outsized national obsession with security as civil liberties were eroded, and military recruiters were in my high school's cafeteria every week trying to sign us up to go to Iraq. Still, ten years in Canada rendered me in a state of emotional shock. What I saw at that ICE facility was so brazenly, unabashedly authoritarian that even with my dim view of American imperialism I was truly sickened. It was an ugly juxtaposition between a place that once gave safe harbour to those in need, and a place dedicated to persecuting, traumatizing, and incarcerating the most vulnerable seeking to eke out a new life in this part of the world.

All in all, Oswego is a very interesting city, with its historic strategic value and its twentieth-century civic infrastructure. The twin smokestacks of an old coal plant that now burns natural gas bookend the west side of the river, where the State University of New York at Oswego campus overlooks pleasant bluffs towards the inland sea. It bears mentioning Oswego County's neighbouring Oneida, Madison, and Onondaga counties, interconnected as they all are by rivers and canals. While Syracuse is the largest city with its universities and limping industries, Utica, Rome, and Oneida sit at the intersections of old riverine routes. This region was once carpeted with dense wetlands that knit together the core of the Haudenosaunee territory; glimpses of what the 'Great Swamp' may have looked like can be seen today in places like the Montezuma National Wildlife Refuge. If you have ever eaten at a greasy-spoon diner in North America, there is a good chance you used Oneida flatware, the end product of a utopian

commune movement began there in the 1840s which morphed over the decades into the utensil manufacturer known today.

Cayuga County

Passing across the Montezuma wetlands on I-90, or closer to the Lake on 104B, the land and lake seem to bleed together in deep, verdant swathes that stretch far inland. The encroachment of *phragmites* reeds creates thick monocultures in parts, where in others where clean water flows, native flora and fauna still prevail. These wetlands have a lot of filthy water to filter emanating from the multiple Superfund sites in their catchment, and provide an essential stopover for thousands of migratory birds each year. The lakeshore opens up briefly to the inlet of the aptly named Fair Haven in Little Sodus Bay, an idyllic little harbour neatly tucked away from the gales of the lake. Cayuga County has a comparatively small part of the Lake Ontario shoreline in its boundaries, but it extends far to the south.With its links to the Erie Canal and later New York State Barge System to the Finger Lakes, the city of Auburn is yet another post-industrial darling of a town, with several bright spots despite being in many ways visibly economically depressed. Home to Hariet Tubman in her later years, the city was for decades a major junction on the underground railroad and a hotbed of abolitionist politics. Here the easterly Finger Lakes- Cayuga, Skaneatles, and Owasco- drain north to the Lake from the countryside around Ithaca and Cortland.

Wayne County

Cornfields waved in the August sunset as I drove through Wolcott, where on the east side of Sodus Bay the majestic Chimney Bluffs plunge knife-like into the pounding surf, like a tract of the Montana Badlands magically displaced onto the shores of Lake Ontario. Similar to the

Scarborough Bluffs, this dramatic geologic feature makes for some of the most treacherous shoreline to hike but rewards with stunning views over the lake. I would definitely recommend a visit here for anyone passing by this part of New York State, and the sweet white wines produced nearby are quite delicious. Rounding Sodus Bay- derived from the Onondaga word "assorodus" meaning 'silvery waters'- the beautiful bay creates ample habitat for fish, and is bordered by orderly rows of apple orchards and vineyards. My family has some relatives who live out this way south of Pultneyville, and profess to be the 'only Democrats in Wayne County.' Indeed they are surrounded by a largely conservative community of landowners who depend on migrant labour to pick apples and milk cows on their land. The region's population swells during harvest to collect the apples before they drop and spoil on the ground, but even after the trees are picked an astounding number of perfectly good fruits are left on the branches. As a child I spent many crisp fall days filling up laundry hampers full of these leftovers which my Mum would turn into pies, sauces, and a particular schmear-able regional delicacy known as 'apple butter.'

This county is named after General 'Mad' Anthony Wayne, who oversaw much of the fighting which brought Ohio and Michigan under American control. Further afield in the countryside, old churches of diverse denominations abound from the time when this was the centre of the 'Burned Over District' that accompanied the Second Great Awakening in the early 1800s. This area spawned a number of distinctly American interpretations of Protestant Christianity that gave rise to a variety of spiritual movements ranging from social reform movements to millenarian cults. The Shakers, with their alternative customs, once had a sizeable community on the shores of Sodus Bay, in their own strange way attempting to build utopia in Western New York. Further south in Palmyra is one of the holiest sites in Mormonism, where their prophet Joseph Smith claimed to have dug up gilded instructions from God to start the

Church of the Latter Day Saints. Since the 1930s, each July the Hill Cumorah Pageant draws Mormon faithful and interested non-believers alike to view a massive spectacle involving several hundred performers acting out the story of their faith over a two week period with singing, odd costumes, and lots of lemonade stands.

