

The Hydrogeography of Mourning: Mapping the Life and Loss of Alberta Wetlands

John Neufeld

A Thesis

in

The Department

of

Sociology and Anthropology

Presented in Partial Fulfillment of the Requirements for the Degree of Master of Arts

(Anthropology) at Concordia University

Montreal, Quebec, Canada

August 2023

©John Neufeld

CONCORDIA UNIVERSITY
School of Graduate Studies

This is to certify that the thesis prepared

By: John Neufeld

Entitled: The Hydrogeography of Mourning: Mapping the Life and Loss of Alberta Wetlands
and submitted in partial fulfillment of the requirements for the degree of

Master of Arts (Anthropology)

complies with the regulations of the University and meets the accepted standards with
respect to originality and quality.

Signed by the final examining committee:

Chair
Dr. Julie Soleil Archambault, Department of Sociology and Anthropology

Examiner
Dr. Theresa Arriola, Department of Sociology and Anthropology

Examiner
Dr. Mark Watson, Department of Sociology and Anthropology

Supervisor
Dr. Kregg Hetherington, Department of Sociology and Anthropology

Approved by:

Dr. Kregg Hetherington, Graduate Program Director

Dr. Pascale Sicotte, Dean of Arts and Science

Date: August 24, 2023

Abstract

The Hydrogeography of Mourning: Mapping the Life and Loss of Alberta Wetlands

John Neufeld

In Alberta, 60-70 percent of wetlands have disappeared (Alberta Government, 2013, September 1). While this figure is used to quantify wetland loss in the province, it does not reflect the experiences of those emotionally impacted by such loss. Using Davidson and Milligan's concept of emotional geography (2004) this thesis will explore grief in relation to wetlands within Alberta's North Saskatchewan Watershed through the accounts and observations of some who inhabit the watershed and have been impacted by its transformation. Mapping the life and loss of wetlands is not a matter of locating geographical markers, rather it uses grief as a point of departure by making present the material, sensory, and emotional entanglements with wetlands, which then open to deeper research and analysis about wetland loss as part of Alberta's settler history and ongoing economic development. For many who grew up on the Prairies, or who have spent a considerable amount of time with wetlands, grief is not only a response to their material loss, but rather a response to a disruption of one's sense of being and place. Through the use of landscape ethnography and phenomenology as both a methodological and theoretical approach I examine the ways in which wetlands are not just backdrops to past experiences, but become part of living memory shaped in relation to kinship, home, and cultural politics. The North Saskatchewan Watershed is therefore a conceptual frame for imagining an emotional *hydrogeography*, one where wetland loss exposes a certain vulnerability in *Being-with-wetlands*, and in *Being-without* them.

Acknowledgements

I would like to thank the Department of Sociology and Anthropology at Concordia University for providing us with the education and training that has contributed significantly to the development of my skills in ethnographic fieldwork and writing. A special heartfelt thank you to my supervisor Kregg Hetherington whose support and patience during the writing process has greatly contributed to the successful completion of my MA thesis. I am also grateful to have the opportunity to work alongside Kregg as Project Coordinator for Montreal Waterways, and to be part of a brilliant community of students from the Concordia Ethnography Lab who continuously inspire me.

Lastly, to my cousins Deanna and Darren, my uncle Doug and auntie Sandy, thank you for your endless love and support, and for giving me a home to go back to in Alberta. Without you, none of this would have been possible. I therefore dedicate this work to you.

Table of Contents

| | |
|---|----|
| List of Figures | vi |
| Introduction | 1 |
| Chapter 1: Life on the Edge(s) | 18 |
| The History and Political Economy of Wetland Drainage | 24 |
| Family, Farming, and Ephemerality | 24 |
| Putting in the Work—of Mourning | 32 |
| Conclusion | 37 |
| Chapter 2 : Ungrievable Water(s) | 38 |
| Wetland Politics: The Gaps and Grey Zones in Alberta’s Water Resource Strategy..... | 50 |
| Queer Relations and the Ethical Responsibility to Protect Wetlands. | 57 |
| Conclusion | 64 |
| Chapter 3: The Sound of Water | 65 |
| Conclusion | 84 |
| Conclusion | 85 |
| Bibliography | 89 |

List of Figures

| | |
|--|----|
| Fig. 1 Map of North Saskatchewan Watershed | 7 |
| Fig. 2 Example of the water resource management structure in Alberta | 53 |

Introduction

For some, this is where it begins, and for others where it ends. These beginnings and endings do not happen only in chronological order. Rather, they are made and remade in memories, emotions, and relations with wetlands in an area of Alberta becoming ever more dry. I have spent much time reflecting on wetlands and why they have an effect on me, becoming an object of grief and sparking a desire to understand why they disappear in ways that often go unnoticed. Wetlands, like grief, are ephemeral. Their presence is unpredictable, misunderstood, and expose a vulnerability that is shared in life and loss. They are situated in specific locations, yet they are embodied, allowing me to go back to the prairies, if only in memory, bringing to the surface the relationships between wetlands and grief through my experiences and those of others, both human and non-human. Derrida argues that friendships or love are predicated on the possibility of loss and with it comes a responsibility to care for those objects of our affection in life and to remember them in death (Brault, Naas & Derrida 2001). This is a “work of mourning”, but perhaps not only mine. These watery worlds of beginnings and endings, of comings and goings, seep into the landscape, and into beings, in ways that support life and offer meanings for belonging to, and of becoming with wetlands.

(Fieldnotes, October 13th, 2021)

I grew up in central Alberta surrounded by wetlands. The topography where my small rural town is situated, and where my extended family still remain, is part of what is called the Prairie Pothole region, a geographical area of 780,000 square kilometers that stretches from as far as the Dakotas, through the southern prairie regions of Manitoba, Saskatchewan, and lastly Alberta (Mitsch and Gosselin, 2007, p. 63), where it borders the boreal region north of Edmonton, Alberta's capital. This vast area was formed by glacial movement during the Pleistocene, which left a dotted landscape of shallow watery pools that are mostly ephemeral given the distinctive seasonal and weather cycles; this also makes them an important habitat for 50 to 75 percent of all waterfowl in North America (p. 63). These prairie potholes vary in size, and their water levels change with each passing season, attracting migratory birds and other animals who seek them out, making them an integral part of prairie ecology.

For me and other prairie kids, wetlands were also sites of play and discovery. In the winter I often played hockey on a prairie pothole located in the south field next to my family home with my brothers and kids from the neighbouring farm. I was not a big hockey fan like my father and brothers, even though I played on a team until the age of eighteen. But growing up in 1980s and 90s, deep in Alberta farming country, there were not many options in terms of recreational activities. Except of course exploring wetlands, which has left a profound and long lasting impression on me.

In the spring, a small section of forest located behind our house would often flood after the snow melted, making it a perfect place to collect frog eggs and tadpoles. My cousin and I would try to gage the flood levels by the young aspen poplar on the periphery of the forest, but often found ourselves knee-deep in stagnant water that had a sweet earthy smell, like cold steeped tea that came from the decaying leaves on the forest floor, giving the water a dark golden tan color. I still remember that cold wet slog back to the house before sunset; our teeth chattering; laughing at each other as our rubber boots made farting sounds with each step; the smell of swampy water steaming off our clothes and skin.

Out of all the wetlands, the one in the field on the opposite side of a quarter-mile long treeline of tall spruce bordering our property is where I spent much of my time in the summer months. It was a heavily wooded area that curved through the lower contours of the land along the dirt road. Water levels here were relatively stable throughout the year, likely made possible by the resident beavers who played their part in shaping this watery world for themselves and the other

plants and animals which depended on it. In early spring I collected pussy willows that grew in abundance near a large metal culvert that allowed water to flow on either side of the road, flows that the beavers continuously tried to thwart by constructing dams at the culvert's entry or exit. When off from school for the summer, my cousin and I would often pack food and a few other essentials before heading to this forested wetland, spending the whole day making forts. From there we would leave our backpacks and shoes behind before setting out to explore the area, walking barefoot on fallen trees that formed a maze across the swampy water bright green with algae, all the while pretending to be river otters. Sometimes the beaver would sometimes surprise us by slapping its large paddle-like tail on the surface of the water, the sound echoing through the trees.

My family moved to town and away from the surrounding wetlands three years after my father's sudden death in 1987. It was around this time when I began to spend most of my weekends and summers on my uncle and aunt's farm, no more than five miles from our old house. Their one-hundred and sixty acre property is divided in two by a wetland creek system running through it. Here I spent a considerable amount of my early adolescence wandering along the banks of the creek. It felt familiar to me, the smell of the water thick with algae, the sights of aspen poplar, willow, and dogwood, and from time to time the echo of the beaver's tail hitting the surface of the water just before nightfall.

The creek is a place that I return to year after year, and where I return to now, because out of all the wetlands that I have intimately known, it is the only one that remains. Those near what was once my family home where I spent a considerable amount of time during my most formative years have long disappeared, the forested areas clear cut and the wetlands drained or filled mainly for reasons of agricultural expansion. I still remember quite vividly the day my aunt and I drove past my old house and the treeline, only to see an open field without a trace that a forest or wetland ever existed except for a narrow channel of tall grass in the lower contours where some moisture still remained. The sense of loss that I felt that day has stayed with me, and since then I have spent a considerable amount of time reflecting on why wetlands have disappeared so rapidly in Alberta, and to consider more seriously not only the broader ecological and hydrological impacts of such loss, but also the emotional and affective residues that linger in the absence of wetlands which I have come to understand as grief related to one's sense of being and place.



Of what remains of the forested wetland. Photo by author, October 9th, 2021.

When thinking about grief in relation to home and wetlands, I do not consider them as separate from each other. They overlap, giving shape to a place, history, and a landscape, which are not only an integral part of my sense of identity and belonging, together they encompass what Davidson and Milligan introduce as an *emotional geography* (2004). Inspired by the work of Davidson et al. (2005), Kearney defines emotional geography as “one that charts the sensory and affective qualities of place as shown in the character, arrangement and interrelations of place and such elements as people and heritage; as made up of oral traditions, relationships and kinship, moral obligations, narratives, daily lives and ritual performance” (Kearney, 2011, p. 2011). While Kearney uses this definition in order to ground her research with the Yanyuawa from the southwest Gulf of Carpentaria in northern Australia, and their affective relationship to homeland, I by no means want to draw a comparison to the experience of the Yanyuawa people. Instead, the experiences of those I include here, including my own, are specific to a particular geographic location in Alberta, or perhaps a hydrological one, where grief in relation to the loss of wetlands is not only a response to the material absence of these ecosystems from the landscape, it is also grief that is inseparable from, or compounded by, *matters* of home, kinship, and cultural and environmental politics.

Having returned to the farm as my “home base” during my fieldwork, it seemed at first, given the circumstances of the pandemic, that the wetland creek system running through it would be the only accessible material object that would allow me to locate grief, even if it was just my own. In the first few days I spent considerable amount of time just sitting with this place, on the edge of the water in the tall grass, jotting down notes about my observations, mixed with reflections about the past and future of the creek and my place in it. It is for this reason that I chose a phenomenological approach as it is both theoretical and methodological, and since it offers a way to observe landscape as both a material and embodied experience, which are not separate from each other; rather they are in constant communication, requiring a state of presence or awareness in order to translate such relations into something meaningful. “Phenomenology is a matter of describing, not of explaining or analysing” (Merleau-Ponty, 1962, p. viii; as referenced by Neimanis 2017, p. 41); “it is achieved through a one’s direct experience as it is” (p. vii; p.41). Tilley describes phenomenology as “a style or manner of thought rather than a set of doctrines, rules or procedures that may be followed, a way of Being in the world and a way of thinking with it” (Tilley, 2004, p.1). It enabled a sense of ethnographic freedom despite the restrictions imposed by the COVID-19 pandemic, allowing me to attune myself to this wetland creek system that is connected to other beings and places by a common watershed.

Situating oneself in relation to place is largely about asking questions. Where am I? How did I get here? And, where am I going? These are questions I asked myself in the presence of the creek in those initial days of fieldwork. It is much like trying to find that pin on a map tagged with, “You are Here,” which offers a starting point in relation to a broader or shared landscape. But how do we situate ourselves in relation to bodies of water such as wetlands? “Situating water requires that we become more aware of the daily practices and repeated encounters through which we locate ourselves in relation to water” (Chen et al., 2013, p.8). From a phenomenological perspective, to situate oneself is analogous to orientation, which is way of “turn[ing] [the body] towards certain objects, those that help us find our way” (Ahmed, 2006, p.1). Bodily sensory experience should not be mistaken for passive affectivity, rather it is a matter of attention that moves us toward or away from certain material objects or situations (Landes, 2012, p.xxxvi). For Merleau-Ponty,

reflexes themselves are never blind processes: they adjust to the “sense” of the situation, they express our orientation toward a “behavioral milieu” just as they

express the action of the “geographical milieu” upon us. They trace out, from a distance, the structure of the object without waiting for its punctual stimulations. This global presence of the situation gives the partial stimuli a sense and makes them count, stand out, or exist for the organism. The reflex does not result from objective stimuli, it turns towards them, it invests them with a sense that they did not have when taken one by one or as physical agents, a sense that they only have when taken as a situation. The reflex causes them to exist as a situation; it establishes a “knowledge relation” with them, that is, it points to them as what is destined to encounter. (Merleau-Ponty, 2012, p. 81).

Given Merleau-Ponty’s phenomenological perspective on perception based on the sensory situation from which it surfaces, it is possible to move away from an idea of unidirectional object oriented materialism as stimulus for subjective experience. Rather, phenomenological perception is both reciprocal and participatory (Abram 1996). Situating oneself then becomes not only a matter of orientation in relation to a certain place or object like a wetland for example, it is acknowledging that lived geographies, temporalities and emotion are very much part of a perceptual present. To say it more simply, if phenomenology is based on describing direct experience within a perceptual field, this experience is dependent on the situation from which it arises.

Along with grief, my research has been motivated largely by a troubling statistic which can be found in the Alberta Wetland Policy (Alberta Government, 2013, September 1), which states that 60-70 percent of wetlands have been lost in the province of Alberta. This led me to ask not only why or how wetlands disappear, but to think more seriously about the material and affective qualities that wetlands have on others, in so much that their loss generates an emotional response of grief or mourning. With such a high percentage of wetland loss there were bound to be others with similar experiences and stories like my own, which often go untold or cannot be translated into quantifiable data on the socioecological impacts of biodiversity loss. How then does one go about conducting research on grief that is specific to wetlands in a province like Alberta, given its sheer geographical scale and diverse topographies unique to its six bioregions, each with their own social and hydrological realities? Realities that are largely dominated by Alberta’s political economy which holds a substantive claim to natural resources, and prioritizes industries of extraction including oil and gas, mining, forestry, and agriculture, all of which have had a profound impact on wetlands and water availability in the province.

In order to locate grief in relation to wetlands that is potentially shared by others within a localised area of Alberta, it proved useful to define my field site more precisely in order to avoid sweeping statements or generalities given the province's diverse topography and hydrological pressures from north to south. For this reason, I decided to concentrate my field research within the North Saskatchewan Watershed (NSW). The NSW is one of seven main watersheds in Alberta and is further divided into twelve sub-watersheds or basins, each governed and managed by various levels of government, making it difficult at times to determine which wetlands, whose water, falls under what jurisdiction. The North Saskatchewan River is central to the NSW, with its flows beginning in the Rocky Mountain glaciers which melt into headwaters that join with other lakes, rivers, and tributaries. It moves across the prairies, through the Edmonton River Valley, past the Saskatchewan and Manitoba borders, and eventually spills into the Hudson Bay. This river is also central to Treaty Six territory and was used as passage by First Nations long before it became a main trade route to the Hudson Bay Company during colonial settlement in Canada (Newton 2017). Now, the NSW is the most populous of all the watersheds in the province, putting immense pressures on maintaining biodiversity in the region due to agriculture, urban development, and the exploitation of oil and gas (North Saskatchewan Watershed Alliance 2012).

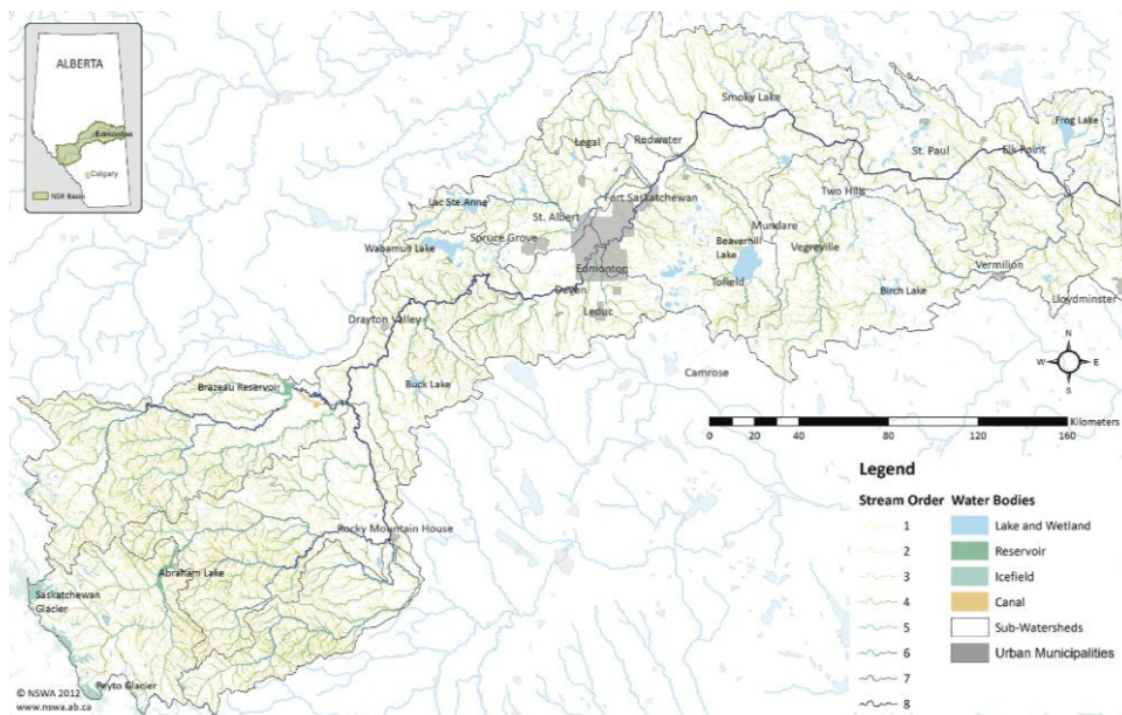


Fig. 1 Map of North Saskatchewan Watershed (North Saskatchewan Watershed Alliance, 2012, p. 6)

Rather than be restricted by human-determined boundaries that are used to map political jurisdictions for the purpose of water and watershed management, the NSW provides a way to situate histories, memories, and emotion in relation to wetlands. As a geographical location—or perhaps more fittingly, a hydrological one, the NSW not only situates myself and the other actors herein, it offers the potential to think more seriously about how our stories and experiences with grief in relation to wetlands are connected by a common watershed. I largely owe credit to the scholarship of Chen et al. (2013), Strang (2014), and Neimanis (2017), who have expanded on the phenomenological work of Merleau-Ponty by looking at material and affective relationships with water, which vary depending on the cultural context from which they arise. These scholars have helped me find my way by “thinking with water,” not as an abstract generality, rather as a way of bringing forward the material and relational quality of water, to which all living beings are bound by the very composition of our bodies. Their work also offers a pathway to thinking more seriously about how my relationship with wetlands and grief is “knotted together” (Haraway 2008) with those of others within a “more-than-human hydrocommons” (Neimanis, 2017, p. 2), one that I have come to think of, and *with*, as an emotional *hydrogeography*.