Moving back up towards the lake lies the outline of Gananda, a federally planned city which was anticipated to house 90,000 residents chartered by the New Communities Development Act of 1970. Similar to Riverton southwest of Rochester, the ambitious plan was set forth under the federal Department of Housing and Urban Development with hopes to create affordable housing, schools, and hospitals in an orderly way that would ideally help address a wide range of social issues. By the end of the 1970s, this kind of centrally-planned and publicly funded project became anathema to the insurgent neoliberal ideology taking hold of American politics at that time. Still, it intrigues thoughts of what might have been had the plan gone forward and not withered in the offing following budget cuts in the late 1970s. Certainly part of the original civic planning calculus was its proximity to the R.E. Ginna Nuclear Power plant close by on the shore of the lake.

South of Wayne County lies the heart of the Finger Lakes Region, with the narrow and deep Canandaigua, Keuka, and Seneca Lakes an impressive reminder of the dredging power of multiple glaciations. Towns like Penn Yann, Canandaigua, Geneva, and Seneca Falls dot this part of the watershed mostly covered with agriculture of corn, soy, and dairy. Occasional hobby farms of emu, ostrich, alpacas or buffalo might surprise motorists as they cruise the backroads around this area. Like Niagara and Prince Edward County, the Finger Lakes region is fast growing a name for itself among international wine enthusiasts with the unique microclimates wedged between the lakes creating ideal conditions for certain cold-hardy varietals.

Monroe County

Coming into Monroe County lies the largest embayment on the Lake, with the long stretch of Irondequoit Bay indicating the ancient path of the Genesee River before it assumed its present-day course. Large marshes carpet the southern end of the bay, which is traversed by a large steel bridge carrying traffic along Route 104 into Rochester. If the idea of riding on a roller coaster built in the 1920s appeals to you, head on up to Seabreeze Amusement Park, which has been operating at the top of the Bay since 1879. The lakeshore then shifts into the shady glens of Durand-Eastman Park, which spill down softly rolling hills to a wide beachfront before the long breakwaters at the mouth of the Genesee reach their arm out into the lake.

Over the O'Rourke Bridge, named for an Irish-American Civil War hero from Rochester, you will find the neighborhood of Charlotte, with its public beach, bungalows, bars and restaurants serving local delicacies like Abbott's custard. A large and smart-looking building adorned with the large letters 'PORT OF ROCHESTER' stands sadly underused, a reminder of the failed attempt to run a 'fast ferry' service across the lake to Toronto which I used to ride often as a child. Following the Genesee south into the city as it climbs over cataracts leads downtown to the heart of Rochester through some of the most oppressed and racially segregated communities in the watershed, and along the ruins of the once-proud Kodak Park.

Rochester is a city with a lot of resilience, charm, and potential, despite the post-industrial blight which many outsiders associate it with today. In many ways, it is typical of the average mid-size American city, with its heavily racialized poverty, legacy of redlining, and 'white flight' suburbs. Studies show that Rochester "had more people living at less than half the federal poverty level than any other similarly sized city in the country" in 2015, and by 2018

Monroe County had the 5th highest median income gap between white and non-white residents of any county in the nation (Spector 2018).

However, it is also a place with a wealth of cultural and economic points of interest for our survey. For one, it has one of the tallest waterfalls in any city in the country, and it is basically right downtown- High Falls plunges 96 feet down off the Niagara Escarpment as it carries the mighty Genesee out into the Lake. The Inner-Loop, a disastrous Robert Moses-era ring road which cut the downtown core off from surrounding neighbourhoods, has been partially filled in, leading to a 'revitalization' of the southeast part of town. In the post-war strike wave, Rochester had a two day General Strike in 1948, a real rarity in the United States. In 1964, it was where one of the earlier urban uprisings of that decade took place; my Dad remembers biking past National Guard troops encamped at Cobbs Hill Park by his boyhood home on Nunda Boulevard (as an aside- Nunda ["Nun-Day" with the flattened vernacular vowels of the local dialect] is another mellifluously persistent Seneca toponym; a town further south along the Genesee bears this name as well).

The skyline of Rochester is dominated by the neo-Gothic Kodak Tower, the art deco Times Square building and the modernist Xerox and Chase Bank towers. From its origins as one of the first industrial boomtowns in the 1800s following the opening of the Erie Canal to its twentieth century heyday as a manufacturing and optics centre, the city is filled with signs of its prosperous past. Home to Xerox and Bausch and Lomb, factories full of highly skilled workers used to assemble copiers and grind eyeglass lenses here for good wages while the local economy remained attractive for dozens of other small to mid-size businesses. For decades, the Eastman Kodak company was one of the largest employers in town, with thousands working in its film and camera manufacturing business. My father began his seventeen year career with Kodak

working on the assembly line dunking large sheets of unprocessed film paper into vats of chemicals, and eventually working his way up in the marketing department until the corporation began to make major layoffs in the 1990s as it failed to make the jump from film to digital cameras. This was the major, final blow to Rochester's time as a manufacturing center; I remember joining a crowd of former Kodak employees to watch the demolition of one of the tallest buildings in the large factory complex when I was a teenager. The crowd reacted with a strange mix of pleasure at seeing their former workplace explode, sadness at the loss it represented, and a wounded sense of civic pride. As both blue- and white-collar jobs evaporated out of the city with the long decline of the major manufacturing corporations, the locus of the local economy shifted to what an older friend of mine calls 'Meds n' Eds.' Today, six of the top ten employers in Monroe County fit this description, with the University of Rochester and its subsidiary hospitals and healthcare clinics the largest of them.

West of the city, a series of ponds and freshwater estuaries line the lakeshore in a good example of how isostatic rebound is lifting the north shore of Lake Ontario higher, causing the lake to in effect pool up against its southern shore. The largest of these, Braddock's Bay, hosts a number of cottages with soothing views over calm and sheltered waters. From here, the Lake Ontario State Parkway heads west along the shore.

Orleans County

Just like east of Rochester, we are back into major orchard country, mostly apples but peaches, cherries, and table grapes as well as the ubiquitous cornfields and occasional horse and dairy farms. Highlights include the Lakeshore Beach State Park and Golden Hill State Park, where swimming is discouraged but interesting anthropological opportunities to observe nomadic retirees in their ad hoc summertime RV clusters abound. The town of Point Breeze at

the outlet of Oak Orchard creek has a small marina and an excellent bait and tackle store full of colourful characters. As a teenager, making an annual trip out to fish the salmon run in this creek with my friends was something we looked forward to every year, and the place underneath where the water is blocked by a small hydroelectric dam creates a pool so thick with fish you could practically walk across its surface in September and October. I have a sharp memory of getting my parent's old Volvo stuck in the mud and having to push it out with considerable effort as the darkest winter squall clouds I have ever seen piled up to the west and chased us all the way home to Rochester. Overall, this is a very rural and sparsely populated area with a lot of pastoral charm and natural beauty, particularly in the wetlands of the Iroquois National Wildlife Refuge where majestic Sandhill Cranes have been sighted after a long absence in recent years.

Niagara County

At last, our circumnavigational survey of the Lake Ontario watershed nears an end as we approach the rushing cascade of Niagara Falls. Lockport is the county seat and rests on the Erie Canal which when overflowing sluices out down Eighteen Mile Creek towards the hamlet of Olcott with its multicoloured cottages and picturesque lighthouse. The only two officially-sanctioned pockets of Haudenosaunee land remaining in Western New York are here on the Tuscarora and Tonawanda Reservations. Continuing west, the patchwork of farms yields to deceptive forests hiding dark industrial secrets. ProPublica's 'Bombs in your Backyard' project lists at least nine former and active military site contaminated by toxic or radiological waste in the county, including several former Nike anti-ballistic missile bases once tasked with shooting down Soviet ICBMs and bombers which supposedly threatened the heavy industry of Niagara Falls and the steel mills of Buffalo not far away (Groeger et. al. 2017). The colossal landfills east of Lewiston are big enough to be seen from space. These facilities, operated by a

shifting kaleidoscope of federal, state, municipal and corporate entities over the years, accept hazardous and toxic chemical waste from all over the northeastern United States. In the mid twentieth century, everything from watch dials to cosmetic contained the glow-in-the-dark isotope of radium-226 until its deleterious carcinogenic effects were realized; Buffalo News journalists T.J Pignataro and Dan Herbeck write that today about half the world's known supply of this dangerous radioactive element sits in a dump in Niagara County, which itself hosts "more than twice as many hazardous waste sites as comparably sized counties throughout the state" (Pignataro and Herbeck 2013).