The NSW is not only a field site, it offers an opportunity to “think with water” by using the watershed as a theoretical and methodological frame for water related research. Orlove and Canton (2010) explain that more recently the watershed concept has been taken up by various levels of government and organizations as a paradigm for water resource management or sustainable development (p. 406). “The notion of watershed tends to go hand-in-hand with the notions of stakeholder, understood as the residents, property holders, and public bodies within the boundaries of the watershed, all of whom, presumably, seek to assure sustainable water use because of their commitments to the watershed” (p. 407). What Orlove and Canton make clear is that such a paradigm may be interpreted as a hegemonic one when used for the purpose of resource management or environmental policy making that reduces water to material property or chemical composition. These “dominant ways of knowing water” (Linton, 2010, p.14) ignore the relational or social potential of water, making it what Linton (2010) describes as “modern water.” When the watershed is used as metaphor or site for water resource management or environmental restoration it can take on spatial and temporal continuities of modernity (Linton 2010; Trombley 2018), and “fails to effectively address the ongoing violence that causes ecological harm” (Trombley, 2018, p.108) as result of ongoing colonial capitalism. As I will argue in chapter 2, a watershed model

that reduces water to an economic resource denies its relational qualities, consequently making water(s) ungrievable.

In order to map an emotional hydrogeography pertaining to grief in relation to wetlands, the NSW provides a useful methodological pathway since it serves as a connective element between a multiplicity of water related worlds in that it clearly frames the contrast between the personal and the institutional ways of water management. Hastrup and Hasstrup (2016) show how water as an “anthropological object in a fluid environment” provides a way to ethnographically observe and analyse how “waterworlds” are made or unmade through socioecological relations. My ability to map these worlds of material and emotional entanglements within the NSW is greatly inspired by the ethnographic work in Laura Ogden’s *Swamplife* (2011) and her use of “landscape ethnography” as a “practice of reintroducing and reinscribing the human back into the multispecies collective while at the same time being attuned to the politics of asymmetrical relations” (Ogden, 2011, p.29). In her ethnographic exploration of the Florida Everglades, Ogden builds on the philosophical work of Deleuze and Guattari who consider such relations as integral to the emergence of “world-making” and use the metaphor of the rhizome to map different, yet collective, assemblages (p.29 and p.31).

Ogden (2011), along with Hastrup and Hastrup (2016), provide productive ways of engaging with watersheds as an anthropological object that makes visible the relational and interconnected qualities of “waterworlds”, which can be productive when conducting landscape ethnography within a localized geographic area. In addition, such an approach is useful in acknowledging the broader issues concerning climate change, biodiversity loss, and capitalism which transform landscapes and the relationship that beings have with them. According to Tsing et al., “the multi-dimensional crises of our times calls for an anthropology [] that takes landscapes as its starting point and that attunes itself to the structural synchronicities between ecology, capital, and the human and more-than-human histories through which uneven landscapes are made and remade (Tsing et al, 2019, p.186). The concept of the “patchy Anthropocene” which Tsing et al. propose serves as response to the fast growing scholarship dedicated to the Anthropocene concept since its introduction into mainstream academia at the turn of the twenty-first century by Crutzen and Stoermer (2000) as a novel geological era of a human making. For the discipline of anthropology, the arrival of the Anthropocene as a conceptual frame has been both a blessing and a curse (Latour 2014), in that “it places human agency at the centre of attention” (Latour, 2014,

p.37), while at the same it is problematic as “it further unsettles the relationship between nature and culture, humans and nonhumans” (Hetherington, 2019, p.4). A problem that anthropology has long grappled with and made efforts to overcome.

Since the Anthropocene can be a conceptually slippery term that groups many things together into a seemingly homogenous whole, some scholars have critically responded by finding ways of making the Anthropocene more tenable by spatially, temporally, and relationally situating it at a localized scale, thus making it observable (Moore 2015, Chandler & Pugh, Tsing et al. 2019). Therefore in order to conduct “landscape ethnography” as defined by Ogden, a “patchy Anthropocene” offers what Tsing et al. (2019) describes as “landscape structure” making the Anthropocene comprehensible, at least at a local level, and bringing to the surface broader geological issues that can be written about ethnographically. More importantly, as it relates to the phenomenological approach I embrace here, landscape structures can be used as “phenomenological markers” which “catch our attention as form coming into being. A phenomenological attunement to landscape forms and as to beings-in-landscape allows multispecies histories to come into view” (Tsing et al., 2019, p. 187). What is evident in the chapters that follow is that wetlands offer such phenomenological possibilities and allow for a more localised or vernacular understanding of planetary change.

Similar to Ogden’s approach in *Swamplife*, each of the three chapters within my thesis represent different wetlands as worlds of relations within a collective watershed. In my analysis I do not classify or categorize wetlands. What I have learnt from my time studying wetlands is that creating such classifications has a tendency to devalue some wetlands while privileging others. Whether it be a creek, marsh, swamp, fen, open water wetland, or prairie pothole, what I have come to understand is that knowing wetlands is dependent on a great number of social and ecological factors. Thinking with wetlands here, and in the chapters that follow, is a matter of respecting water bodies without boundaries. Those deserving of as much care and dignity as the human or nonhuman bodies who are also, for the most part, composed of water from the watershed to which they belong (Neinamis 2017). Despite the differences in approaches and the perspectives offered by the actors in each of the chapters, what they ultimately demonstrate is how grief in relation to the life and loss of wetlands is intimately connected to *sensing*, and having a *sense of*, being and place (Feld & Basso 1996). The NSW in Alberta has provided a way to spatially and temporally map such grief by exploring the material and affective qualities of wetlands as worlds

embedded and embodied with emotion, and tensions, associated to politics of belonging—including perceptions of home, kinship, and responsibility—and expose the shared vulnerabilities linked to wetland loss and climate change.

I began this ethnographic journey by first introducing my own story of grief in relation to wetlands, but what follows is not a completely autoethnographic one. During two and half months of fieldwork in Alberta I had the opportunity to meet people from various walks of life, including industrial farmers, individuals working for organizations dedicated to wetland or watershed management and stewardship, and others with a desire to share their own stories related to grief and wetland loss within the NSW. Due to the COVID-19 pandemic many of these encounters happened online over Zoom. However, in terms of ethnographic content, most of it came from direct encounters with people, places and other beings that are part of this shared watershed. My own experience and positionality as someone from this place, and my return as a queer scholar and anthropologist concerned about wetland loss, offered me a certain fluidity that enabled me to move across certain boundaries, some of a rather conservative, heteronormative and patriarchal nature. As such, accessing these worlds revealed the contradictions inherent in the division between outsider and insider, or culture and nature. It also revealed the vulnerabilities to which Beings, both human and nonhuman, are exposed to as a consequence of political or ontological dominance. Locating or mapping grief then is a way of dissolving these boundaries, of taking more seriously the relational qualities of water, and of thinking with water as a source for “new ecologies” (Neimanis 2017) and for imagining more ethical futures.

Chapter 1: Life on the Edge(s)

Much can be revealed in two hours of acute observation, and often we see so little. To stand in a silent, abandoned place where vibrancy once was, you cannot help but hear the voices and see the movement of shadows. You cannot help but become what you feel. And you cannot but feel the majesty of each soul facing its great adventure, as it steps into the unknown it has chosen for itself.

Empire of Dust, David C. Jones

The trees and vegetation along the creek are much denser than I remembered, especially on the east side where I spent much of my early adolescence. Pushing through the bush of tangled branches and fallen trees, I was on a mission to retrace some steps and reacquaint myself with this creek system and its edges. Riparian areas consist of that overlapping space where land and water converge, creating a buffer of vegetation with the potential to support, maintain, and enhance biodiversity. It makes it also a place of childhood wonder and sensory discovery. There was an awkwardness in my movements that I can only equate to my size and dexterity compared to what it was when I first started wandering this area some 30 years ago. But the familiar smell of the creek's organic matter in different stages of life and decay stirred up emotions and memories of home.

When I told my uncle over coffee about the difficulties I had trekking through the bush, he nodded his head, “we’re going to get some cows in here soon,” he said, “they’ll help clean things up.” My uncle never had more than fifty head of cattle which had free access to water from the creek for most of the year except for the winter when it froze over with a thick layer of ice. It had been more than 10 years since they had cattle on the farm. After his retirement, my uncle built a stable and large riding arena, focusing his attention on horses and renting boarding space to local riders. With the absence of cattle, many of the trails and spaces that the cows carved through along the forested edges of the creek were being reclaimed by young aspen poplar that grow rather quickly when undisturbed. Willow and tall grasses had returned where hooves once cut deep into the soft black soil along the banks, creating mangled puddles of cow urine and dung.

During my fieldwork, I did not stay with my uncle and aunt as I used to. Technically I was still on the farm, but just on the opposite side of the creek where I stayed with my cousin Deanna and her husband Darren. It felt new to me, but not completely foreign. I could still easily walk to the other side in a matter of minutes by taking the dirt road and crossing the bridge that the beaver dams up each year, despite the frustrated efforts by the county to keep it open in order to protect its road infrastructure. Each time I pass I take a moment to peek over the side of the bridge to see if the dam is still there or not, giving me comfort to see the water held in place and imagine it sinking into the landscape, even though it’s only temporary. It felt good getting reacquainted with this place and the rhythms I had lost touch with after so many years living in Montreal.

A giant white spruce had fallen on the west side of the creek after a severe storm in June. Of all the trees, it was the one that Darren used for his tree stand, a ladder system with a perch used for hunting deer. With the weather on our side we agreed over breakfast that it would be a good day to cut up the tree for firewood and see if the stand was salvageable. The mature white spruce was approximately twenty meters in length, and given the tree’s thick trunk, torn from its rooted base, it would provide about a third of the wood needed for the winter. Darren fired the chainsaw after three quick pulls of the starter cord and began to cut away the branches. The smell of spruce and exhaust from the chainsaw filled the air, and sawdust flew over Deanna and I as we began to drag branches out of the way. We made two large piles at a good enough distance so we could easily move around the fallen tree and start chucking logs onto the trailer. Unfortunately for Darren, the tree stand was a total loss.

In our way stood a dead birch tree, or what remained of one anyway. I gave it a push with my gloved hand already sticky with tree sap, and could feel and hear a small pop below my feet at the root of the tree. With two or three back and forth motions I took the rest of the dead tree down and almost went down with it after losing my footing. Deanna laughed, and over the sound of the screaming chainsaw she yells, “Johnny the tree pusher! You just couldn’t help it could you?”

The conversation I had with my uncle over coffee about “cleaning up the bush” and my cousin calling me a “tree pusher”, a nickname I had otherwise forgotten until then, made me reflect on my early experiences with this place. According to Ingold, “to perceive the landscape is therefore to carry out an act of remembrance, and remembering is not so much a matter of calling up an internal image, stored in the mind, as of engaging perceptually with an environment that is itself pregnant with the past” (Ingold, 1993, p.152-153). In my youth, the creek was a place of solitude and freedom. It allowed me to escape the challenges I was experiencing from the loss of my father to the closeting of my sexuality, which I often did alone, but in the company of this wetland and the life and death it embodied. These were moments of retreat where walking the edges of the creek involved scouting lifeless trees so weathered and rotten they could easily be pushed to the ground. First, I would test the tree by giving it a push with my two hands, and if it pushed back I would pull it into me. Back and forth the tree would start swaying, gaining momentum as I pushed and pulled until it finally gave way, hitting the earth with a deep hollow thud and breaking into pieces. From there, I would clear the area of any deadfall, some of it so wet and rotten that it would crumble in my hands, releasing a woody mushroom-like smell. From where the falling tree lay I would begin gathering other fallen trees, forming large piles of broken logs and branches that we would burn during the winter melt.

I do not have answers as to why this task of “clearing” or “cleaning” these areas along the creek of dead matter became so important to me. There is likely a way of psychoanalysing such a practice, but that goes beyond what I am capable of and what I am trying to achieve here. What I do know is that my return to the farm, this wetland, and participating in the everyday rhythm and happenings of this place has stirred up memories and emotions, which lead me to ask, what is home? Is it the house in the country where my family once lived? Is it the farm? My father? Wetlands? Or, is it a sensorial and emotional relationship between all these objects that allow me to understand the world, at least this small corner, and my place in it? These questions about home or how it is perceived is perhaps *the* most important aspect of my ethnographic research as they

have served as the foundation of how I have come reflect and to interpret grief in relation to wetlands through the phenomenological theory of ‘dwelling’.

While my research approach is a multidisciplinary one, it is rooted in the phenomenological work of Martin Heidegger, whose philosophical theory of dwelling influenced important scholarship in the fields of anthropology, human geography, and cultural geography (Basso 1996; Ingold 1993, 2011; Harrison 2007; Cloke & Jones 2001; Ash & Simpson 2016). According to philosopher Jeff Malpas, Heidegger’s idea of dwelling refers to “the way in which *situatedness* in the world is indeed something that cannot be separated from what we are and what is closest to us, from that which is most familiar and with which we are already engaged” (Malpas, 2008, p. 75; emphasis added). What is important to understand here, is that dwelling is both a noun and a verb. It is “bound to place” (p. 273)—whether it be a home, landscape, or wetland—and at the same time it is the way in which we attend to it, or care for it, which Heidegger refers to as “sparing” or “preserving” as the “fundamental character of dwelling” (Heidegger, 2001, p. 147).

More importantly, given the context of grief, dwelling is part of an awareness of our own mortality or the inevitability of death. “To be mortal is always to give over to care for one’s being, and also for the things and the world with which that being is inextricably bound up; it is to be constantly faced by the fragility, the vulnerability, and the essential “temporality” of that about which we care and which we are committed” (Malpas, 2008, p. 272). Having spent a considerable amount of time with wetlands in the past, and more recently during my fieldwork, my hope is to show how wetlands as *dwelling places* make present the shared vulnerabilities as consequence of wetland loss, and how their death can help better understand our own and that of countless other species in a time of exponential loss and extinction.

The “dwelling perspective” I am interested in here, and most critical of, is the one brought forward by Ingold (1993), whereby landscape is not a given, but rather it is mutually made or built through ongoing activities and interactions over time, and within it contains a temporal record of dwelling. What is important to understand is that Heidegger’s emphasis on building does not suggest that it is “a means and a way towards dwelling,” but rather, “to build is in itself already to dwell” (Heidegger, 2001, p.144). For Ingold, landscape is more than just space or a field of perception, there is also a social and technical aspect to its becoming, an “ensemble” or “array of related activities,” one that he refers to as a *taskscape* (Ingold, 1993, p.158). What Ingold attempts to convey with his interpretation of landscape is that it is not simply a representation of an outside

space, but a relational one where humans are deeply embedded both physically and culturally with others both animate and inanimate, which are all connected spatially and temporally through their activities or performances.

In the second half of Ingold's article, *The Temporality of Landscape* (1993), he takes the reader through a phenomenological exercise by asking them to situate or orient themselves within a painting titled *The Harvesters*, painted by Pieter Bruegel the Elder in 1565. The exercise asks the reader to pay closer attention to the objects in the painting—the hills and valley, the paths and tracks, the tree, the corn, the church, and the people—and think about these objects not as a static image of a particular moment in time, but instead to ask questions about the role or “task” these animate or inanimate objects have in shaping the landscape, and perceptions of dwelling over time and space.

To a certain extent, what I am trying to do here is bring forward a similar phenomenological exercise, but more of an ethnographic one, in order to convey how the subjective experience of grief in relation to wetlands is rooted in dwelling, which is essentially the ontological essence of Being—as is grief (Shariatinia 2015). The performative aspect of dwelling in which Ingold focuses on in the article being discussed is relevant to my own analysis that I present in this chapter, but it is one that I acknowledge rather than go into extensive theoretical detail about. “Performativity and embodied practice each provide valuable resources to interpret the ways in which individuals may adjust the significance of things; they also assist in the focusing of attention on the mechanism, and their potentiality, through which spacing may work” (Crouch, 2003, p.1958). Rather than performativity, I instead focus on dwelling and grief as a matter of what Heidegger refers to as “presencing” as an act of “sparing” or “preserving” (2001), which emerge in relation to place or other beings (Malpas, 2008, p.13). For Heidegger, dwelling and preserving are synonymous to each other which involve presence and “staying with things” (p.149), which speaks to a certain responsibility, or response-ability (Haraway 2016), that is integral to matters dwelling and of grief as a mutual and ongoing process of becoming.

At the beginning of this chapter I have attempted to set the scene, much like Ingold did by using a painting in order to think of the performative and relational aspect of dwelling. What I am suggesting here is that the making and unmaking of wetlands, or their associated values, can also be attributed to performative and relational aspects of dwelling. While Ingold's phenomenological exercise attempts to situate the reader within the landscape depicted in a painting, I instead ask

you, the reader, to think beyond the imagery that I presented so far regarding my embeddedness with wetlands and my experiences with loss of these places. More specifically, what are the things or forces outside of the frame that we do not see that contribute to emotions of grief in relation to wetland loss? If such grief is a matter of perception, then what are the conditions that make such an experience emerge? I owe this mode of thinking and the questions asked here to the work of Sarah Ahmed (2006) who asks what interpretive possibilities can emerge by “bringing what is “behind” to the front” (p.4) and into view. According to Ahmed, “to queer phenomenology is to offer a different “slant” to the concept of orientation itself”(p.4). Queer Phenomenology has been influential in my theoretical and analytical approach, and I will unpack this in chapter 2 where I delve in deeper into my own positionality within this research.

In this chapter, I begin the work of bringing to the foreground that which has directly contributed to wetland loss in the province of Alberta since early settlement. To build on Ingold’s analogy of landscape as *taskscape*, one based on a composition of activities, is to move beyond an idealic or romanticised version as depicted in the painting *The Harvesters* and to think more critically and contemporarily about how modern agriculture has transformed landscapes. Particularly in the context of Alberta where wetland drainage for the purpose of agricultural expansion has contributed significantly to the political and economic development of the province. In bringing forward a “dwelling perspective,” Ingold’s approach perhaps fails to acknowledge that a dwelling perspective is not a homogenous one, and thus ignores the political, or even ontological, tensions that exist when there is a multiplicity of perspectives or perceptions of home and belonging within a shared landscape or watershed.

In order to understand why wetlands are drained or removed I felt it necessary to dig into the history of these practices and to also obtain the perspective of farmers themselves about their relationship with wetlands, and with their own farm. While there exists an obvious economic incentive for farmers to remove wetlands including increasing crop land and productivity, my aim with my encounters and interviews was to get below these economic, surface level decisions. Since my research objective is to map an emotional hydrogeography related to grief and wetland loss, it was important to capture the “dwelling perspective” of farmers, in order to move away from simply seeing farmers as a cause of wetland loss, and grief as an effect. Instead, I wanted to see if grief could serve as a bridge or the connective element in our perceptions of home, despite our differences. Haraway states that, “grief is a path to understanding shared living and dying; human

beings must grieve with, because we are in and of this fabric of undoing” (Haraway, 2016, p. 39). By situating ourselves and our grief within a shared watershed as I have attempted here with the North Saskatchewan Watershed (NSW), is to make present the hydrological assemblages that make it possible for a sense of dwelling to emerge, and the vulnerabilities when such assemblages are disrupted.