The dramatic gorge of the Niagara river can be crossed at four points in this county: the Queenston-Lewiston bridge where Highway 190 transitions to become the QEW, the small and underused Whirlpool bridge, the more active Rainbow bridge that connects the downtown districts of the two Niagara Falls and its adjacent pedestrian walkway. I remember the days when there was hardly any delay crossing these bridges as most motorists were casually waved on by the border guards; since 2001 the amount of time spent queueing, intimidating security infrastructure, and level of aggressive scrutiny has steadily increased on both sides.

From the edge of the lake where Fort Niagara's ramparts endure, the road along the gorge leads through the town of Lewiston, which has a historic main drag and is home to the nearby Artpark, which is full of interesting sculpture and other colourful installations. Route 104 curves south and passes over the massive hydroelectric dams with a huge artificial pumped water reservoir standing above it to the east. Passing through the campus of Niagara University, soon the Devil's Hole State Park comes into view, where striking Seneca porters routed two companies of British soldiers and pushed them off the cliffs in 1763.

Route 104 heads south into the post-war single-family homes which begin to consolidate into tight rows along the orderly grid of the city of Niagara Falls, New York. Most of the companies which once operated the city's hollowed out factories have long since departed the region, but their toxic legacy remains. Two of the most notorious sites of urban chemical pollution in the United States: the lands adjoining the former operations of the TJ Hooker Chemical Company, and those in the deserted neighbourhood of Love Canal. The stories of unsuspecting local people poisoned and in many cases killed by the pollution here are still shocking to read decades on from their initial discovery.

The downtown district on the U.S. side, particularly on one of the dreary grey days so common in this part of the world, is in my view a pretty grim place covered with chipped cement buildings and awash in the neon glow of the signs of the hotels and casinos. Much of what was written earlier about the Canadian side applies here, as the twin cities have a shared industrial history due to their proximity to the immense power of the river. And yet- where the mists of the great cataract waft above the chasm, especially when shafts of sunlight pierce prism through them and elucidating the majestic azure rush of water, this special place confidently asserts its power and grace despite all human attempts to manipulate, coerce, cheapen or sell it. One can see the charm that made this place a premier honeymoon destination before the advent of affordable air travel. The rushing water forms the great spout that keeps our precious Lake Ontario full, and links it to the broader freshwater seas which form this unique Great Lakes Region. Goat Island, which stands precariously in between the Horseshoe, American, and Bridal Veil Falls, looks like it might be pushed over the edge at any moment. Fittingly, here where the full force of the water is on display, rests a contemplative statue of the great inventor Nikola Tesla who dreamed of a world where electricity would bring about an age of freedom, equality,

and general human benefit. The statue looks not out at the massive complex of turbines and dams below but down at a scroll in his lap, perhaps not so much admiring these monuments of capitalist industrial civilization and instead wondering how dreams of progress can go so very awry.

And with that, crossing the bridge, we are back where our journey started. If I have been too harsh in describing some of these places, their problems and poverty, I hope my deep love for this region and its tough, resilient people shines through my jaundiced observations. I believe this region has tremendous potential to be a better place to live in the future, one that can provide refuge to all those who come here seeking it.

So, what did I learn in my fieldwork travels around the shores of Lake Ontario? For one, I now know how impossible it is for me to be objective about the subject. At the start, I was under the illusion that I could coldly apply a rational, distant, dialectical approach, categorizing and documenting what I saw as if I was some kind of extraterrestrial anthropologist. Now, I understand that matters pertaining to Lake Ontario, the terrain and peoples surrounding it, and their collective histories and futures are just too personal for me to discuss without becoming rather animated and emotionally fraught whether in writing or in conversation. Whether this hampers or enriches the comments I had to make is unclear to me.

However, it is abundantly clear to me that both of the region's dominant cultures, American and Canadian, are locked in the ugly historical patterns that created them. As has been the norm since Europeans entered the watershed, power and wealth remain concentrated in the hands of very few; Anishinaabe and Haudenosaunee laws, land claims, values, and treaties are constantly disrespected if even acknowledged; and land, water, and non-human life are

completely subordinated to narrowly-defined economic and social priorities that degrade and endanger them.

Part of the reason why I focussed so little on the small band of activists, environmental advocates, charities and non-governmental organizations dedicated to fighting for Lake Ontario's water quality and ecological health is that for all their hard work and good intentions, their efforts and successes remain in my judgment quite marginal. Abstract calls to 'save' Lake Ontario and piecemeal shoreline clean-ups are laudable, but unlikely to bring about the total economic and social restructuring that I view as necessary to permanently safeguard the Lake for reasonable, sustainable human uses as well as make possible the reestablishment of a thriving, biodiverse ecosystem. The bottom line is this: the cause of Lake Ontario, and water generally, must be infused into the entire constellation of social struggle in this watershed. Access to clean water in the abstract- thus practically speaking, Lake Ontario and the infrastructure we build to filter and deliver it to our taps- is fundamental and interconnected to all progressive social causes here. These range from but are not limited to: environmentalism, Indigenous sovereignty and Land Back, to the refugee and asylum-seekers' support network, migrant-worker solidarity and food justice, prisoner solidarity, mining justice, tenants' rights, green-space and participatory planning advocates, public transit and clean energy supporters; the list goes on and on.

Despite the growing numbers of people aware of their essential role as water guardians here, I sadly don't think that Lake Ontario as an abstract idea will motivate many of its watershed's harried, indebted, and overwhelmed residents to much more than depression and pity. However, Lake Ontario as a point of unity, pride, and common reference infused into the broader fabric of social struggle in the watershed may yet prove to have some useful potential. Gone are the days when entire towns made their livelihoods working and sailing on the lake, but

the legacy of those hazardous maritime trades lingers in the way that locals tend to fear or at least be wary of Lake Ontario.

Overall, our relationship to water, and to Lake Ontario which provides it, is one of dependence. We need it whether we like it or not, particularly if this region and watershed is to be a place of general refuge in the 21st century. We ignore the plight of its ecosystem at our own peril, and having the shoreline of this crucial Lake dotted with a museum of ageing Cold War nuclear technology and rusting pipelines indicates that we are far from taking the health of Lake Ontario seriously. Shoreline cleanups are important, and help connect people to the water and the ecology around it, but as long as nuclear reactors from 1969 and 1971 remain in operation here the long-term viability of the Lake as a source of safe drinking water is in jeopardy.

Chapter Six: Conclusion

As comedian and cultural observer George Carlin once cynically remarked: “How are we going to save the planet when we haven’t even figured out how to care for one another?... The planet is fine- the people are fucked!” In time, no matter how many nuclear meltdowns, oil spills, or other anthropogenic calamities occur, Lake Ontario or whatever the Earth’s climate and tectonics shape it into over the coming eons will remain, and evolve into a new biological equilibrium that will inexorably wipe away all visible traces of the past two centuries. One day, if left to the elements, even the vast concrete dams holding the Niagara and St. Lawrence will erode and crumble; the railways and pipelines entombed in sedimentary strata or obliterated by distant future glaciations.

Maybe it is facile or reductive to say, but fundamentally all the problems heretofore identified in this thesis are social problems. That is to say, people caused them, and presumably people can fix them-- or at least stop them from jeopardizing the possibility of good life in the Lake Ontario watershed for present and future generations. At the time of writing, climate change is not abstract, and is no longer looming in the future but is destabilizing and upsetting human life on a daily increasing scale. Unpicked British Columbian raspberries should not be cooking on the bushes due to pyratic ambient air temperature, but here we all are in the year 2021. Meanwhile in Ontario, while the thunderstorms have been intense, we have had a fairly typical- if warm and wet- summer so far. I can attest that the Lake remains a fine place to swim and fish in, and I drink from its watershed every day.

So, one of my conclusions is that I believe the Lake Ontario watershed is largely suitable as a refugium for human and non-human life in the 21st century, but it will take a great deal of

social organization, participation, and cooperation to make this possible. The concept of 'refugia' was originally developed by population biologists to describe places where species survived the last glacial maximum, but grew to encompass places where species retreat to during times of extreme environmental stress, such as an oasis in a desert. More recently, social scientists have adapted it to discussions of mass displacement of human beings resulting from climate change (Ashcroft 2010). Robin Cohen and Nicholas Van Hear have gone so far as to call for the establishment of a global, decentralized, transnational polity for displaced peoples and those in solidarity with them called 'Refugia' (Cohen and Van Hear 2019). In any event, my fieldwork observations indicate to me that the Lake Ontario watershed has all the raw materials required to make for a sustainable refugium.