The History and Political Economy of Wetland Drainage

On the day I finally reached the fence line that separates my family’s property from the neighbouring cattle farm, I followed it through the bush down towards the creek. On either side of the barbed wire fence cow bones were randomly strewn about, the aged and weathered forms easily noticeable in the long dry grass. Cattle farmers often leave their dead animals at the furthest reaches of their property, knowing that coyotes would help in their disposal, some of which had dens along the edge of the creek, hidden underground amongst the thick willow and dogwood. I cannot recall being concerned about sharing this space with coyotes when I was younger, but while visiting Vancouver in the weeks prior to my stay in Alberta there were reports of repeated coyote attacks in Stanley Park. My partner in Montreal was so worried by the thought of me walking alone in the bush he sent me a YouTube video on “how to survive a rabid coyote attack” (How to Survive, June 2021) which my family found absolutely comical. However, I was not laughing when I stumbled into an area with multiple dens a few days back. Instead, I felt a surge of adrenaline that had me calling for Scout and Duke, the family dogs who were somewhere exploring nearby.

Just below the coyote dens the creek looked more like a large flood plain with tall green grass and needed to be navigated with careful footing since it is impossible to see if there is water beneath it. So I jabbed into the grass with my walking stick to ensure the ground is firm enough to support my weight and not saturated with water. Stepping onto an old fallen tree I balanced one foot in front of the other until I reached the edge of the creek at the end of the property. On the other side of the barbed wire fence hanging over a narrow channel, all that remained was a putrid pool of water on the neighbouring property, the ground around it rough and heavily compacted by cattle, void of native trees, tall grasses and willow

Looking out onto the open field at what seemed to be the end of the creek, I was reminded of the wetlands that I had witnessed disappear in the area largely due to agriculture, whether it be

cattle farming or industrial grain farming. Since I have often considered wetlands as objects of grief, it seemed logical to begin the research by getting to what I thought was the primary cause of wetland loss by examining agricultural expansion in Alberta dating back to its early settlement in the late 1800s.

Agrarian settlement on the prairies was set in motion by “common laws and statutes designed to maximize agricultural production by granting secure access rights for water withdrawal or diversions, thus easily allowing for wetland drainage” (Clare, 2013*a*, p.15). Most notably the Northwest Irrigation Act (1894) and the Drainage District Act (1921). Under the Northwest Irrigation Act water was constituted as property of the crown, which therefore required landowners to acquire permits or a licence before diverting water from their property. However, these requirements were not easily enforced by the federal government over such a large territory. And since wetlands were considered to be a hindrance or a nuisance to economic growth, private landowners were often able to manipulate or drain wetlands unabated (Clare, 2013*a*, p.16, original reference by Percy 1993). Today, there continues to be an unexplained reluctance to heavily regulate the agriculture industry and its impacts on wetlands compared to other industries, such as the oil and gas industry and in infrastructural development projects (interview, municipal government official in the department of Agricultural Services). This “turning of a blind eye” as one government official stated, means that much of the wetland loss that continues to take place on private land in Alberta largely goes unnoticed.

Like the Northwest Irrigation Act (1894), The Drainage District Act (1921) was another way of incentivising economic growth through established laws and governing bodies dedicated to the proper management of water and the improvement of agricultural land (Alberta Government, November 16, 2022). Drainage districts “provided an administrative infrastructure tailored to jurisdictional arrangements governing surface water in Alberta and Saskatchewan” (Studen Bower, 2011, p. 69). As a result, the Drainage District Act led to the establishment of nine drainage districts in Alberta which still exist today (Clare, 2013*a*, p. 19).

In her book *Wet Prairie* (2011), environmental historian Shannon Studen Bower explores the beginnings of agrarian settlement in Manitoba and the hydrological transformation of the prairies, which corresponds with a similar trajectory in Alberta and Saskatchewan. Studen Bower suggests that “drainage activities were a logical undertaking for a liberal state concerned with facilitating capital accumulation,” and in doing so identifies drainage as “part of the infrastructure

of settlement” (Studen Bower, 2011, p. 11-12). A key facet of liberal state ideology and the legal infrastructure that supports it is that of private property rooted in colonial and patriarchal logics of terra nullius which ultimately framed wetlands as “premodern wastelands”, an *aquaterra nullius* to be conquered in the name of progress (Giblett, 1996, p. xi and p.16, original emphasis). Wetland drainage therefore provided the legal and technological means that made it possible to exploit and manipulate water resources for the purpose of agrarian settlement, which led to the economic growth and development of the prairie provinces.

There are two main reasons that farmers in Alberta continue to take steps to drain or to infill wetlands on their property: increased crop productivity and increased operational efficiency (Clare et al. 2021; Cortus et al. 2011; Dias and Belcher 2015). “It’s expensive to buy land,” as one grain farmer named Ivan told me, “I could easily cut a ditch so that it drains in another location and it’s free land.” In a 2015 study by Dias and Bulcher, they outline cost benefits as important motivators for farmers to drain wetlands, particularly when water can be drained at a cost that is cheaper than buying new land. Draining wetlands is also a way of decreasing what is called “nuisance costs”. “Reductions in nuisance costs are the result of fewer turns with machinery, less waste of crop inputs, and, a reduced need to return to fields and seed low spots (Cortus et al., 2011, p.111, as referenced by Eidman 1997). While wetlands are not classified as a nuisance in Alberta’s Agricultural Pests Act like other animals, insects, or vegetation, the presence of permanent or ephemeral wetlands are considered to be nuisances within the agricultural industry primarily because they are seen as an obstruction to productivity and economic growth.

Any decision to remove or disturb wetlands on agricultural land carries with it a legal requirement to follow the regulatory procedures outlined in the province’s Water Act which serves as legal and administrative tool to enforce the Alberta Wetland Policy which I will dissect more thoroughly in chapter two. The Water Act and the Alberta Wetland Policy are used to grant permits to landowners based on an evaluative metric that attempts to calculate the social, ecological and economic value of wetlands and to determine which of these values take priority over the other. However, given the ambiguity of the wetland policy that more often prioritizes economic growth over wetland conservation, along with a failure by the Alberta government to regulate the agriculture industry or enforce penalties for non-compliance, wetland drainage by private landowners often takes place without any form of public consultation or required permits (Clare 2013b; Clare and Creed 2014; Weber et al., 2017).

Most farmers I encountered spoke rather openly about their farming practices, including wetland drainage or modification on their land. They also admitted that they had never heard about the Alberta Wetland Policy, and if even if they did, it never influenced their decision to drain or divert water from their property. When asked if environmental policy ever affects their farming practices, farmer Dave replied by saying, “the *environment* has been out here, but they can't police it all. They can't watch everybody, what everybody's doing.” Ivan, who I was only able to reach by phone from his tractor since he was rushing to finish fertilizing his fields with hydrogen based ammonia before winter, stated, “I fear the *environmental thing* will get worse.” I must clarify here that the “environmental thing” that this particular farmer referred to is not associated to climate change or biodiversity loss, rather he fears that governments in Canada may one day enforce more environmental regulations as has been done in some European countries. In either case, both farmers considered “the environment” to be more of a social threat rather than an ecological one that rests outside their property lines with the potential to affect their agricultural productivity or be an encroachment on their liberal freedoms.

I began to wonder if farmers see me, a gay guy from Montreal with feelings for wetlands, as a threat? Or maybe a nuisance? In my attempts to recruit farmers to participate in this study on wetland loss one local farmer told me, “farmers always get blamed for climate change”, and that “[I] should have been here last year when the fields were all flooded,” as if to say that I shouldn't be fooled by the extreme drought that was currently taking place in British Columbia and across the Prairies. It was true that this particular area of Alberta was experiencing opposing ends of a weather spectrum from one year to the next. In Edmonton, which geographically sits at the center of the province, and the North Saskatchewan Watershed, the precipitation average for the month of June is 74mm (weather-atlas.com). In June 2020 the region received 117mm, compared to 32mm in 2021 (currentresults.com); both far from the median average, causing grievances for farmers due to the loss of agricultural production. Grievances that are often in some way associated to the unpredictability of the weather. Even if there did exist a certain level of climate change denial amongst farmers (and my own family), many of whom wrote it off as “weather cycles”, there was still a perceptible concern about how unusually hot and dry it had been over the summer (2021) and into the fall.

It was never my intention to blame anyone about climate change, and though I could have argued that wetlands have a great ability of absorbing water, helping to mitigate against both

flooding and drought, or that they are natural carbon sinks (Mitsch and Gosselink. 2007), conversations with farmers were more productive when we concentrated on the economic rationale behind their agricultural practices. A rationality that is greatly influenced by local history, economics and cultural politics.

The drought Alberta was experiencing in the summer of 2021 was not a first for the province. Other periods of extreme drought have been historically recorded and are remembered, notably “the long catastrophe from 1917-1939” (Jones, 2002, p. xvii), another in 1984 which resulted in significant losses for farmers and great instability in newly globalized markets, and later in 2001, bringing with it a new era of disaster relief and insurance programs (Jones 2002). In 2021, insurance payouts to Canadian producers increased by 71.8 percent, totalling 5.9 billion dollars, with four-fifths of the payments allocated to the provinces of Alberta and Saskatchewan for drought related claims (Statistics Canada, November 28, 2022). While these insurance programs offer financial relief to farmers as compensation for agricultural losses due to natural disasters such as flooding or drought, there is reason to believe that such programs lead to further wetland degradation (Cortus et al., 2013). In a quantitative study, Cortus et al. explain when market prices and crop yields are high or stable over a twenty year period, farmers are less motivated to drain or disturb wetlands. However, in years of instability and financial losses, farmers may potentially seek ways to expand crop production by draining wetlands, and will consequently utilize farm income support programs as incentive to take such measures (p.251). As such, these scholars assert that more attention is needed about how compensatory programs and policy encourage behaviour that further impact wetlands and environmental degradation.

In speaking with local farmers, and delving into Alberta’s agri-economic history, it became evident that wetland drainage is a deeply embedded practice on the prairies. Economics as a predominate rational, or as an aspect of political values was present in most conversations with farmers. But also with others who admittedly did not quite understand, or perhaps to some degree felt uncomfortable with an outsider’s perspective on wetlands as essential for life on the prairies—and not just for human life. My perspective may be different, but the truth is, I am not an outsider. The fact that my family and I are part of this place, even if only in memory, gave me access to participants who may have otherwise refused my request to participate in this research and to perhaps think about wetlands differently. Before starting the interview with Ivan—the farmer who agreed to speak to me while spraying his field—I thanked him for taking the time to speak with

me. He replied, “oh, no problem. I knew Gerry. Your dad was such a great guy John.” My father was well known and respected in the community since he was a dedicated hockey coach and managed the minor hockey program in our small town in the 1980s. Our old family acreage was also just two miles from Ivan’s farm. My belonging to this place, or its history, provided me with a certain insider status, a position that made it easier to communicate with Ivan and other farmers more informally and to establish a level of confidence and trust, despite our differences in how we value wetlands.

My conversations with farmers were not just about economics. They also involved family histories, succession stories, childhood memories, and loved ones past. These stories led me to question: What is farmers’ grief? How is this grief expressed in relation to the landscape or dwelling? And, can wetlands be part of an emotional geography where farmers’ grief intersects with my own or others in some way? In talking with farmers I have come to realize that aside from economic motivations to drain or remove wetlands on their property, these actions also constitute a response that may be motivated by grief; though a not so obvious one at first. When I asked farmers if they feel emotionally connected to their farms, some admitted that there was a certain pride and a sense of attachment they had for their farm and land. Others offered few words or felt uncomfortable expressing their feelings about grief, often shifting back quickly to production and economics, a language that most farmers were comfortable with. But what was evident in all of the conversations was the sense of responsibility that farmers have towards their family, including those past, present, and future.

The responsibility I refer to here should not be reduced solely to market logics or neoliberal partnerships or agencies (Gershon 2011), rather it is a responsibility that Derrida argues is in itself part of grieving or mourning for those closest to us both in life and in death (Brault & Nass 2001). From a dwelling perspective, responsibility is the aspect of attending to- or “staying with things,” which is essential to “Being in place” (Heidegger 2001; Shariatinia 2015).

When we consider the sparing and preserving that is proper to dwelling in connection with the mortal character of human being, such sparing and preserving takes on an additional meaning—it is to respond to our own lives and that which is bound up with them in a way that attends to the finite, the fragile, and the interconnected character of those lives, as well as of the world in which they are lived...Indeed, inasmuch as the recognition of our being as mortal is a matter of recognizing the way our being is

inevitably bound to the concrete and the particular, so it is also a recognition of the character of our being as inevitably bound to place (Malpas, 2008, p.272-273).

The point that I am trying to convey here is that family and kinship relations are intimately connected to our sense of place in the world. I would further argue that these relationships also influence the way people interact or shape the landscape, and in turn how the landscape shapes them. And it was here that I was able to find some common ground with farmers. Because despite our differences or where we are coming from, what I have learnt is that dwelling and grief is fundamentally part of Being in relation to others and to place. To further expand on this, I bring forward in the following sections two different encounters I had with farmers which offer a different way of thinking about agriculture. Not only as an economic venture, but as an emotional one as well. I share these stories as an attempt to locate farmers' grief as I believe it plays an important role in shaping this emotional hydrogeography that I am attempting to map out, and offers compelling ways of thinking about what it means to live and die together (Haraway 2016) within a shared watershed and alongside wetlands.

Family, Farming, and Ephemerality

I pulled into the yard and parked the jeep at the back of the house. Even after twenty or more years, Dave's family farm was much as I remembered it, except for three towering aluminum grain silos at the back of the yard. I tapped on the window of the exterior door but got no answer. It wasn't latched so I opened it, poking my head in, "Hello?" A steady hum of machinery was resonating in the yard, but I wasn't sure where it was coming from, so I waited on the driver's side of the jeep with the door open, taking in the surroundings on what was a warm and cloudless Saturday in mid-September. The humming noise powered down, and I saw Dave appear from the back of the very large garage located behind the house. I went in to shake hands, but he showed me the oil and grit on his, and politely shrugged his shoulders. Under the brim of his baseball cap his eye were red and irritated, the dust accentuating the creases in his face. It had been a long time since our hockey days and he had barely changed except for perhaps a few pounds. Dave and I played hockey together from the time we could barely skate until the age of eighteen. Unlike the rest of the boys on the team, we didn't go to school together, so I usually only saw Dave over the winter during hockey season.

I followed him into the house and took a quick look around before taking a seat at the island in the center of the kitchen. I'd visited Dave's childhood home no more than three times in my life, but it was much as I remembered it, except of course a few cosmetic changes. Dave was the youngest of five children and an identical twin to a brother who tragically died at the tender age of eight from a sudden brain aneurysm. A death I still remember quite vividly, since it shook our family and our small community. Dave took over what has grown into a 3000 acre farm more than 10 years ago and now lives in the house with his wife and three boys. As he washed the day's work off his hands at the kitchen sink, memories of Dave, this house and the loss of his twin brother flooded in. He dried his hands and reached high in a kitchen cupboard, pulling out a bottle of Alberta Premium. "Drink?"

I was happy to accept. This local rye whiskey was my father's drink of choice. Often when he came home after work he would ask me or one of my brothers to make him a rye and coke as he made his way to the living room, plopping himself down on the couch to rest before supper.

Dave grabs a stool and sits next to me at the island in the center of the kitchen, pulling out a small wad of tissue to dry his eyes.

Dave: I got my grandpa's eyes.

John: I mean you were always like that, I remember you even playing hockey, whenever you would like...

Dave: Yeah get hot (laughing). They say it's from my grandpa because he was always like that. It's on my mom's side. And my mom too, always with Kleenex, teary eyed. I just can't stop it sometimes. I don't know why. Like it has nothing to do with being sad.

Dave's father was born and raised on this farm and has two brothers who are both retired grain farmers with children who have now taken over operations. They are descendants of Ukrainian immigrants who settled on the prairies in the early 1900s, like many other French Canadian and European families. Now, between these three farming families, they own a considerable amount of land in the area where they grow a mixture of different monocrops including oats, barley, wheat, canola, and peas.

It was just after 4pm when Dave and I sat down, and since he wanted to join his family for supper at their cabin at Halfmoon Lake, I thought it best to get straight to the business of asking questions about the wetlands and water on his property. Dave let me know that his farmland containing surface water or wetlands is mostly used as pasture since much of these areas are too rough and wet to cultivate. The wetlands in these pastures are utilized as a direct source of drinking water for cattle and have also served as natural fences to keep cows from crossing over to adjacent fields. In the yard where the house, barns and grain silos are located, three wells drilled 300 feet deep have the capacity to provide enough water for his home and farming operations.

Dave: Well water? I use it for spraying, a source of spraying, or you gotta buy your water. Right at the water station you gotta go there, so. I got about 6 gallons a minute I can get out of these wells. I just, yeah, I got five thousand gallons of water ready to go everyday. Then I go spraying.

The summer has been one of extreme heat with very little precipitation compared to the previous year that saw record breaking rainfall. Dave informed me that at this time last year they received 18-20 inches of rain, while currently only 2-3 inches had fallen, which is extreme in either case. When I asked Dave if he has concerns about water scarcity on his property it did not seem to be a concern of his. He knew that wetlands have a tendency to come and go depending on the fluctuation of weather patterns and soil saturation. As for his wells, Dave said, "I don't think the groundwater would ever run out?" I had the impression that he was asking me a question, rather than stating fact.

Groundwater recharge is one of the many important hydrological functions that wetlands provide, a phenomenon which according to Mitch and Gosselink (2007), has not received the scientific attention it deserves (p.353). There are also increasing concerns about water scarcity in Alberta as stream flows from the Rocky Mountain glaciers decrease and water evaporation increases on the Prairies due to climate change (Schindler & Donohue 2006; Kienzle et al. 2012). In his recently published book, anthropologist Lucas Bessire interrogates the *depletion* of the Ogallala Aquifer, starting from frontier settlement of the High Plains of the Midwest United States (2021), to the steady increase in irrigation-based agriculture. This hydrological area shares geographic similarities with Alberta's prairie region in that they both border the Rocky Mountains which is where many headwaters originate and feed into lower watersheds. Bessire's fieldwork,

like my own, is a return home where he provides an intimate portrayal of the different forms of economic, social and ecological entanglements which are dependent on the subwaters of the Ogallala aquifer and the shared vulnerability associated with its loss. The practice of irrigation in the Midwestern United States and that of wetland drainage in Alberta is rooted in early settler history which was largely incentivised by governments in order to expand agricultural production (Studen Bower 2011) in areas where there was an abundance of water. Now that the Prairies have become increasingly drier, concerns have now shifted to matters of water scarcity (Faramarzi et al. 2016; Dumanski et al. 2015; Fang & Pomeroy 2008).

While Bessire does not bring forward any obvious interpretation of how *depletion* is associated with grief or aspects of mourning, I would argue that it is imbued in “taking responsibility” which is the “motive, challenge, burden, and central pivot” (p. xiv) of his ethnographic work which he conceptualizes as anti-depletionist. In describing dreams which he feels stem from certain feelings of guilt from his past and a sense of fear for the future, he states:

When I am awake, I keep my lost chances buried down deep. Some nights they cannot be contained. Hallucinatory visions well up in subterranean waters. Sometimes it is hard to take responsibility. Sometimes it is even harder to shirk it. I live with those I have lost. And I suspect that it is on those bad nights, just before I wake, that I come closest to understanding what running out really means (Bessire, 2021, p. 105).

This aspect of “responsibility” associated with both life and death is integral to an understanding of grief and mourning as a response to the loss of people and place. After talking with farmers in Alberta, it would seem that for some, responsibility is prioritized to that which is located within their fence lines or within the borders of their property which is predominately based on farm and family stemming from a history of liberal values (Studen Bower 2011). However, water and wetlands have the ability to challenge these perceptions as both cannot be so easily contained, and reach across borders and fence lines. Derrida argues that mourning is the responsibility that we have to those we care about in both life and death. It is through our awareness of an inevitability of loss that actually makes it possible to care for others (Cunsolo & Landman 2017, Brault & Nass 2001).

Between questions Dave and I spent some time catching up. He showed me pictures on his phone of a recent jet boating trip with his buddies on the North Saskatchewan River, where they

reached as far as Abraham Lake, the largest man-made lake in Alberta and the site of the Bighorn Dam. Throughout our conversation it was as if Dave was trying to reassure me that “[he] likes the wetlands”. I did not want to doubt him. He is a hunter, so he did speak of a certain fondness for wildlife, telling me of recent moose sightings and of catching a black bear on his game camera lying on its back, gorging on oats in his field near Halfmoon Lake. But there were also instances in our conversation where he contradicted himself, telling me that he would fill certain wetland areas to prevent them from flooding into his fields or pastures, and how he would like to use a backhoe to “straighten” the wetlands that curve through his field if only the county would allow it. Often his responses to my questions were short and a little vague.

John: Have you ever removed wetlands from your agricultural land?

Dave: Other than working up an old pasture, there could be a few little land spots, but other than that no. Just try to increase your grain production, would be the only spots. I haven’t done too much of that. Yep, so...

We finished our drinks, but before leaving I followed Dave into his shop (garage) located at the back of the house so he could show me the jet boat that he spoke about and his old silver Chevy that he had since he was a teenager. He spoke about his truck as if I remembered it and I didn’t want to disappoint him by my lack of memory.

The conversation suddenly shifted to Dave’s father and I offered my sympathies since it had only been a few months since he had passed. His father, born and raised on this farm, succumbed to a heart attack in the yard just meters from where we were standing. Dave was the first to come to his side and to call the ambulance that came too late. He recounts the day of the funeral. Local farmers honored his father by parking their combines and tractors at crossroads or at the end of their driveways, and as Dave’s family drove past, farmers followed in a long convoy to the tiny Ukrainian church in Waugh, not far from Halfmoon Lake. I had never heard about this kind of funeral ritual being performed in the area before. According to Dave it happened because of COVID restrictions which limited attendance to immediate family. So farmers and family friends found alternative ways to grieve and pay their respects. Listening to Dave, I am touched

by his story and his openness to share it with me. Again, he pulled a wad of tissue from his pocket, his eyes red and irritated.

* * *

The agricultural industry in Alberta is obviously a major economic player. According to a recent report by Statistics Canada (June 15, 2022), farm revenues in Alberta for 2020 totalled 22.2 billion dollars, which is equivalent to 25.5 percent of Canada's total farm revenue. In terms of geographical scale, agriculture in Alberta covers an area equivalent to 49.2 million acres making it roughly 30 percent of the province's surface area, the second highest in Canada after Saskatchewan (Statistics Canada, June 15, 2022). This growth has had serious impacts on wetlands in the province. In my earlier interview with Ivan, he said something that stuck with me throughout my fieldwork: "You either keep growing or you die." This was a sentiment that most farmers expressed and I had the impression that the pressures placed on them by market capitalism which requires them to continuously expand their land base and production outputs is somehow beyond their control. What I have tried to demonstrate by sharing this encounter with Dave is that there is a human and emotional side to farming as well. One that is largely part of what has been discussed so far about dwelling and the responsibilities associated to it and how these responsibilities are connected to family, kinship relations, and place.

As much as farmers preferred to gloss over some of my questions that attempted to get "at the heart" of farmers' grief, their attachments were made present when they spoke about family and farming legacies they inherited. What was absent in these conversations was an unspoken grief; one that is made silent by a denialism based on a market "business-as-usual" mentality that is only strengthened by a refusal to consider the risks associated with wetland loss, and in turn a drying watershed. What is perhaps too painful to accept, at least for me, is that continuing to grow exponentially at the expense of wetlands, especially given their role in keeping water in place, means that in the absence of water life becomes no longer possible. Not only for humans, but all species. And this is the danger of thinking of water as a resource, or its economic worth based on human use-value. Instead, it is necessary "to think with water" as bound to our Being and dwelling in the world, and how its loss is intimately connected to grief.

To articulate this, I include a comment from a participant who comes from a farming family and now serves as executive director for an organization that works directly with farmers to inform them about the benefits of wetlands and assists those interested in wetland rehabilitation on private or agricultural land.

If you tell farmers like, oh, you should be doing something different than what you have been doing, for them, a lot of these people have been farming the same land since the early nineteen-hundreds with their family. It's like telling them, "well actually, you should try something different."...It's not just, I'll say, a technical issue...It's attacking their social structure. It's attacking their family history and their sense of self-worth and value, and that of the people before them....And that's the social side of it that's so important. It's not just saying, well, these places are great to reduce the impacts of flooding or drought—you'll actually want to have water here. What's missing is the bigger picture values and reasons, and the consequences of asking people to change. Because change is hard. Change influences us physically, mentally, socially, and emotionally.

During our meeting she also mentioned that she believes that "conserving wetlands cannot be done without farmers." So if what is "missing is the bigger picture values," perhaps it is through making present relations with water or wetlands that can help offer some perspective about what it means to "live and die together" (Haraway 2016) within a shared watershed. And what better way to do this than to get the perspective of farmers themselves. So I offer a final encounter with a farmer who I had the opportunity of meeting and who shared her perspective on grief in relation to wetlands, and how such grief has been a motivating force in making changes in her farming practices and in reconciling the relationship with a place or a geography she has been a part of her entire life.

For this I return to "sparing" and "preserving" as what Heidegger (2001) defines as the "fundamental character of dwelling", but for the purpose here, I adapt this perspective of dwelling to aspects of care. "As co-responsive beings, the responsibility of care is something that falls to us. The actions we carry out in its fulfilment are therefore in the nature of tasks. A task is an action that we owe rather than own: it belongs to others rather than ourselves" (Ingold, 2018, p.27). Similarly, Puig de la Bellacasa (2017) also understands care "as a concrete work of maintenance" (p.6). Ingold suggests that landscape contains a temporal and material record of 'tasks' or activities which he associates to dwelling (1993), but in the context of wetland loss where often there is no

trace they ever existed because they have either been drained, filled, or converted into cropland, wetlands as ‘dwelling places’ cease to exist. Except of course in the memories of those who have lived with them in the past, and therefore grieve for an embodied landscape. Puig de la Bellacasa’s approach to care (2017) addresses these “tensions” or “ambiguities” by looking at care multidimensionally as matters of work, affect, and ethics. Not as fixed dimensions, but rather as fluid or overlapping within “terrains of care.” The question is, if wetland loss can generate an embodied response of grief, could such grief in turn be a motivating force for wetland protection or conservation, as a form of care?

In ‘Mourning Nature: hope at the heart of ecological loss and grief,’ editors Cunsolo and Landman state that, “given the immense challenges our planet currently faces, we need a mechanism for moving into new terrains of thought that may provide avenues for thinking with and through environmental challenges, for encouraging action, and for potentially cultivating new emotions in fruitful ways” (Cunsolo and Landman, 2017, p.6). They argue that tapping into *ecological grief* may offer new “understandings of our individual and collective responsibility” (p.6), —which ultimately involves matters of care—and can help build “ethical, political and ontological connections” in recognition of shared vulnerability in relation to others (p.14).

Cunsolo and Ellis (2018) write about ecological grief as a mental response to climate change, defining it as:

...the grief felt in relation to experienced or anticipated ecological losses, including the loss of species, ecosystems and meaningful landscapes due to acute or chronic environmental change. We contend that ecological grief is a natural response to ecological losses, particularly for people who retain close living, working and cultural relationships to the natural environment, and one that has the potential to be felt more strongly and by a growing number of people as we move deeper into the Anthropocene” (Cunsolo and Ellis p.275).

Cunsolo has written on the subject of ecological grief extensively since 2011, both independently and alongside other scholars (Cunsolo Willox 2012; Cunsolo & Landman 2017; Cunsolo & Ellis 2018; Ojala et al. 2021). The concept itself offers a way to think more seriously about grief in relation to place, and acknowledges its potential for generating political and ethical possibilities” (Cunsolo Willox, 2012, p.141) for addressing or even adapting to geological change. In terms of my own research, ecological grief offered a useful conceptual frame and starting point

to think about grief in relation to wetlands, but after much reflection—which I will offer more detail in chapter 3—I have become more critical of a certain determinism in which the concept implies. My concern is that by defining or naming place-based grief it may have the same unintended consequences as the Anthropocene concept, in that it becomes a blanket term that overshadows the nuances and subtleties that are part of socio-ecological or material relations. It is largely for this reason I did not want to label the grief that I have chosen to explore here. The argument I bring forward not only involves grief based on an emotional response to changes in landscape, I am also interested in how grief/care shapes landscapes or geographies as places of dwelling.

Putting in the Work—of Mourning

Donna reached out to me near the end of my fieldwork in Alberta. We were both registered for an online course in the fall called ‘Blackfoot Phenology for Farmers’ and organizers from the Young Agrarians Alberta division were circulating my research recruitment letter, which Donna said resonated with her, and admitted she was curious about this “Alberta boy” and his story about grief in relation to wetlands.

Donna’s farm is located near Camrose which is approximately an hour and twenty minute drive southeast of Edmonton and a direct line south of Elk Island National Park and the Beaver Hills Biosphere, which was given a UNESCO biosphere designation in 2016. The waters on Donna’s property are part of the Battle River Watershed, with surface and subwaters that flow into the Battle River, which eventually joins with the North Saskatchewan River on its long path to the Hudson Bay. Donna studied at the University of Alberta and had a twenty year career in municipal government before making the decision in 1997 to take over her family’s farm where she grew up. She never thought she would become a farmer, but this changed after her brother, who was slated to take over the farm, was killed in an airplane crash.

Donna: So long story short, I pulled the pin on my career and my job and my reliable income and took a big risk and came back to the farm.

Donna does not have kids, and now that she is retired has taken a different approach to farming where instead of removing or draining wetlands, she has been working to enhance or restore wetlands on her property. Donna's family are descendants of Norwegian immigrants, one of many who settled in this area of Alberta at the turn of the twentieth century. As a young girl they had a mixed farm where they raised cattle, pigs, and chickens, along with cultivated grain crops. In the 1970's agriculture in Alberta was rapidly changing, becoming more industrialized with a heavier focus on grain production which left less time for diversified style farming involving animals. Her father eventually transitioned to complete grain farming which included wheat, barley, and canola. With four quarter sections of land (640 acres), Donna's family farm is considered quite small compared to the mega-farms that surround her, and she refuses to allow her farm to be swallowed up by them.

Donna: This last winter down the road, a farmer had sold his land, and there was a new land owner that moved in, and he bought nine quarter sections of land. And in March, he brought in three bulldozers and staff, and they took every tree on nine quarter sections of land. Well, mourning; I couldn't even talk about it. I'm still choked. Man! How could he do that? And there was cropland with sloughs and every little slough, all the willows. And I don't even know if he'll be able to farm through it all, but that's his goal.

Now retired, Donna rents her land to a local grain farmer, but has taken 20 acres out of crop production. Rather than draining water from her land as she used to do, she is now diverting water back into targeted low-lying areas from a seasonal creek that flows through her property by incorporating a system of strategic swales. With the help and collaboration of local groups that help farmers implement alternative systems grounded in Permaculture Design, Donna is using techniques that help slow down waterflows, using wetlands to store water and sink it into the ground. She has also planted more than 5000 trees and established a 20 meter buffer around the wetlands by seeding perennial ground cover, increasing the native vegetation which also provides space for nesting birds. Often these habitats are destroyed as farmers try to optimize grain production by cultivating as close to wetlands as machinery allows. A practice that Donna says is part of "our mentality, as grain farmers; it is just built into us."

Donna: We need more acres, kind of to survive. So we're always looking for another acre on a dry year. We'll bring the discs in and now the discs are bigger and heavier... On a wet year, I can lose as many as maybe ten to fifteen acres of land due to casual water throughout a quarter section. That's just on one quarter section. So it's kind of a love hate relationship from a farmer's point of view...so that's why we're all into pumping the water to the bigger sloughs and trying to get enough space. I never hated water, but I know it was a lot of work in the spring to do all this pumping, and I can't even imagine thinking like that anymore. So, yeah, it's changed. And farming itself, that's the problem. Farming is destroying the wetlands.

Donna's affinity for wetlands began at an early age and is something that was passed down from her parents. While they did drain wetlands on their property, her parents appreciated the small wooded areas and the ephemeral wetlands that appeared after the winter thaw. During our conversation she shared fond childhood memories of playing in the wetlands on their farm with her older brother. "I grew up in a slough", she said, telling me with great joy about the tree hut they built and of rafting in the sloughs, catching tadpoles and frogs along the edges of the water. In the fall Donna and her father often hunted deer together, her father teaching her how to properly butcher the animal until she was eventually able to do it on her own. At the age of 98, her father continues to support her through their shared love of their farm and of the new direction that she is taking with it. With no children of her own to pass her farm down to, Donna finds herself in an interesting position, which to my surprise, she considers to be advantageous. Agriculture ultimately is a business that aims to increase productivity through the acquisition of more land and machinery that can eventually be passed down the family line. However, land, machinery, and other inputs are increasingly more expensive. Without children to take over the farm Donna does not experience these financial pressures, and is instead investing in rehabilitating wetlands on her property.

Donna: So it was easier for me to just take 20 acres out of production and just not worry about growing and just kind of downsize and look at quality, like look longer term, what are we doing to the environment? I don't have a family to focus on, so it's kind of a gift that way, and I'm quite grateful for that.

Donna spends her time and energy learning and expanding her knowledge about farming that uses regenerative and restorative practices, while at the same time, collaborating with organizations and community groups with a similar vision. Her life, and that of her family, has been dedicated to this 640 acre farm that has provided for them, not only economically, but also culturally and emotionally. While she does not have children of her own to take over operations, she plans to enjoy this new phase of her life and farm, and is considering the possibility of eventually transferring her land to the Young Agrarians Alberta division in order to give youth interested in farming the opportunity to learn and gain experience, which would otherwise be impossible without access to land. A legacy that she hopes will carry on the work her family has set in motion, and one that will respect the wetlands she has been rehabilitating.

I was only able to speak to Donna virtually as she was nervous about meeting in person with COVID-19 cases so high and was taking extra measures not to expose her elderly father. I did however take the time to visit Donna and her farm when I returned to Alberta in the fall of 2022 the following year. She took me on a tour of the farm on an all-terrain-vehicle stopping at several wetland sites where we revisited her memories she shared virtually the year before about the times she spent exploring and playing with her older brother. I was impressed by her knowledge about water on her property and the work that she had done to restore wetlands by applying permaculture practices that are classified as Earth Works. Some of which include building swales and overflow systems that divert water from existing wetlands during periods of flooding, strategically transferring these flows to three different low-lying areas which were typically ephemeral wetlands; wetlands that in the past Donna and her father would often disk and seed through if ground conditions allowed. At the furthest reaches of her property, near the country road I drove in on, is where you find what Donna calls Beaver Lake which was built in collaboration with the local municipality. She was approached by the municipality when the decision was made to replace the existing gravel road which required a source of clay for its construction. Donna agreed to allowing the municipality to excavate this material on the condition that they use their machinery in a planned permaculture design for a twenty-foot-deep lake, which would have been otherwise financially unfeasible for her. Two years after the lake was dug, Donna and I stood at its shoreline with water clear enough that we could see small minnows swimming along the edges, a cycle of new fish from the three breeds that she decided to stock the lake with the year before.

All that was missing at Beaver Lake she said was beaver. And for that she was waiting with eager anticipation.

Before leaving, Donna took me to her garden and pulled some beets and a few leaks from the ground, tossing them into a white grocery bag. We spent approximately two hours together touring the wetlands on her property and sharing our memories of family and growing up alongside wetlands. It was clear that her desire to rehabilitate wetlands and to sink water into the land rather than divert it away comes not only for concern for the environment, but also a sense of responsibility he has towards her family and their farm. With no family to pass her farm down to, Donna has been able to invest more time and resources into her permaculture practice, but as she followed me to my rental car she spoke with concern as to what would happen to the farm after she is gone. After seeing all the work that she had done in the past four years and the remarkable changes that I observed in the pictures she shared that showed the rising water table on her property and the return of certain native plant and animal species, I will admit that I share in her concern.

Donna and I connected through grief in relation to wetlands, speaking in a language that is deeply rooted in our experience with place and its affective entanglements. If care is a “work of maintenance” as Puig de la Bellacasa (2017) suggests, then I would add that is also “a work of mourning” (Brault & Nass 2001). A work that I would argue is inseparable from a sense of place, more specifically a dwelling place, which requires constant attention in order to be at peace or feel secure (Shariatinia 2015). For Donna, and also myself, there is a sense of urgency that comes with this work, as it is a response to the hydrological changes that we have witnessed take place in Alberta, along with its consequences on a broader scale. Grief as care work, then, is not only about responsibility, it is also about what Haraway describes as “response-ability” (2008, 2016). “Mourning is about dwelling with a loss and so coming to appreciate what it means, how the world has changed, and how we must ourselves change and renew our relationship if we are to move forward from here” (Haraway, 2016, p.38-39; reference from Van Dooren 2014). To “think with water” in the context of wetlands loss, is then a way of thinking of an absence of water; an absence that threatens our sense of Being and of place in relation to others. Establishing connections through wetlands within a shared watershed and the grief that comes from the response of their loss, is therefore a way of making present the potential of grief work in creating change, not only in the minds of others, but also in the landscape in which they are embedded.

Conclusion

In this chapter I offered three different “dwelling perspectives”, including my own, which I believe demonstrate how grief is directly related to the life and loss of wetlands in the NSW. By first examining the history of wetland drainage on the prairies and how it was used as a mechanism for Alberta’s economic development, I show how wetlands in the province have widely been seen as an impediment to growth and how such values are passed on as part of family farming legacies. Consequently, these values have had serious impacts on wetlands and the hydrology in large parts of Alberta more generally, and as a result has led to increasing concerns about water scarcity. From my encounters with farmers it was clear that they understand the economics of agriculture and that their survival and longevity as they know it depends on constant expansion, extraction, and production. What I have tried to express here, is that water is the element which not only makes these practices possible, it is the very source of their existence, that of their family, and where they dwell together. It is for this reason that dwelling as a conceptual frame offers other ways of thinking with water, because it taps into the fundamental aspects of human existence, and how this existence is rooted in place. I have spent a great deal of time thinking about agriculture as a cause of wetland loss, but have come to realize that such a conclusion is an unproductive one. What is required are solutions, new ways of talking about loss, and how grief in relation to place may offer away to bridge the gaps in the ways wetlands are valued. Because wetlands are not just dwelling places, the waters they hold are part of a shared watershed that makes dwelling possible.

Chapter 2 : Ungrievable Water(s)

After reconnecting with Jodi, an old friend I have known since preschool, I was invited over for another backyard fire to meet her friend Andrea. She had recently spoken to Andrea about our previous visit where I spoke about my research on grief in relation to wetlands and said that Andrea has a story of her own that she would like to share. These backyard visits became a common way of gathering during the pandemic. Despite the United Conservative Party of Alberta declaring COVID-19 as officially over at the beginning of summer, it was clear given the recent spike in cases that the pandemic was far from over. Rather, it was coming back with a vengeance. But having come from Montreal where COVID-19 health measures were some of the most restrictive in all of Canada (and the world), I felt strangely removed from the pandemic being in this rural setting. Little did I know at the time that these backyard fires would serve as starting points for deeper research and ethnographic reflection into wetlands and for mapping this emotional hydrogeography.