Some, like the scholar Jem Bendell, claim that it is now too late to talk earnestly of anything other than preparing for the wide scale collapse of our economy, institutions, and way of life as we know it. While I don't want to agree, my gut tells me to prepare for a very bumpy ride over the next few decades. Bendell has put forward what he calls a 'deep adaptation agenda' for coming to terms with the likelihood of collapse in the near to intermediate future. Far from a fatalistic submission, through four categories of action-- resilience, relinquishment, restoration, and reconciliation-- at least a plausible theoretical framework for dealing with and making sense of collapse is offered (Bendell 2018).

In the eleven novels and assorted poems, films, and other art discussed, themes of death and melancholy were heavily associated with the Lake and were ever-present. However, each of them, in their own ways, uses Lake Ontario as a screen on which to project ideas, characters, and emotions, many of them quite loving and positive. It's as if the grief and trauma that has been cast into the Lake by so many tired individuals who have gazed upon it over the centuries in

times of sorrow lingers, mirage-like and dipping below the grey-blue horizon, reaching into the hearts of those who try to know and write about the Lake in a non-empirical fashion (and perhaps for those scientific types, more than they let on in their papers). This overall theme of death and mortality perhaps speaks to the way the enormous and uncaring Lake puts individual human lives into perspective, rendering them small and insignificant in the face of something much greater and more powerful, yet something they have depended on for sustenance, transportation, communications, and livelihoods in different ways throughout history. At the same time, in the words of Ben Ford, 'the shore is a bridge,' or at least it can be a route to understanding our interconnectedness and inseparable reliance on the waters that collect in Lake Ontario.

Lake Ontario cannot be separated from the shared history that the people who live around it have both inherited and created. The shipwrecks dotting its abyssal plain, the vast concrete bookends at Niagara and Massena-Cornwall, the traces of Cold War radionuclides still swirling in its depths; they all have a multitude of stories to tell which perhaps metaphysically end up in our drinking water along with everything else we throw in the Lake. Moreover, each of the selected fictional works delivers particular insights into the people and communities here across a range of imagined pasts, presents, and futures; insights that can be useful in conceptualizing what kinds of social changes are necessary to establish this watershed as a refugium. Perhaps these are clues that can help us to better understand the peoples of the watershed, or at least the minds of those moved to write their stories.

There are at least three overarching cognitive barriers that must be overcome through effective communication to get as many residents of the watershed as possible on the same page. First- there is not enough awareness of just how much freshwater is present here, and of the

ecosystems and human activities it enables. Or perhaps, this awareness, like so much in our watershed, is extremely unevenly distributed. Lake Ontario has many guardians and advocates, but it would be a stretch to claim that a general culture of reverence and respect for the Lake is predominant here.

Second- awareness of the stupendous risks to Lake Ontario's viability as a drinking water source presented by our outmoded energy infrastructure, decrepit nuclear plants, and overall patterns of consumption and land use is just not high enough. It is essential to note that no popular majority ever voted for any of this infrastructure, and no meaningful public participation attended any of its planning and construction until very recently, and dubiously at that. My Uncle was arrested protesting the expansion of the Pickering Nuclear plant in the early 1980s; there is a long history of resistance and popular organizing for safer and better alternatives. The decisions which brought about the built environment that surrounds and shapes the Lake were made by powerful men to secure them profits and more power. Even the grandiose art deco columns of the R.C. Harris water treatment plant in Toronto speak to a certain degree of vanity and lust for power after death, daring the city to forget him and his works. Ultimately, there is no valid reason why Lake Ontario should be hosting the two longest continually-operating nuclear reactors on the continent, and they must be decommissioned rapidly and safely. All of us, as residents and dependents of this watershed, need to own up to our collective responsibility to safeguard the Lake and its waters.

Thirdly- while this seems to be at last improving, public knowledge of the histories of genocide and destruction *specific* to this watershed is too often subsumed by larger, national and continental narratives. Widespread ignorance of the profound wisdom and sense codified in

Anishnaabe and Haudenosaunee laws and cultural practices is not acceptable and must be remedied in order to pave the way for real justice, restitution, and land back.