It was late September, with the autumn equinox just a day away. The weather was steadily getting cooler, especially in the evening, so I layered up for our eight p.m. fireside meeting. When

I arrived Jodi was scrambling behind the windowed door at the side of the house trying to calm her two chihuahuas who had picked up my presence, and as such, were losing their minds in fierce fits of high-pitched yapping. Through the glass, flustered, she told me to grab a seat on the patio out back and that she would join me in a minute.

I took a seat on one of the four cushioned patio rocking chairs circling a small propane fire pit, but before I get comfortable Andrea arrived, stepping onto the patio. “You must be Andrea?” She took a wide circle around me, keeping a respectful distance. A move we have grown accustomed to, but which still feels awkward and unnatural nonetheless. She told me that we had actually met before at a party at Jodi’s old house roughly ten years ago, so I apologized for my lack of memory. Andrea took a seat in one of the rocking chairs across from me, folding her legs into a lotus position, snug in an oversized plaid hunting jacket. Her brown hair was loosely tied into a high bun and she comfortably gazed toward me through a pair of large blue cat-eye-glasses. “How’s it going?” I asked, but her response was not too reassuring. “I actually don’t know how I am going anymore”. The pandemic had been particularly hard on Andrea. She lost her business and worries about her two children who were experiencing some struggles of their own.

Jodi and I drank hot peppermint tea and Andrea a diet coke while having a conversations about Alberta politics. It’s seemed an unavoidable topic wherever I went, but more so now since the federal election ended the night before; the Liberal Party of Canada solidifying another four years as a minority government, the Conservatives maintaining their strong hold over the Prairie provinces.

Politics quickly switched to home décor, Jodi taking pride in embracing what she calls her “tacky chic” taste, which she believes is “just getting better with age.” She showed me pictures on her phone of the wallpaper she ordered online for her living room, a large colorful graphic print with peacocks to match with her orange couch.

Well settled in around the fire, I explained to Andrea more precisely what my research is about, and that if she felt comfortable sharing her own story about grief in relation to wetlands I would be happy to hear it.

Andrea began by saying that she has always felt a strong connection to water since she was young girl when her family lived in cottage country along the Georgian Bay Peninsula. Her family moved to Edmonton in 1979 when she was five, settling in a developing suburb on the northern outskirts of Edmonton called Castle Downs at a time when the city was in a development boom

fueled by Alberta's rapidly growing oil economy. She described the area just next to her childhood home as a combination of open fields and wetlands, with little pockets of forest. Places etched in her memory where she played with friends she grew up with. She called the wetlands bogs. "It was like a giant playground for kids, with cattails in the ditches and lots of places to explore."

This "exploration" carried into her adolescence, the area becoming less of a children's playground into one where young teenagers could exercise independence and test boundaries hidden from the eyes of their parents. She described one particular forested area where her friends and other high schoolers would use as a gathering place. Over time young people had carved a path through this small section of forest that stood in the open space of annexed farmland as it served as a direct line to where the high school was located. It became a meeting place where Andrea's friends would meet before and after school to hang out or smoke cigarettes. On weekends, it was often a place where high school teenagers would make fires and get into trouble.

This part of Andrea's story resonated with Jodi and I. There is a creek system that cuts through our own hometown with steep ravine locally known as V-hill that is used for tobogganing in the winter months. In junior high and high school it became, as Andrea described, a gathering place for impromptu parties or other shenanigans. It is interesting to think about these shared or common memories of growing up or coming of age alongside wetlands. Not as a backdrop to our lives, but wetlands as places that have very much shaped our identity and sense of belonging. Places that have either disappeared or that we have become increasingly removed from as we pass to adult life, yet still tethered to through memory, stories, and feelings of grief. Which made me wonder, do we grieve for wetlands or our past lives? Or, is grief a response to a combined spatial and temporal disruption of what was, and is no longer materially, sensorily, or emotionally accessible, but so long to get back to?

Interestingly, Andrea lived a kind of hybrid geography in Edmonton, Alberta's capital city, while having access to rural spaces. Much of her young life was spent near water, describing her family as "bush people" who spent many summers camping and fishing near Nordegg, an old mining town located in the North Saskatchewan River valley just below the Rocky Mountains. "I'm more grounded when I am near water," she says, though she admits that she is not courageous enough to swim in Alberta lakes, which she finds too shallow and swampy compared to the beaches and rocky shorelines of the Georgian Bay; a place where she continues to return to in the summer months to vacation and visit family.

Andrea's story of growing up in Castle Downs is one of transformation, both for herself and the landscape. Her early memories of wetlands and pockets of forest were followed by those of encroaching development and construction sites. When the open fields and wetlands were eventually carved into and dug out, the massive mounds of soil rested not far from her house. Andrea recalls the neighbourhood kids adopting these mounds as new sites of play that winter, spending much of the season sledding down their snow covered slopes. Come spring, the entire area was made inaccessible as official construction began on a large surface Superstore (a Canadian supermarket chain), along with commercial retail outlets surrounded by even bigger parking lots. One like many others in Edmonton where the infrastructure is made to accommodate motorists; a commercial urban design that has come to be known as shopping commons. In his article titled 'Water and the Commons Imaginary,' Wagner suggests that the commercial use of "the term "commons" has been appropriated over recent decades by individuals, corporations, and interest groups seeking to benefit from the positive emotional responses that the term seems to evoke" (Wagner, 2012, p.620). In Edmonton, shopping commons built on the margins of the city limits not only become the nuclei of suburban sprawl with housing development absorbing more land around them; based on my own experience, they have also contributed to Alberta's rural decline as commercial and retail spaces become more accessible. "Now it's just concrete," Andrea said emotionally, "when I see it now, especially when I drive by the Superstore, it always pulls me back when I see it...it's gone, it's all just gone."

We sat quietly staring into the fire, taking a quiet moment to process the story that Andrea has shared. Perhaps sensing the need to cut the silence, or to lighten the atmosphere, Jodi chimed in: "now she (Andrea) just wants to be a bog witch!" We all laugh and I looked at Andrea who is smiling, rocking in her chair, still mesmerized by the light of the fire reflecting from her blue-framed cat-eye glasses. "It's true!" says Jodi, "we talk about it all the time!" Andrea confirms that it is true and mentions the criteria that both she and Jodi previously determined as requirements for becoming bog witches. The first being a cabin in the woods; second, proximity to a bog or a body of water; and third, wearing mumus (large loose fitting dress) and no bras, every day. Their humorous determination sparking laughter between us, again unnerving Jodi's chihuahuas into another uncontrollable fit of yapping.

* * *

After meeting Andrea and hearing her story about her experience with wetlands during her more formative years, I decide to visit Castle Downs, the Edmonton suburb where she grew up. The suburb itself is what one might imagine: rows of closely condensed houses situated at the center of residential lots of relatively similar proportions, similar design, attached garages, landscaped yards. I was more interested however in visiting Beaumaris Lake, which is actually more of a man-made stormwater pond than a lake.

Beaumaris Lake is the first and largest stormwater pond in Edmonton, and is part of Castle Downs' water management infrastructure as well as a site of recreation for the local community. Construction of this water management infrastructure began after city approval in 1977 and opened in 1979 (O'Grady 2015), the same year that Andrea's family moved from Ontario to Castle Downs. The surface area of the nine-foot-deep stormwater pond, is thirty-four acres, which required the excavation of 1.8 million cubic yards of earth (O'Grady 2015), and is surrounded by a trail system with six different viewpoints. By this time in my fieldwork I had already made a daily routine out of walking the length of the creek on my family's farm and also visited the narrow creek cutting across my hometown, so I was curious to know if the stormwater pond could possibly contribute ethnographically to my fieldwork.

I started my short hike around the lake from the north side entrance. At ten a.m. on a Monday the paved trail was rather quiet. People I did pass—seniors, people walking their dogs, mothers walking together with strollers—are quite friendly, offering a hello or a quick nod as they pass. I imagine these people having a daily ritual of their own, perhaps getting their exercise by walking or running the 2.5 kilometer circuit around the lake, and seeing familiar faces of those who share in similar activities. The trail and park spaces around the lake are well groomed and a few species of duck waded on the water. I took a seat on a bench at one of the viewpoints off the trail, situated on a boardwalk facing the water. I watch people on the opposite side making their circuit around the lake and scanned the houses with large windows with views above the high fence lines. While stormwater ponds are created to retain rainwater, replacing one of the important ecological functions performed by wetlands, they are also said to provide recreational and aesthetic benefits (Swinnerton & Hinch 1987; Rooney et al. 2014). Often these runoff-capture facilities are used as a marketing strategy for residential property developers to entice prospective buyers with

ideas of the luxury waterfront property, therefore making it possible to increase the property value (Rooney et al. 2014). But, recreation and aesthetics aside, Beaumaris Lake was constructed because it was more economically feasible than building underground drainage systems necessary for managing urban water (Swinerton & Hinch 1987).

Sitting with Beaumaris Lake and its well-manicured park spaces that surround it, I began to think about how different it is from the wetland spaces that both Andrea and I were immersed in during our childhood and early adolescence. There is a logistical or strategic order to the design of the lake, a kind of manufactured landscape meant to represent a semblance of a wetland or “nature”, or at least a cultural construction of it. There was no deadfall, no smell of algae or stagnant water blending with saturated soil and bacteria along the edges, and none of the native riparian vegetation more common to wetlands. Beaumaris Lake is therefore a representation of a wetland, one that is tamed or domesticated. While I cannot say that the lake does not have any sensory or affective qualities of its own, it is the absence of those wetlands qualities that some may consider as “strange” which make it impossible for me to identify with this water body, or “feel grounded” in proximity to it as Andrea expressed during our encounter.

In his book, ‘Postmodern Wetlands,’ Giblett (1996) examines the ways in which wetlands have been portrayed metaphorically within European and Western literature and culture as dark, sinister, or somehow threatening, which has ultimately influenced the way that wetlands are perceived and largely misunderstood. “Wetlands have almost invariably been represented in the patriarchal western tradition in metaphors of despair and despondency in an overworking of the nether regions of the psychopathological register and of the lower echelons of the pathetic fallacy in which the psychological is projected on to the geographical” (Giblett, 1996, p. 8). Giblett also states that, “with the rise of capitalism under the aegis of patriarchy in Europe with its modern cities the black waters of wetlands ‘at home’ and in the colonies were seen by many citizens as premodern wastelands or wilderness to be conquered as a marker of ‘Progress’.” Having witnessed the loss of wetlands due to agricultural and urban expansion, mourning or grieving these places which are an intimate part of our childhood is not only about the material or sensorial loss of wetlands that marks us, grief also resurfaces when seeing these ever expanding landscapes of progress that have replaced them. For Andrea it’s the large surface Superstore and the shopping commons that surrounds it. For me, the open expanse of agricultural monocrops in areas of the

prairies once dotted with wetlands and forest. Perhaps harder still is having to swallow our grief since we are expected to accept economic progress as a dominant way of being.

What does it mean exactly to identify with a wetland? Particularly in case of Andrea who aspires to become a “bog witch”; or myself, a queer homosexual gay man from the Prairies. Perhaps it is those queer or strange qualities that wetlands embody that we find so alluring and reach into deeper parts of ourselves that a dominant heteronormative and patriarchal society finds difficult to accept. An important aspect of Giblett’s work on “Premodern Wetlands” is how cultural constructions of wetlands as dark or dangerous involved metaphor that utilized gender and sexuality, something which had to be controlled or managed for the sake of progress or to preserve a natural order where the white European heterosexual male holds supremacy over knowledge and power. According to Giblett, “the individual process, state and cultural mo(ve)ment of enlightenment is linked to and made possible by concomitant acts of ‘endarkment’ whether it be of the so-called dark continent of Africa or of female sexuality (or perhaps more precisely the relation to the mother), or of ‘black water’ of the wetland, all of which tend to get conflated and used to figure each other in the patriarchal western tradition” (1996, p.6). European enlightenment or modernity brought with it heteronormative and patriarchal ideologies which were used to categorize the world and mark a clear division between nature and culture. And it is evident through the work of Giblett that gender and sexuality were utilized as a way of establishing a moral precedence which marginalized both humans and landscapes by marking them as queer and deemed inferior based on a European or Western standard. These systems of classification were not only a way of understanding the world, but also a dominant way of controlling and managing it.

During my time in Alberta, I learnt that wetlands can be many things, but as diverse as they are, they are not valued in the same way. Take a ‘slough’ for example. A slough is characterized as a body of stagnant or slow moving shallow water. When I spoke to certain participants, particularly farmers about wetlands on their property, sloughs had a negative connotation as an insignificant form of wetlands. When I asked one farmer if he ever drained or removed wetlands from his property he replied by saying, “not wetlands, just sloughs”. In a conversation with one participant working in wetland conservation, she mentioned that, “sloughs have almost a derogatory or a low value impression, at least in Alberta in how it is used.” The Alberta Wetland Policy (AWP) itself, which one might assume is used as a way to protect or conserve wetlands,

actually uses an evaluative metric to approximate an economic value to wetlands in order to come up with an arbitrary figure which ultimately determines if a wetland lives or dies. As a lowest form of wetlands, sloughs are commonly regarded as having little productive value, particularly when compared to the economic incentives derived from industrial or urban expansion. Therefore sloughs, which are often seasonal or ephemeral, are easily filled or drained because they are perceived as holding no value, or as an obstruction to economic growth.

But what about farmer Donna who said she grew up in a slough? Or Andrea and her affinity for bogs? Each of these participants approached me because they wanted to share their own story about grief in relation to wetlands, which ultimately allowed us to relate to each other and speak openly about loss. A loss that is not only about the material absence of wetlands, but one that is entangled with kinship, home, and Alberta's political economy and/or political ecology (not to mention the tension that come with it), which together have come to shape our emotional geography. This is why the evaluative metric employed by the AWP, which attempts to categorize wetlands by assigning them an economic or ecological value in dollars, is so arbitrary. Because not only does it ignore the relational potential of wetlands or water, it ultimately denies the potential of wetlands as being objects of grief.

This aspect of "grievability" has been an important aspect of both my analysis and reflections about wetlands, particularly in how they have been perceived as strange or dark by way of heteronormative and patriarchal representations that involve gender and sexuality as identifiers of difference. Are queer bodies, both human and nonhuman, somehow less valuable? Does "queerness" therefore make certain beings or geographies less grievable, thus making them more susceptible to violence?

In their introduction to queer ecologies, Mortimer-Sandilands and Erickson state that "queer and ecological politics...reveal the powerful ways in which understanding nature inform discourses of sexuality, and also in ways in which understandings of sex inform discourses of nature; they are linked, in fact, through strongly evolutionary narrative that pits the perverse, the polluted and the degenerate against the fit, the healthy, and the natural" (Mortimer-Sandilands & Erikson, 2010, p. 2-3). The intersection between queer and ecological politics ultimately provides a way to think more seriously about how discourse has been utilized to manage humans bodies and water bodies such as wetlands in similar ways, which open to Foucault's theory of biopolitics which he explores in his *History of Sexuality* (1990). "Historical origins of modern understandings

of sex, sexuality, sexual identity, and sexual orientation are grounded in biological discourses that are heavily influenced by evolutionary thought, and conversely, that evolutionary thought is supported by modern understandings of sex as an internal and essential category, and also by notions of natural sexuality from which nonreproductive sexualities are understood as deviant” (Mortimer-Sandilands & Erikson, 2010, p.7). What is important to understand in Foucauldian biopolitics is how state authority over the message about sex became a systemic form of discrimination and control which was used to manage the population and its reproduction for the purpose of capitalist expansion in Europe (Foucault, 1990, p.5-6). “Nonreproductive sexualities,” then, were not just deviant in an eighteenth-century evolutionary or religious standard, they were also a threat to economic growth. Within this Eurocentric and modernist ontology based on (re)production, wetlands were also discursively subjugated and marginalized as strange or sinister spaces. According to Giblett (1996), “Wetlands have been used metaphorically to convey our repudiation or vilification of the ideologically incorrect in an overemphasis of the notes of the psychopolitical scale” (p.8). Sex and sexuality that deviated from dominant heteronormative and patriarchal modern ideologies were therefore subject to repression and censorship through state claimed power and authority over the knowledge related to sex, which was used as a tool to systematically discipline and control human bodies (Foucault 1990). These ideas also spilled over into cultural constructions and metaphoric representations of nature, including wetlands as strange or queer spaces that needed to be tamed or completely removed in the name of progress (Giblett 1996).

And it is through these mechanisms that determine which lives are more valuable than others, and therefore more susceptible to violence. Butler argues that state power over life and death also politically determines which bodies should be grieved for or made “ungrievable.” “Each of us is constituted politically in part by virtue of the social vulnerability of our bodies—as a site of desire and physical vulnerability, as a site of a publicity at once assertive and exposed. Loss and vulnerability seem to follow from our being socially constituted bodies, attached to others, at risk of losing those attachments, exposed to others, at risk of violence by virtue of that exposure” (Butler, 2004, p.20). Grief and mourning are emotions that are therefore political within states that not only determine which bodies are more valuable than others, but also which bodies are made invisible. I argue that these logics can also be applied to water bodies or wetlands since managing

or governing them as resources based primarily on anthropocentric or economic values make the vulnerabilities associated their loss invisible, and grief as a response to such loss as illegitimate.

Exploring the intersection between queer and ecological politics has been rather productive in my research on grief in relation to wetlands because each have a way of informing the other while at the same time serving to disrupt dominant heteronormative imaginaries about sexuality and nature that are rooted in modern ideologies. The politics of grief are integral to mapping this emotional hydrogeography within the NSW because it makes visible the ways in which bodies, both human and nonhuman, are socially our culturally valued or devalued, and to think of the greater socioecological implications associated to their loss. Butler states that “[grief] furnishes a sense of political community of a complex order, and it does this first of all by bringing to the fore the relational ties that have implications for theorizing fundamental dependency and ethical responsibility” (Butler, 2004, p.22). While Butler’s object of grief differs from the one I explore here, her perspective resonates with this intersection between queer and ecological politics, because through ordinary encounters with people and wetlands within the NSW it has become evident that our lives are inextricably bound to this watershed in various ways, and that grieving for the loss of water bodies within it can be constituted as a political act. By making present these relational and emotional connections between wetlands through our encounters, this act of remembrance is a way of bridging grief which is arguably a precursor in forming a political community.

These opportunities to identify and sympathize with each other at a spatial and temporal nexus where grief and wetlands are embodied and continue to have an impression on how we see the changing environment is somehow empowering. These moments when histories and bodies (of water) converge *with* and in relation to wetlands give shape to this emotional hydrogeography as composed of watershed being(s) and make present the vulnerabilities that are shared when wetlands are lost. It also provides an opportunity to think of wetlands or water differently. These ideas are greatly inspired by the work of queer and feminist scholar Astrida Neimanis (2017) who attempts to disrupt hegemonic and anthropocentric perspectives that reduce water to a material resource that should be governed and managed for human purposes. Neimanis offers a post-humanist and phenomenological perspective that brings water to the foreground, reminding us of the essential nature of water to all life and the very composition of the human body, which in itself is part of the watershed in which it is situated. According to Neimanis,

Thinking of water as a vast generality has indeed engendered some worrying consequences...but it also opens up new kinds of thinking that can be empowering, and useful, in our current situation...namely of how to think our commonality as water bodies alongside, rather than against, a more specific politics of location. In any case, paying closer attention to how we imagine water, and attempting to forge alternatives to our dominant imaginaries, is just a thought experiment. It is a means of cultivating better ways of living with water *now* (Neimanis, 2017, p.21).

These dominant imaginaries which Neimanis makes reference to largely stems from what Linton (2020) has defined as “modern water”: a singular “way of knowing and relating to water, originating in western Europe and North America, and operating on a global scale by the later part of the twentieth century” (Linton, 2010, p. 14). According to Linton, modern water is actualized through a “process of abstraction” that reduces water to its material or chemical components, ignoring a multitude of social and relational possibilities. Attempts to universalize these abstractions—whether it is done scientifically through aspects of hydrology, infrastructurally as water resource management and supply, or politically as a human right—have a tendency to make invisible and even delegitimize an intricate web of relations, which has consequently had broader geological and hydrological impacts . These impacts, Linton argues, are not related to what is often described as a water crisis, but rather a “crisis of modern water” (p. 192). Given the pervasiveness of modern water, where water is absorbed into a dominant water-as-resource paradigm, the question then is, can phenomenology as an integral part of landscape ethnography offer a useful way of “forging alternative imaginaries” by considering the relational and affective qualities of water or water bodies such as wetlands?

If “forg[ing] alternatives to dominant imaginaries, is just a thought experiment” as Neimanis suggests, then I would add that it is an ethnographic experiment as well. To do this requires more than iterating the ubiquitous aspects of what is largely known about politics or capitalism in a given society. Rather, it requires an attention to the ordinary, or even mundane aspects of everyday life where these larger forces may unknowingly play out (Stewart 2007). “Ordinary affects”, according to Stewart, have ethnographic resonance with the capacity to reach people through common experiences, shared landscapes, and emotion (2007). As some influential figures in anthropology have made clear, searching for meaning through fieldwork, participant observation, and ethnographic representation is not necessarily about obtaining objective truth;

truth is open ended, partial, and even poetic, in fields of everyday experience (Geertz 1973; Clifford 1984). According to Biehl, “in resisting synthetic ends and making openings rather than absolute truths, ethnographic practice allows for an emancipatory reflexivity and for a more empowering critique of the rationalities, interventions, and moral issues of our times” (Biehl, 2013, p. 575). In order to consider alternative imaginaries it is then necessary to suspend claims to dominant overarching truths by embracing the ordinary happenings that capture our attention and orient our bodies in unexpected ways.

So here I turn back to my backyard encounter with Andrea around the fire, which led me to visit Beaumaris Lake. Two rather ordinary instances where I have attempted to observe grief and wetlands phenomenologically as objects both separate and in relation to each other in order to understand how loss impacts our sense of place and of being. But if phenomenology is methodologically a matter of description or direct experience, can it be used to understand how wetlands disappear in the first place? Or why for some, such loss triggers an emotional response such as grief? In her theory of queer phenomenology, Ahmed (2006) calls for a kind of reorientation of our field of perception, one that moves beyond the object(s) of our attention in order to think more seriously about the context which has made it possible for phenomenological perception to actualize and be interpreted. According to Ahmed, orientation as a fundamental aspect of phenomenology is not only about how we position the body in relation to a certain object, orientation also involves an attention to one’s positionality since perceptual experience does not rest outside of social, cultural, or historical context. Orientation from a queer phenomenological perspective requires shifting attention from a given perceptual field that takes place in the foreground in order to bring forward the social and cultural happenings that take place in the background. Such an approach offers a way to better understand that grief in relation to wetlands, and the meaning derived from it, does not take place in a bubble, rather is dependent on any number of circumstances that contribute to our perception in the present moment.

While I go into ethnographic detail in my encounter with Andrea and Beaumaris Lake, I have come to understand these moments as what Tsing et al. describe as “phenomenological markers” (2019). These markers offer methodological starting points which give way to deeper reflections or analysis about the entanglements between beings, both human and nonhuman, and landscape. The argument that I would like to bring forward here is that landscape ethnography and queer phenomenology are mutually conducive to each other in that they involve a process of

“queering,” a process that is not exclusively about identifying the intersection between queer and ecological politics, rather it is very much about “forg[ing] alternatives dominant imaginaries” (Neimanis, 2017, p.21) concerning wetlands which are grounded in modern or colonial ideologies.

But before alternative imaginaries can be forged it seems pertinent to understand dominant imageries in relation to wetlands in the context of Alberta. I began this process in chapter one by focusing on the history of wetland drainage in Alberta as part of early settlement and as part of the continued expansion of industry and economic growth in the province. In the section that follows I broaden my scope by examining more closely how “modern water” (Linton 2010) continues to inform policy around wetland management and conservation by looking at how the more recent Alberta Wetland Policy (AWP) (Alberta Government, 2013, September 1) has been formed and used as an evaluative tool for assigning an economic value to water bodies such as wetlands, which ultimately determines if they live or die. Given the discussion that I have offered thus far, combined with the information on the development of the AWP and its stakeholders, the argument that I am attempting to build here is that grief in relation to wetlands is not solely about the material loss of wetlands from the prairies, rather grief is also associated to a socio-political and socio-economic structure that prioritizes profits over the conservation of these important water bodies and ecosystems. And finally, I close this discussion by offering another ethnographic encounter where I engage with both landscape ethnography and queer phenomenology as a matter of orientation where encounters with wetlands serve as phenomenological markers that open to pathways of inquiry which reveal some of the underlying factors that contribute to grief in relation to wetlands. These encounters demonstrate how such grief brings with it an ethical and political responsibility to challenge dominant imaginaries related to “modern water” that value and prioritize economic growth over the life of wetlands.

Wetland Politics: The Gaps and Grey Zones in Alberta’s Water Resource Strategy

Settlement and industry have had profound impacts on Alberta wetlands and watersheds. Recently these impacts have been compounded by climate change and extreme drought. The prolonged multiyear drought in 2001 and 2002 was felt across Canada, but nowhere as seriously as in the Prairie provinces of Alberta and Saskatchewan (Wheaton et al. 2008). Periodic drought has been a part on the prairie landscape well before settlement (Morgan 2020), but according to

Wheaton et al. (2008), what was “exceptional” about 2001-2002 from typical drought years, which are “generally more spatially fragmented, less intense and shorter”, was the geographic scale of the drought, along with its severity over an extended multiyear period (Wheaton et al., 2008, p. 242-243). Across Canada,

[T]he 2001-2002 drought was a strong reminder of the importance of water, and the challenges brought people together in many ways to deal with water scarcity issues. We documented impacts on water supplies, including stream flows, wetlands, dugouts, reservoirs and groundwater. Secondary impacts of water scarcity affected irrigation and municipal water supplies, as well as recreational and tourism activities (Wheaton et al., 2008, p. 250-251; with reference from Koshida 2005 and Wittrock 2005)

This period of extreme drought was a pivotal moment in Alberta’s approach to water management. On behalf of the Alberta Government, the Alberta Water Council was tasked with assembling a group of stakeholders, including governments, industries, and researchers in November 2001 to develop a strategy that could address matters of future water scarcity in the province (Alberta Government, 2003, November 1). As a result of this collaborative effort, the Alberta government introduced what is called *Water for Life: Alberta’s Strategy for Sustainability* in 2003, taking a watershed approach to water resource management under the Provincial Water Act. The Water for Life strategy (2003) outlines three main sustainability goals which serve to guide water resource decisions and policy, including the redrafted AWP published in 2013: (1) a safe, secure water supply, (2) healthy aquatic ecosystems, (3) and a reliable, quality water supply for a sustainable economy. At its core, the Alberta government’s Water for Life strategy and the AWP represent an all-too-common model that aims to take a balanced approach between environmental, social, and economic sustainability.

Sustainability discourse as a ‘win-win-win’ strategy largely took hold after the publication of the *Brundtland Report—Our Common Future* in 1987, creating a wave of sustainable development policy and renewed approaches to environmental governance (Sneddon et al. 2006). “The *Report* attempted to establish a vision of ‘sustainable development’ in which humankind could continue to ‘progress’ while simultaneously finding ways of engaging with non-humans and material systems that would not destroy these, allowing them, instead, to replenish themselves at a rate similar to or even faster than the speed at which societies were making use of them” (Strang,

2017, p.209). This promise of sustainability was ultimately capitalism rebranded for the new millennium, a last-ditch effort to convince the world that human progress could continue as long as the proper policies, strategies and technologies were in place to protect or enhance “nature”, thus ensuring an unlimited supply of resources for human consumption. It is the spirit of this promise that policies, development, and even conservation continue to be built upon (Raymond et al. 2013), which is evident in the Water for Life strategy and the AWP.

The Water for Life strategy (Alberta Government, 2003, November 1) is sold as a model of collaboration and information sharing through three types partnerships with the Alberta government, headed by Alberta Environment and Parks. These partners include the Water Advisory Council, Watershed Planning and Advisory Councils (WPACs), and Watershed Stewardship Groups. In order to understand the structure of this partnership, the Water for Life Strategy is represented as a pie shaped circle, with each partner occupying an equal piece. At the center of this commensurable circle is where all groups come together to collaborate and share information (p.17). While this image is used to easily explain to the public how water resource and management decisions are supposedly made, it is a misrepresentation since the Alberta Government ultimately has authority over final decisions that shape policy. It also ignores the power and influence of industry in such outcomes.

My own interpretation of the water governance structure, particularly after speaking with individuals who serve(d) as members or employees for Watershed Advisory Councils and Stewardship Groups, is a vertical or hierarchical one where information, advice, and data flow upwards to the Alberta Government (see Figure 1 below). Once policy decisions are made, the information (often in the form of reports or educational tools) flows back, downwards to the other partners and further distributed at the regional and public level. At the same time, the majority of these partnership groups below the Alberta Government are governed by a board of directors composed largely of members from various industrial and economic branches, including oil and gas, mining, and the agricultural sector, all of which hold significant amounts of political and economic power both provincially and federally. Ultimately, the Alberta Government and industry control the political narrative about the value of wetlands in the province, which prioritize economic growth and prosperity over socioecological values. This is modern water in the context of Alberta.

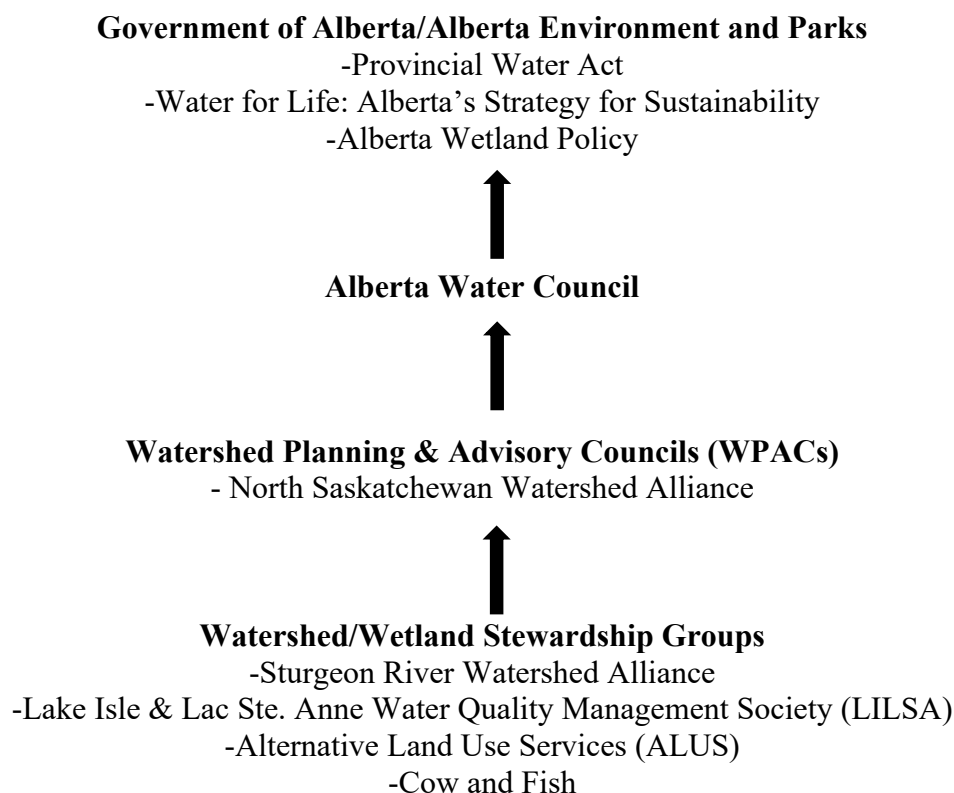


Fig 2. Example of the water resource management structure in Alberta.

Many people who agreed to be interviewed and participate in this research were from the organizations represented in the two bottom tiers in the above figure. I made several attempts to establish connections with individuals from Alberta Environment and Parks, the Alberta Water Council, and from Duck's Unlimited with no success. Perhaps grief from the loss of wetlands is outside of their jurisdictions? I wanted to get a better idea about how the AWP was used to make decisions and how it was implemented or enforced, because after reading the policy I was confused not only by the evaluative metric that assigned economic value to wetlands but also the three-tier mitigation sequence of avoidance, minimization and replacement. After speaking with people from the general public, and those affiliated with WPACS and stewardship groups, it became clear that for many, the sense of confusion was mutual. In an interview with a staff member of the North Saskatchewan Watershed Alliance, some of the main concerns which were consistent in other conversations were expressed.

We're finding that there's a lot of gaps, things that make it difficult for municipalities to actually even know what wetland they have in their municipality and what value to place on them. So we have, you know, wetland replacement values that are calculated from a bunch of metrics surrounding environments, economy, and culture. But how do you really measure those things? I don't understand the metric myself, to be honest. (participant interview).

Similarly, in a conversation with a board member from the Sturgeon River Watershed Alliance, they state,

I've been doing lots of looking around and especially when it comes to this wetland policy that Alberta has, and everything like that. It seems like there's a big gray zone as to what they have, that hierarchy of avoiding harm to wetlands, minimizing harm to wetlands, and then there's completely restoring and replacing wetlands. And it seems that avoidance and minimization is a very gray area and that developers and industry can go straight to restoration and to replacement. And I'm even like, I'd like to know what replacement even means or what does restoration even mean? (participant interview).

These gaps and gray zones that participants spoke about were outlined more clearly in a recently published report by the Alberta Water Council (Alberta Water Council, 2021, June), just two months before I began my fieldwork. The report, which is an implementation review of the Alberta Wetlands Policy (AWP), highlights some of its main challenges, which in short include: regulatory complexity and efficiency, comprehension and transparency in assessment tools and in reporting, and insufficient education and stewardship (p. 4-5). It must be said that Alberta is not unique in its mitigation strategy based on the avoidance of impacts, minimization of impacts, and the replacement of wetlands when impacts cannot be avoided. While each Canadian province has its own wetland policy, the one employed by Alberta was one of the first, employing an impact mitigation sequence similar to other jurisdictions in North America (Clare et al. 2011), including Canada's own *Federal Policy on Wetland Conservation*, published in 1991; ten years after Canada became a signator to the Ramsar Convention, an international treaty dedicated to the conservation of wetlands (Rubec & Hanson 2009). However, in terms of mitigation strategies, the federal wetland policy is supported by the *Implementation Guide for Federal Land Managers* (Rubec & Hanson 2009 in reference to Lynch-Stewart et al. 1996).

The confusion, or lack of clarity, in navigating the AWP and other strategies that utilise an impact mitigation sequence of avoidance, minimization, and replacement, has been echoed by

scholars and other professionals working across fields of biological sciences, resource management, and environmental law (Weber et al. 2017; Clare et al. 2011; Rubec and Hanson 2009). Perhaps none as directly as Clare et al. (2011), who pose the important question in the title of their article, “Where is the avoidance in the implementation of wetland law and policy?” What is consistent in these studies on wetland policy and governance in and outside of Alberta is the ease with which industries are granted permits by moving directly to compensation for wetland replacement without having to go through the preliminary process of evaluation and assessment that would determine if impacts on wetlands could be avoided or minimized. In an interview, I had the chance to pose the question about the effectiveness of the AWP to participant Anne who has dedicated most of her legal career and expertise to wetland protection and conservation in Alberta. Now retired, she continues to raise awareness through education, and was pleased to bluntly offer her own perspective.

John: How effective is the Alberta Wetland Policy in regards to the conservation, management, or protection of wetlands in Alberta?

Anne: It’s not, it’s completely ineffective. The Alberta Wetland Policy is a tool for developers so they can apply to remove wetlands. The price that these developers have to pay is nothing, they can easily pay it. The price for restoration comes at a minimal cost to them, it becomes an easy mechanism. The metric is not there to avoid or minimize the impact but to put a dollar amount on removal and restoration. What’s worse is that the money developers pay doesn’t even stay local. The government will give this money to an agency like Ducks Unlimited, which could go to any number of projects in Alberta.

To help explain this lack of regulatory efficiency and transparency associated to wetland management in Alberta, Clare and Krogman (2013) describe it as a form of bureaucratic slippage. Bureaucratic slippage is considered as the observable discrepancies between the performance measures or outcomes of environmental policy, and the ways in which powerful industries are able to reinterpret or manipulate these outcomes to best suit their economic strategies (Freudenburg and Gramling 1994). For example, in the redrafting process of the AWP, which began in 2001 and not made public until 2008, the implementation strategies outlined by the Alberta Water Council’s

Wetland Policy Project Team did not receive unanimous approval from all members of its board of directors, namely from two out of the twenty-five stakeholders: the Alberta Chamber of Resources (mining, energy, and forestry development) and the Canadian Association of Petroleum Producers (Alberta Water Council 2023). In non-consensus letters addressed to the Alberta Water Council, both companies raised issues about the AWP implementation strategies and offered resolutions which demanded flexibility in compliance of policy goals, in compensation and replacement ratios, and in jurisdictional implementation and exemption (i.e. White Zone/Green Zone) (Alberta Water Council 2023). While the role of Alberta Water Council is to advise the Alberta Government about wetland management strategies, it is ultimately the government who makes final decisions on matters of policy. Given the ambiguity of the current AWP (2013)—particularly around regulation, efficiency and transparency outlined in the Alberta Wetland Policy Implementation Review (Alberta Water Council, 2021, June)—it is clear that the policy is working for those industries that drive the Alberta economy, and not for wetlands themselves or the many species, including humans, that depend on them.

The creation of Alberta's Water for Life strategy, which in turn led to the redrafting of the AWP came after the severe drought of 2001 and 2002, a moment that mobilized the government to take steps to mitigate future water scarcity. When the AWP was published in 2013 it reported that 60-70 percent of wetlands had disappeared in the settled area or White Zone. What is more problematic is the significant percentage of wetland drainage or removal that takes place on private lands without the proper permits, thus going unreported (Clare and Creed 2014). During my research I have come to realize that I could have easily dedicated an entire thesis to the AWP. Going deeper into ideas and theories about the economic values associated to ecological services, the commodification of nature, or environmental trade-offs in water or wetland management. I have included Water for Life and the AWP in my analysis because I want to provide a picture of the political economy and political ecology surrounding water and wetlands in Alberta in order to understand modern water as a hegemonic imaginary that shapes the politics and culture in an area that prides itself as being resource rich. Highlighting the gaps and gray zones brought forward by participants is a way of disrupting this dominant imaginary, exposing the vulnerabilities wetlands and watersheds continue to be subject to under environmental policies that make economic growth a priority. In my opinion, the gaps and grey zones within the politics and bureaucracy of the AWP and Alberta's Water for Life strategy create confusion as to why or how wetlands disappear. And

it is arguably this confusion that is a contributing factor to grief in relation to wetland loss. Because what these policies do, is reduce wetlands and water to a material resource, ignoring their relational and affective qualities, making wetland life and death invisible through dominant political and economic paradigms.