Like an adolescent who thinks their room is clean when they've just shoved all their dirty laundry under the bed, it is uncomfortable for us to collectively face up to the mess around us that threatens the vitality and viability of the Lake Ontario watershed as a 21st century refugium. At the same time, perhaps many more of our neighbours in the watershed are aware to some degree of these issues, or more importantly wish to learn more, than I have so far considered. But as filmmaker Raoul Peck often argues: it is not knowledge that we lack. Whether historical or technological, we can collectively access and harness all the information we need to vastly improve the situation for all human and non-human life. So what are some of the main barriers to a local refugia-deep adaptation agenda?

For certain, barriers to widespread public participation in environmental policy making must be identified and eliminated to the greatest degree imaginable. Beyond this, financial, legal, and social barriers which prevent more watershed residents (who wish to) from getting out in boats on the Lake, accessing its shorelines, tributaries, and estuaries, and generally feeling safer and more confident in and around the water have to be reduced. Private land ownership and the socially elite and financially prohibitive costs of contemporary sailing and powerboat culture on the Lake should not be given absolute precedence by any means.

Another major barrier is the relative lack of long-term thinking and planning in our society. Whether marching to the quarterly imperatives of finance, or the just-in-time immediacy of neoliberal economics, most of our institutions and corporations in the Lake Ontario watershed fail to make any real commitment to future generations beyond lip service. If anything, their 'real commitment' to the future often takes the form of doing their utmost to make any

course-corrections off of our omnicidal trajectory impossible. Here, the Seven Generations principle-- truly indigenous to this watershed and potent in its common sense-- can and should be codified in our legal systems. While the future is unknowable, we do have the ability to collectively piece together and understand the past seven generations' experience in this watershed. This alone should move us all to make sweeping improvements, notwithstanding the climatic Sword of Damocles dangling over our heads that is sure to fall on our posterity.

Thirdly, while some progress has been made, Lake Ontario will not simply clean itself. The list of outstanding toxic and hazardous waste sites dotting the Lake's shores awaiting effective remediation is appalling and far too long. There is no way of addressing this without a massive increase in funding and regulatory powers over economic activity which protect and uphold our watery commons. Torontonians should not fear swimming at their city's beaches following every significant rainfall due to a disgustingly outdated combined sewer and storm drain overflow system. Someday, Hamiltonians should not have to fear falling into their harbour. People in Rochester need safe, lead-free drinking water guaranteed. None of us should have to be concerned about the baby boomer-aged nuclear reactors we live downwind of. There is a huge list of expensive, but eminently solvable problems that impact water quality; many of which could provide millions of people with stable, union jobs addressing and remediating our energy, transportation, residential and commercial infrastructure.

There is also a more elusive cultural, or perhaps spiritual element here. We need to acculturate ourselves and our neighbours towards some kind of 'water ethic' alongside the 'land ethic' which Aldo Leopold put forward decades ago. This is a tough one, but it is as necessary as anything else. In such secular times, when many are deserting old faiths, it is easy to lose touch with the sublime and awesome nature of water and how utterly essential it is for all life as we

know it, especially any kind of life we might call ‘good.’ I would submit that if there is anything in this life that merits some kind of worship, water has to be near the top of the list. However, I yield this one to the artists, writers, philosophers, and theologians.

As literary scholar Victoria Brehm puts it in discussing Great Lakes literature; the Great Lakes remind us of “... our frailty in the face of nature, and our fear” while each lake is overwhelmingly depicted as ‘a presence bent on destruction’ or as part of a “myth of conquest limited by technology” (Brehm 1998). I think in our present moment, it is time to dispel that myth forever, and reconsider Lake Ontario as not only a place of death but open our eyes to how much it is a place of life! For despite the two-century beating imposed on it by settler-colonial capitalism, it remains so full of living things, and makes life beyond its shores all the more lush and vibrant. And as the Irish revolutionary poet Terence MacSwiney once said, ‘victory will come not to those who can inflict the most, but to those who can endure the most.” Without a doubt, Lake Ontario as an ecosystem, the Indigenous cultures and laws indelibly present here, and a large portion of the post-industrial settler and immigrant population in the watershed have endured a great deal. All of us who call the Lake Ontario watershed home share a profound responsibility to care for this Lake-- and each other-- if it is to be a safe harbour for the many in the turbulent decades to come.

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Fig. 2: 'GOODLAND' (2007) Artwork by Christi Belcourt. www.christibelcourt.com/water/goodland

Fig. 3: 'Lake Ontario Fact Sheet' (2012) from the Michigan Sea Grant