Queer Relations and the Ethical Responsibility to Protect Wetlands

After a few wrong turns I finally arrived at Lake Isle, parking my cousin's jeep at the back of my friend's family cottage. I jumped out of the jeep and the screen door of the cottage creaked open with a springy awkwardness. "Johnny!" my name echoing through the trees as my friend Allison made her way towards me with her arms open. Only a few close friends and family in Alberta call me Johnny, so it makes me smile, and as we embrace the years that separated us seem to fade away. It had been fifteen years since I said goodbye to my friend and roommate in Edmonton before moving east to Montreal. Our history however dates back further by at least thirty years, to that small Alberta town where we spent the beginning chapters of our lives. When Allison discovered I was back in Alberta for an extended period she reached out with an invitation to join her and a few others for a lakeside fire to celebrate her fortieth birthday. A tradition she does every year, but the first I had been around to be invited to. For weeks I had been completely absorbed by my research and fieldwork, so it felt good to take a Friday night off away from it all. Well, at least that's what I thought I was doing.

The small A-frame cottage is more than fifty years old and is shared between a large extended family that spans over four generations. Inside, the wood panelled walls are decorated with a mixture of Canadiana and kitsch, and the windows at the front of the cabin offer clear views of the lake between two large spruce standing in the yard. The cabin had a familiar smell of wood, the kind aged with the seasons and cured by fires in the cast iron stove. I was the first to arrive, giving me some time to catch up with my friend before the others showed up and took their places around the fire pit near the edge of the lake. We talked about family and friends we haven't seen for a while, and of course COVID, which seemed impossible to avoid. We briefed each other on our vaccination status—Allison making it clear that she was happy to get it out of the way and that she would prefer not to talk about it again for the rest of the evening. I was happy to agree.

Lake Isle is located eighty kilometers west of Edmonton just off the Trans-Canada Highway. It is part of the Sturgeon River Watershed, a sub-watershed belonging to the larger North Saskatchewan Watershed. The lake is fed by the Sturgeon River which flows westward. From Lake Isle the river winds its way to Lac Ste. Anne, followed by Big Lake, through the city of St. Albert before it joins with the North Saskatchewan River. Both Lake Isle and Lac Ste. Anne are located at a short distance from each other, and both are eutrophic lakes: they are shallow and have muddy bottoms, which often contain excessive plant nutrients like phosphorus and nitrogen leading to an overproduction of vegetation, choking the water of oxygen. Combined with warmer summer temperatures, these nutrient rich waters create a more serious problem of blue-green algae blooms, which is toxic to many aquatic and non-aquatic animals, including humans. For this reason, Lake Isle, like many other lakes in Alberta, is no longer swimmable. The cabin is located on the southeast shore in a small community known as Silver Sands and is wedged between the lake and the Silver Sands Golf and Country Club. Much of the land surrounding the lake is agricultural land, but largely used for pasture since it is less productive than other areas of the Aspen Parkland region (participant interview). The nutrient runoff from both the golf course and from agriculture have likely contributed to Lake Isle's poor water quality.

The other guests arrive shortly after. I conveniently forgot to bring my best attire for the 80's themed evening, but our mutual friend Shannon, whom I hadn't seen since high school, happily reassured me that she had more than enough brightly colored polyesters, spandex and faux leather for everyone to have an outfit. From a large stuffed garbage bag she pulled out a full length, fire engine red coat and enthusiastically slung it over her shoulders, making them more pronounced from the coat's exaggerated shoulder pads. She handed me a puffy faux leather bomber jacket that would have fit me if it not for the sleeves that ended halfway between my wrist and elbow. The birthday girl wore a teal polyester blouse with a black graffiti print tucked into a pair of high waisted "mom jeans" with pleats on the sides, and finished with a pair black kitten heels, all of which she found at Value Village the day before. She fixed her hair into a curly side ponytail and accessorized with large white hoop earrings and chunky plastic bracelets to match. James, Allison's bother, who was there with his boyfriend, settled on a sleeveless gold lamé duster with puffy shoulders and a pair of black high heels.

With our outfits selected we grabbed our drinks and made our way toward the lake. The sun was close to setting and reflecting off the lake, making it hard to find the right angle to take an

80's inspired photo. It was fun spending time with friends, seeing James, who is like a little brother to me, strut his stuff in heels along the cement walkway between the cabin and the fire pit area. As much of a good time we were having, I was also very aware that I was in a place that was both familiar and unfamiliar at the same time. And it is the unfamiliarity that made me scan for neighbors or people who may be watching from other cabins nearby. Rural Alberta is not Montreal, and I was feeling somewhat vulnerable out in the open.

Once we found our places around the fire I explained why I am back in Alberta for a longer stay than usual. "In a nutshell" I say, "my research focuses on grief and mourning in relation to the life and loss of wetlands in Alberta." By then it had become more of a catch phrase after six weeks in the field. James was standing close to the fire, the light reflecting off his gold lamé duster. Moved by my explanation of wetland grief he began to share how Lake Isle is no longer swimmable due to the toxic blue-green algae that blooms in the shallow water of the lake, particularly during extended periods of hot summer weather. Gazing in the dark toward the lake James expressed that "some nights when you are sitting around the fire you can hear the crackling of snail shells in the bubbling algae along the shoreline." "It smells like death," he says. During intense blue-green algae blooms lakes become depleted of oxygen creating dead zones, which threaten the survival of aquatic species (Ducks Unlimited Canada 2023). His sensory and rather poetic portrayal of the lake struck a chord in me, and I realized that as much as I was planning to take the evening off from fieldwork, proximity to water, whether it be a physical or embodied proximity, has a way of seeping into the present unexpectedly—an instance where memories and emotions related to water bodies are shared and become a common language that is understood by those who share similar experiences with wetlands and grief.

* * *

My reunion with old friends at Lake Isle led me to contact the Lake Isle & Lac Ste. Anne Water Quality Management Society (LILSA), in order get a local perspective of the changes that have taken place resulting in the lake's degrading water quality. I was contacted by Peter who enthusiastically agreed to sit down with me virtually for an interview and to answer some of the questions I had stemming from my visit to Lake Isle. Peter sits on the board of directors for LILSA and also owns a home on the lake within the small community of Silver Sands, the same place

where my friend Allison's family cottage is located. I was fortunate to have the chance to speak to him since he has been part of the community for the past 40 years and advocates for better stewardship of both Lake Isle and Lac Ste. Anne, along with the surrounding wetlands.

As I did with all other participants, I asked Peter if he interacted with wetlands when he was a child or in his youth. The majority of those who agreed to participate in this study did have some kind of connection that began at an early age, which greatly influenced how they perceive wetlands and also their desire to protect them.

Peter: I was born with a gun in my hand. So I was in northern Saskatchewan, a small town, and we were beside a nice lake, Makwa Lake. I spent a lot of time in the bush, but mainly hunting and that kind of thing. Like fall, to me, is bird time. But just being in the forest was really something. In the marshes we'd hunt ducks. But we really didn't understand the balance that needs to be there. Just was there, and glad to have a little body of water.

Now retired, Peter dedicates much of his time advocating for the waters in his area, which also involves spending a lot of time walking around the lake and being aware of how it changes with each season. He confirmed some of my assumptions that excess phosphorus and nitrogen in the lake contributing to blue-green algae in the summer months was largely coming from nutrient runoff from agricultural land and from the Silver Sands Golf and Country Club. In addition, Peter also pointed out that excess nutrients were also coming from the "residents that have green grass like in the city", suggesting that many property owners around the lake use fertilizers. Many have also removed the native vegetative buffer along the shoreline that would help to mitigate the problem of nutrient runoff into the lake. On top of the blue-green algae, Lake Isle, which has an average shallow depth of four meters, is experiencing a rapid spread of Flowering Rush, an ornamental flower introduced in North America for domestic gardening, and now classified as an invasive species. After eight years of consultation with municipal and provincial governments, along with First Nation communities adjacent to Lac Ste. Anne, a decision was made to apply for a two-hundred-thousand-dollar provincial grant in order control the spread of Flowering Rush. Because mechanical removal of the plant had been unsuccessful, the newly granted funds have been used to purchase and administer a synthetic chemical herbicide sprayed directly onto the plant, which was done for the first time just a few weeks before my conversation with Peter.

Because Alberta had experienced one of the hottest summers on recorded, I wanted to know if high temperatures had exacerbated the blue-green algae problem at Lake Isle, as was described by James from previous years. Surprisingly, blue-green algae had not been a problem in the hot summer of 2021. Peter, admitting that he is not a scientist, had a hypothesis that was shared with other locals about the absence of blue-green algae. While the water levels were currently some of the lowest he has seen in many years, heavy rainfall over an extended amount of time the year previous contributed to the lake having highest recorded levels which caused a significant amount of flooding. Some residents, including Peter, had to resort to using gabions and sandbags to protect their homes and cottages. Peter believes that the high water levels in 2020 helped flush downriver the bacteria (Cyanobacteria) that feed off the excess nutrients and photosynthesis in the hot summer weather, which lead to the rapid accumulation of blue-green algae in the lake.

During the interview Peter made clear that wetlands located around the Lake are protecting it, working as an absorbent buffer and slowing down nutrient runoff. “Wetlands are sometimes described as “the kidneys of the landscape” because they function as the downstream receivers of water and waste from both natural and human sources...They have been found to cleanse polluted waters, protect shorelines, and recharge groundwater aquifers” (Mitsch & Gosselink, 2007, p. 4). So when the owner and developer of the golf course submitted an application to the municipality of Summer Village of Silver Sands in 2018 to construct a new subdivision over three quarter sections of land (approximately 480 acres), including a large swath of wetlands located between the golf course and the lake, Peter voiced his concerns about the importance of protecting the wetlands and keeping them intact. Unlike many of those who participated in this study, Peter was knowledgeable about the Alberta Wetland Policy (AWP) and its mitigation and compensation strategy, so he knew that if the golf course had the money to compensate Alberta Environment for the removal of wetlands for the new subdivision the project would likely be approved.

Over the course of my field work I had made several attempts to make contact with certain individuals from Alberta Environment and Parks, and Ducks Unlimited within its Alberta division who could help me better understand the AWP’s wetland compensation and replacement strategy; especially since Ducks Unlimited is the only organization contracted by the Alberta Government for wetland restoration and replacement (Clare & Krogman 2013). Between 2015 and 2020, 35.8 million dollars in wetland replacement fees were collected by Alberta Environment and Parks (Prairie Habitat Joint Venture Webinar, 2021, January 13), but because of the ambiguity of the

AWP, as outlined in the Alberta Wetland Policy implementation review conducted by the Alberta Water Council (2021, June), there is no clear indication of how, when, or where restoration projects take place, or how efficient they are in replacing the wetlands that have been lost. In a quantitative study conducted by Clare and Krogman (2013) on environmental offset policies for wetlands in Alberta, data was collected pertaining to government wetland replacement approvals and compensation received by Ducks Unlimited Canada between 1999 and 2010, revealing incongruities or a complete absence of records and inventories that could verify the implementation of wetland agreements between the Alberta government and Ducks Unlimited. Despite my efforts to contact Alberta Environment and Parks and Ducks Unlimited, I did not receive a reply from anyone who could help to better understand the afterlife of wetlands when they are approved for removal and compensation has been granted to restore or relocate them. Peter told me not to feel bad, “I live here and can’t get a hold of them. They don’t answer me either,” he said.

Because Peter has knowledge about the AWP, not only is he aware that a wetland replacement fee payed by the golf course would eventually be forwarded to Ducks Unlimited for wetland restoration, he also knew the likelihood of these replacement fees going toward projects outside the geographic area where the wetlands were originally lost.

Peter: I had been at meetings and several of us from the municipalities were saying, “well, what the hell, that’s no good!” We’re giving Ducks Unlimited the money to reclaim these things, but crap, if that happened in northern Alberta, say your own hometown, that money could go to southern Alberta. Well, that doesn’t make sense. Why wouldn’t you do *it* (referring to restoration) back in the municipality or the area that you were in?

In the same study conducted by Clare and Krogman (2013), “the data collected from Ducks Unlimited Canada annual reports showed that between 1999 and 2010, 80% of in-lieu fees (ILFs) were directed toward projects located outside of the watershed of impact” (p. 680). The main reason that wetlands are relocated outside the area or watershed where they are lost comes down to a lack of compensation sites, particular around urban areas, within the white zones (settled area), and on private lands where approvals can take many years to obtain (p. 680). From both an economic and ecological standpoint it would seem to be nonsensical to not only fund conservation

or restoration project outside of the area of impact, but also the fact that the impacted area stands to be in ecological deficit that could have negative impacts on other ecological relationships more broadly.

In the case of the wetlands between the Silver Sands Golf Course and Lake Isle, knowing how important it is to keep the wetlands intact, not only for the lake, but also for local biodiversity more generally, Peter worked with the surrounding municipalities and the developer for the golf course to come up with another plan. Rather than remove the wetlands the municipality was able to locate all the wetlands between the golf course and the lake, and then select an area for the subdivision that would not compromise these wetland sites. At the same time, because the developers are responsible for compensating the municipality for a certain number of acres lost, the municipality was able to develop a compensation strategy that could be used to create a larger buffer around the existing wetlands, thus protecting both the wetlands and the lake. Of course, this is not a typical scenario. According to Peter, more often developers just need to submit a plan for the development of a certain site and are easily granted a permit even if there is an unavoidable risk of impacting wetlands. He believes this often happens because people ultimately do not know that wetlands exist in these areas, or just do not understand the benefits they provide.

During our conversation Peter and I spent lots of time sharing memories about our experiences with wetlands and how we have witnessed them vanish from the Prairie landscape. Before our meeting we were strangers to each other, but somehow our desire to preserve or protect wetlands allowed us to communicate with understanding and compassion. Because in a way, preserving wetlands is ultimately part of preserving our sense of being and place by making present our stories and our grief in relation to wetlands.

Such work also requires knowledge about how and why wetlands disappear often in ways that go unnoticed, and understanding the broader implications of such loss on this shared watershed and beyond it. When wetlands are absorbed by the state's governing bodies, decisions as to whether they live or die is determined largely by their productive economic value rather than a relational or ecological one. The dominant way of knowing wetlands, which is not exclusive to Alberta, is therefore one that is socially or politically perceived as a hindrance to economic growth, thus making their removal simply an externality of human progress. Rather than protecting or conserving wetlands, Alberta's wetland compensation and replacement strategy, along with its affiliation with Ducks Unlimited, ultimately make wetlands invisible, which in turn makes them

ungrievable. But for those who participated in this study and shared their personal stories about their experiences with the life and loss of wetlands, their grief is tied to an ethical and political responsibility to speak for and protect those water bodies within the NSW, thus contributing to a broader political community concerned with informing alternative ways of knowing wetlands and of living alongside them.

Conclusion

As this chapter has demonstrated, what began as ordinary encounters around backyard fires, opened up to pathways for deeper reflection and theoretical analysis about how knowledge of wetlands and water bodies are dominated by modern paradigms held up by a political, economic, and social hierarchy of values. These encounters where memories and relationships with wetlands within a common hydrogeography were shared offer alternative ways for thinking with wetlands not only as sites of socioecological relations or phenomenological embodiment, but to think of our own bodies and those of others as somehow connected to the life and death of wetlands. While much of the wetland loss in Alberta may go unnoticed, I have found it important to make present the stories and experiences of those who do notice, and whose grief largely motivated them to participate in this study. Using such an approach can disrupt dominant imaginaries related to “modern water” that only serve to prioritize or value certain lives or others which ultimately determines which lives or deaths can be constituted as grievable. It is for this reason that thinking with wetlands and with grief is so powerful. It exposes a shared vulnerability through loss which can lead to ethical and political possibilities for reimagining water relations.

Chapter 3: The Sound of Water

From my apartment in Montreal, just a few short weeks before leaving for Alberta, I commented on a video posted on Facebook by someone I know from my hometown. The short video was of a beaver gliding across a pond in its usual fashion; its nose and the slightest part of its head and back visible above the surface of the water. In an instant the beaver dips under the water, barely leaving a ripple behind. The caption for the video reads, “The son of a bitch evaded the county traps! Moved out for two weeks and now he’s back. I’m done being nice, it’s a bullet this time,” followed by a couple angry-face-emojis and the hashtag #fuckyoubeaver. Perhaps playing devil’s advocate, I ask: “do beavers really create that much havoc on the prairies?” Other than the author of the video replying with an absolute “yes” since the beaver had been cutting down trees in their yard, my comment sparked a short debate between myself and a local farmer who ultimately believes that urban life has made me lose touch with rural reality.

This local farmer however is not so far removed from me. We grew up together, and were part of a larger circle of families who were joined together mainly through hockey, which was played by both fathers and sons. Over the past twenty or more years we had fallen out of touch, but I would hear from him from time to time when he commented on a few Facebook posts where

I shared articles on matters of industrial agriculture, climate change, or biodiversity loss, often objecting to my shared content. I told the farmer and family friend that I would be in Alberta for two months and would be open to continuing the “beavergate debate” over a beer. I potentially wanted to talk to him or his other brothers who had taken over the giant family farming empire in recent years, so I didn’t want to create anymore tension between us that was obviously already there. He did meet me for that beer, but he refused my invitation to participate in this study.

It is baffling how the beaver, or *castor canadensis*, can be revered as symbol of a Canadian historical identity and at the same time be despised for the destruction that it causes on private lands or infrastructure. Often described as “ecological engineers”, beavers have the ability to transform landscapes at a geological scale through an adaptive strategy that involves constructing dams consisting of logs and branches intricately woven together and enforced by sediment, creating a watery environment to safely build lodges for themselves and their kin. These dam structures have the strength to hold incredible volumes of water, slowing down flows and allowing water to sink in at subsurface levels, thus creating habitat for countless other species (Brazier et al. 2020). But for many people on the prairies, where wetland drainage has been utilized as a mechanism for settlement and agricultural expansion, beavers are perceived as pests when their adaptive strategies spill over into human-dominated landscapes.

There is no doubt that the beaver has been an object of fascination for its architectural ability and resourcefulness, which consequently transforms landscapes and ecologies. This fascination traces back to early anthropological work in animal studies starting with Lewis Henry Morgan in the *American Beaver and his Works* (1868), to more contemporary theoretical and ecological analyses of the beaver that employs a phenomenological “dwelling perspective” (Ingold 2011), or interrogates them as a diasporic invasive species (Ogden 2021), to name a few. In the context of the prairies, the work of anthropologist Grace Morgan in her book, *Beaver, Bison, Horse* (2020), provides an account of Indigenous Plains Peoples’ ecological knowledge and cosmology related to the beaver, and how colonialism and the fur trade transformed these relations and the landscape. The North Saskatchewan River as the central artery of the North Saskatchewan Watershed (NSW), was used by First Nation peoples as a source for food and transportation, and eventually became a direct trade route to the Hudson Bay (Newton 2017); beaver pelts being the primary colonial commodity which were extracted from colonial Canada and shipped to Europe (Morgan 2020).

The authors mentioned here share the same research subject but take very different approaches, demonstrating how the beaver has been revered both ecologically and culturally as a keystone species or abhorred as a major disrupter to liberal economic progress and to cultural constructions of pristine “nature”. While the theoretical and methodological approaches employed by these authors vary, there is one common thread that runs through each of them, which is the experimental and speculative nature of conducting research on the socio-ecological life of animals and how such life is entangled with so many others. For example, L.H Morgan who at first highly underestimates the beaver, being sure to uphold its inferiority to humans and other species within a modern evolutionary hierarchy, admits that what is offered in *The American Beaver and his Works* is an “experiment” involving “a special undertaking of collecting and systematizing our knowledge of the habits and mode of life” (Morgan, 1868, p. vi) of the beaver. In his conclusion, L.H Morgan strikes an empathetic tone that suggests that certain assumptions and the treatment of the beaver could be described as a great injustice seen they “possess the ability to think and reason” (p.284). According to Kirksey and Helmreich (2010), multispecies ethnography is rooted in this work by L.H Morgan which set a path for other early 20th century scholars in anthropology interested in the role of animals in spiritual and subsistence practices, including Evans-Pritchard, Lévi-Strauss, and Radcliffe-Brown (p. 549-550).

Ogden, Hall, and Tanita (2013) define multispecies ethnography “as ethnographic research and writing that is attuned to life’s emergence within a shifting assemblage of agentive beings. Beings that are “both biophysical entities as well as the magical ways objects animate life itself” (p.6). While these scholars use a simple definition of multispecies ethnography, the words “emergence” and “assemblage” are suggestive of the more complex layers associated to a field of inquiry that not only make present the relations between humans and non-humans, but also considers the ways in which these agents and their material entanglements are involved in a constant process of becoming together (Haraway 2016). As one of the more influential figures in multispecies research, Haraway describes these interspecies relations as “knotted beings” or “companion species” (2008), whose mutual becoming is not necessarily a given, but is dependent on the situatedness of their encounter. In a discipline such as anthropology where the anthro- is so often the primary point of focus, some scholars more recently have challenged such centrism by taking more seriously multispecies encounters (Kohn 2013; Tsing 2015), which in turn offer renewed perspectives on what it means to be human in relation to other beings and other places.

In the context of my own research, and in the chapter that follows, I will demonstrate how wetlands as sites of encounters offer opportunities to interrogate interspecies relations and how these relations open to reflections about mourning or grief as material and emotional assemblages between humans, other species, and their shared environments or dwelling places.

Before going further, it is important to address one of my main concerns about my research on grief in relation to wetlands, which has been present throughout this entire process. While I have greatly focused on my own emotions and those of others to attempt to map what I have called an emotional hydrogeography within the NSW, such a mapping is just a partial one. In terms of grief in relation to being and place, it must be recognized that First Nations, Inuit, and Métis peoples in what is now called Canada have experienced, and continue to experience, the trauma associated to the colonialism and the loss of land from which they are culturally and ontologically bound. Since the NSW is central to Treaty Six Territory, I did include First Nations and Métis groups within this territory in my ethics protocol, not only because their perspective on such a subject is necessary, but because to exclude these groups from such a conversation is itself unethical. During my fieldwork I contacted six different First Nations within Treaty Six Territory, but was unable in such a short timeframe to build the relationships that are necessary to do such difficult work.

I bring this forward here because conducting multispecies ethnography on the beaver requires acknowledging the intimate relationships that certain Indigenous groups have with this animal they relate to as kin, and which was hunted to near extinction during colonial expansion. While I was not able to get the direct perspective of local First Nations or Métis within Treaty Six Territory, Indigenous writers and scholars have written about the beaver as present in traditional teachings and oral histories which inform Indigenous relationships to landscape, their cosmology, and political systems (Kimmerer 2013; Simpson 2021; Bruchac 2005). For the Blackfoot peoples of the Prairie Grassland region of southern Alberta, Saskatchewan and upper United States, the beaver is revered as a sacred animal and is central to the most important ritual known as the Beaver Bundle Ceremony (Morgan 2020). Killing the beaver was therefore a cultural taboo and many Blackfoot refused to hunt beavers for the colonial fur trade, and some even took measures to protect them (Morgan 2020). “The value of beaver in conserving and maintaining a critical resource (surface water) would have far outweighed its value as food. Supernatural control was invoked through the mechanisms of story, ritual, and ceremony” (p.11). The Blackfoot had deep

traditional environmental knowledge of the landscape, and how both water and fire were important elements in their subsistence practices which are part of a cycle of regeneration (Morgan 2020).

More recently, in Ogden's ethnography *Loss and Wonder at the World's End* (2021), she writes about the beaver as diaspora since its introduction to the Fuegian Archipelago in Argentina from Canada in 1946, as part of a plan to establish a fur trade in this area (p.68). The book is not dedicated solely to multispecies ethnography, it weaves in human histories and archives of settlement and coloniality, which demonstrates how humans, other species, and shared landscapes become together. Ogden shows how ethnography is useful in revealing these entanglements, which offer ways of understanding the contradictions and futility in human attempts to control nature, or in cultural constructions that perpetuate an idea of humans as separate from it. What is equally important to highlight in Ogden's ethnography is the methodological approach which she describes as one of "speculative wonder" (p.12).

In general, speculative wonder is a curiosity about other assemblages of life (compositions of beings, beings and things, sometimes beings that identify as human), but more specifically, *it is an experimental approach to engaging and representing those worlds*. Bringing an ethnographic sensibility to trajectories of species difference, for example about the lives of beavers, is clearly a speculative project. When speculating about nonhuman worlds, I pay particular attention to how other beings sense and know their environments (p.13; original emphasis).

This experimental approach of speculative wonder that Ogden employs is credited to philosopher Isabelle Stengers, whose work "reveal[s] the tensions that are part of becoming within the confines of the world's predetermined categories" (p.13, in reference to Stengers, 2010). "[Stengers] uses the term speculative to signal an experimental reframing that enables the ontological reorientation in our practices of environmental concern" (p.13). Wonder, according Stengers, is a matter of relating, of accepting ambiguity, and continuing to ask the questions that matter to those that are curious enough to think beyond what has been predetermined by science or academia (Stengers 2011). Experimenting with this methodological and ontological approach to multispecies ethnography in my own field research has been both liberating and productive, as it is not restricted by demands to obtain objective or universal truths. It is about the situatedness of experience which is open-ended rather than absolute.

In my search to understand why or how wetlands become objects of grief, out of all the encounters that took place during my fieldwork, the ones I consider to be the most profound are those I had with the resident beavers and a great blue heron along the creek system cutting through my family's farm. Ogden (2021), states that "loss is lived by bodies that exist in relation to other beings and things" (p. 6). By absorbing this idea of loss as relational, it has been ethnographically productive not only to "think with water", but to attempt to think with the beaver and a great blue heron in relation to wetlands which has contributed significantly to my understanding of grief, particularly when grief surfaces due to disruptions to one's sense of home or place. In the previous chapters I have examined my grief and that of others as a response to the loss of wetlands. Here, I would like to build on this approach of "speculative wonder" by giving space to think about multispecies grief as an adaptive strategy for constructing their environments or dwelling places. By doing so, I am left to question if grief should be considered solely as a human emotional response to a disruption in one's sense of being or place, or whether it is more productive to begin thinking of such grief as part of an ecology that is be experienced by a variety of species? Can an ecology of grief, or at least tapping into it, offer new ways of thinking about grief as motivation to act, respond, or adapt collectively, and across species, to some of the ecological and geological challenges now and in the future? Like the authors and scholars before me, I have also been taken by a fascination for beavers, not only for their ability to build and create ecosystems, but also by the possibility that perhaps their unwavering dedication to do so could be potentially motivated by a form of grief as a sensorial response that is connected dwelling or a sense of place.

* * *



Beaver Dam. Photo by author, September 21, 2021.

Of all the animals that I encountered along the creek, the beaver was perhaps the more elusive, even if its presence was clearly observable from the water and the landscape along the forested riparian areas. Large fallen trees, some chewed half through and barely standing; Small shaved spikes sticking out from the ground near well worked paths leading directly to the water, compacted by pulling the young saplings closer to the shoreline or their beaver lodges so they can be munched on safely away from predators. But most impressive is the large dam the beavers built across the width of the creek stretching approximately fifty meters, creating a large aqueous terrace thick with bright green algae five to six feet above the narrow channel at the base of the dam. It is here, in this well constructed pond where the beavers made two new lodges, not far from an older one that I recognized from previous years.

My family's farm is located on corner piece of land at a crossroad, with the creek flowing across three of the four roads within this intersection before it flows across to their property. Before speaking with someone from the county in Transportation and Engineering Services, I was unaware that this particular area where road infrastructure intersects with this wetland network is known to individuals in this department simply as "Three Bridges". I contacted the county because every year the beavers build a dam under the bridge adjacent to my family's property and I was aware that at any time the county would eventually bring in a backhoe or use explosives to break it open. I was told by one county official that beaver dams place consistent hydrological pressures on bridges and road infrastructure and that often the county is left with no choice but to remove them. The county has been using these practices for as long as I can remember, which I have always found to be a rather violent approach to managing both infrastructure and wetlands. During our conversation I was informed that in 2020 record rainfalls in the spring and summer led to intensive runoff, which flooded the west bridge, closing off access to the road for several days before a backhoe was brought in to bust through nearby dams. The county official admitted that "blowing dams is not always the solution," since there is a risk of downstream erosion when so much water moves too quickly across wetland ecosystems. He also said that landowners have differing expectations when it comes to managing beavers, and often it is public opinion that influences the decisions made by the county to take such violent measures to do so. From this conversation I also learnt that the reason why water levels were so high despite the extreme drought conditions over the summer is likely because the beavers locked in behind their dams the water from the record precipitation from the year before.



Beaver Dam. Photo by author, September 24, 2021.

Because of the beaver dam and high-water levels at the east bridge, the one adjacent to my family's property, I was on the constant lookout for the county who roll by periodically in a white pickup truck to inspect the bridges, the dams, and the water levels. So I would check often to see if the dam was still intact. From the gravel road I would step onto a large cement curb at the edge of the bridge and lean over the wooden guard rails to make sure the dam was still there. On one occasion, leaning in to take a look at the dam, I was startled by a panicked great blue heron hiding under the bridge. It let out a loud "squawk," instantly taking flight directly in front of me, frightening me so much that I lost my footing off the cement curb and almost fell to the ground. I watched as it quickly flew away from me in the direction of the west bridge.

Seeing what the beavers had accomplished, and the presence of water as a result, I felt a sense of relief. So far 2021 was a year of weather extremes, especially in Western Canada where drought and forest fires were ravaging the landscape. Thanks to the beavers it had been a relatively

“good water year” for this small sliver of wetland running through an otherwise parched landscape. However, there was also a lingering feeling that this relief was only temporary since at any moment this could change given the precarity of wetland spaces in this Alberta watershed and for all those who depend on them, directly or indirectly. To think of temporary relief is to consider the ways in which the beaver, the great blue heron, humans, along with all the other species I encountered or listed in my field notes, are vulnerable to each other. According to Tsing (2015), “precarity is a state of acknowledgement of our vulnerability to others. In order to survive, we need help, and help is always the service of another, with or without intent...It is unselfconscious privilege that allows us to fantasize—counterfactually—that we each survive alone” (p. 29). The vulnerability that I wish to highlight here is related to ways of being that is shaped by our environment; more specifically our home or habitat, which I argue is in itself a matter of survival. It is this aspect of home that has grounded my analysis on grief in relation to (or with) wetlands, and it is one that I argue is part of dwelling, which is not exclusive to humans.

The study of animal grief dates as far back as the late 19th century when Darwin (1872) “observed behaviour indicative of grief” in primates (Archer 1999). Since then, there have been countless studies across many disciplines dedicated to animal grief, mostly to the response that certain animals have after the death of kin or a companion (p. 53-56). It is important to make clear here that in speaking about or studying animal grief, I have no intention to anthropomorphise such grief by drawing on comparisons between humans and animals. Nor do I do intend to offer a thorough analysis of animal grief, per say. Instead, I draw upon the work of Van Dooren (2014) and Haraway (2016) who challenge human exceptionalism, and consider what it means to live, die, and grieve alongside other species at a time of rapid biodiversity loss and extinction. In his book *Flight Ways* (2014), Van Dooren’s objective is not simply to prove whether birds know death or experience grief, rather it is to bring forward the relational and interconnectedness of grief across species, and across time and space, in order to understand the futurity in autonomy.

What grief points to here is a particular kind of *shared* world or *shared* life. This is a way of being with others that, as far as we know, is unique to some mammals and birds, a particular sociality rooted in our being *emotionally* at stake in one another’s lives. This possibility, the way of being with others, is a complex and biosocial achievement, requiring the coming together of evolutionary histories and emotional and cognitive competencies to produce embodied subjects who are unavoidably emotionally entangled with one another. It is only inside these particular biosocial

configurations that the passing of another out of the world can be experienced and felt as a genuine loss. But loss is not experienced in the face of all change or even death. It is not enough for two such beings to have lived alongside each other, in proximity to each other; rather, they must also in some way have become *at stake with each other*, bound up with what matters to each other. In other words, they must in some sense, more or less consciously, have come to inhabit a meaningfully *shared world* (Van Dooren, 2014, p.139-140; original emphasis).

During my fieldwork I cannot say that I observed grief-like behavior that would substantiate a claim that beavers grieve for kin or other beings. One would have to spend a considerable amount of time observing them in their natural habitat in order to test such a theory. However, in the limited time that I did spend in Alberta, from my encounters with beavers and learning about the ways they build homes for themselves and in turn for others, I bring forward an argument, even if it is speculative one (Ogden 2021, Stengers 2011), that in shared worlds such as wetlands, human and nonhuman grief is not solely a response to the loss of dwelling places. Rather, *beaver grief* may also be an adaptive motivating force in the making of them. And it is for this reason why I believe that the sensory experience of beavers and other species like the great blue heron must be represented as part of the emotional hydrogeography in which I am trying to map here.

While Van Dooren's approach has significantly influenced my thought process in regards to animal grief, my own interpretation differs in that it is not based on animal to animal grief within a shared world, rather what concerns me is grief as a response to the disruptions to this world itself. What I am interested in is the response that beavers and the great blue heron have when wetlands or wetland environments—which I associate with conceptual ideas of dwelling or home—are disrupted or disturbed, and if such a response is an emotional one that could be identified as environmental or ecological grief.

During the period of literary research prior to field work I was convinced that the emotions that I and other people were experiencing as a response to the loss of wetlands fell under what has been coined as ecological grief. Perceptually, ecological grief makes sense. On a more cognitive level it involves a relationship between the perceiver and the perceived environment that is intricately linked to the perceiver's sense of being or belonging, and the emotional response that is generated when this link is compromised. The problem here however is one identified by Ingold (2011) which he calls a human "split-level existence" that harks back to Cartesian dualism, and the theoretical divisions between biology and culture in the discipline of anthropology itself

(p.172-173). Ingold therefore revisits his earlier “dwelling perspective” based on his idea of the “taskscape” which is spatially and temporally created by the various agents within a perceptual field, shifting attention to the relational aspect of dwelling that takes place between an organism in terms of its morphology, its learned or adaptive behaviour, and the environment as mutually shaping each other. “For the non-human, every thread in the web is a relation between it and some object or feature of the environment, a relation that is set up through its own practical immersion in the world and the bodily orientations that this entails” (p.177). Simply put, dwelling is not necessarily something that is biologically or culturally predetermined, rather it is dependent on the environment and the sensory and material conditions it provides. Ecological grief is arguably, then, a response to rapid or sudden disruptions to the environment that is inhabited and makes dwelling possible.

According to Ingold, understanding a dwelling perspective as relational between organisms or beings and their environments requires “new ways of thinking” or even a “new ecology” (p.173). In terms of ecological knowledge based on relations between humans, non-humans and the environment, such knowledge is not “new,” rather it is the very foundation of Indigenous ontology, cosmology, subsistence practices and political systems. Cunsolo’s interpretation of ecological grief, which she has written about independently and collaboratively, largely stems from her research conducted with Inuit in Nunatsiavut, Labrador and the emotional or psychological impacts they experience due to changes in their environment as a result of climate change (Cunsolo Willox 2012; Cunsolo & Landman 2017; Cunsolo and Elis 2018). While ecological grief may provide a productive way for defining “a sense of loss—of place, culture, livelihoods, and beloved environments” (Cunsolo & Landman, 2017, p.4), my concern is that by naming ecological grief it then becomes a blanket term as the concept becomes widely accepted as simply a psychological response between subject and object, ignoring the relational nuances and cultural significance between Indigenous peoples and ecology, in addition to the trauma related to dispossession and environmental change. It is largely for this reason that I have decided not to use ecological grief as a definitive theoretical or conceptual frame, because despite my own feelings of grief in relation to the loss of wetlands, I do not want to universalize such experiences or group them under the same definition. What I hope to do is make grief present in its heterogeneous forms by bringing them out in the open in order to have a conversation about grief not as an object, but rather as a process intimately bound to dwelling and dwelling places. Perhaps

then it is not a “new ecology” that is needed, but rather new ways of thinking about grief in relation to ecology.

* * *

I learnt from the county official from Transportation and Engineering Services that the best time to hunt for beaver is either at dusk or dawn. The county has a local trapper and hunter who works on call to deal with unwanted beavers on private property. Up until this point I had been walking up and down the creek daily, but more so in the early afternoon. I was yet to see any beaver(s) since I arrived, but their presence was undeniable. They had even taken down a large poplar right across my usual path, which also damaged my uncle’s barbed wire fence. I’m quite certain that it’s these kind beaver activities that make them less popular among local farmers and property owners.

So rather than my usual afternoon stroll I decided to head out before sunset, taking a seat in the long grass on a slope near the water. I sat squarely between the two lodges located in the open pond being held behind the large dam. A third lodge that looks like it’s in early stages of construction rests along the bank on the opposite side. I named this pond area ‘beaver village’ early in my fieldwork. I was yet to see beavers, but regardless, it was clear that they had been very busy in more ways than one.

No sooner had I sat down, the coyotes began howling. It’s a ritual they perform on most evenings, and one that I can appreciate from the house rather than the woods surrounding me. The dogs, being just as unnerved as I am, take off and begin patrolling up and down the fence line, leaving me there to sit on my own as I returned my focus back to beaver village.

It was getting dark quicker than I thought and as I was about to head back to the house I saw some movement at the opposite shoreline; ripples of water from under the tall grass hanging over it. The movement intensified and finally I noticed two small balls of fur rolling in the water, two kits playing together. And then I saw it! The quintessential sign of the beaver, its head and slight round of its back gliding across the water between me and where the kits are playing. I motioned to grab my phone from my pocket hoping to take a video, but decided against it since it was likely to dark to capture the scene. Perhaps sensing me there, the beaver turned toward me and started swimming my way and stops about three feet from the shoreline. I know that beavers don’t

see very well, but what they lack in eyesight they make up for in smell and hearing. We both rested here motionless for about ten minutes. I was thrilled to finally see and be in the presence of this being who year after year shapes this watery environment and my memories of it.

The coyotes have gone quiet and I believe the dogs have already abandoned me. Not wanting to walk back to the house in absolute darkness I decide it's time to go back. But I really don't want to disrupt this moment between the beaver and I. As soon as I motion to stand up the beaver flips its head and body below the water, slapping its tail on the surface, the sound echoing along the creek and the surrounding forest.

* * *

The first time I heard that the sound of water stimulates a response in beavers which motivates them to construct or repair dams came from a two-part YouTube video titled *Coexisting with Beavers* (Miistakis Institute, 2017, June 9) sent to me by my contact at Cow and Fish. The videos were created in collaboration with the Miistakis Institute, Cow and Fish, and local municipalities and landowners as an educational tool about the important role that beavers play on the prairies in terms of supporting biodiversity and for water availability, and offered creative solutions for living with beavers. Beavers have a tendency to construct dams in and around culverts and bridges that are part of road and transportation infrastructure, which place hydrological pressures on such infrastructure or flood private land. Part one of the video includes an interview with a landowner who explains how the municipality installed a culvert system adapted to minimize the sound of water by creating a T-junction at the end of the culvert where water uptake comes up beneath the surface of the water and where the sound is directed vertically. According to a local landowner who is passionate about beavers and explains how the technology works, he states, “when you are thinking about culvert constructions, one of the main issues that you must consider is the sound. Sound will be [the] most important aspect on how to prevent a beaver from actually performing a construction zone. So if they cannot hear the sound of water, at that point there is no motivation behind the beavers in order to achieve a dam of some sort” (4min 19sec). What these culvert systems or “pond levellers” do, is control water levels by ensuring that water can flow once it has reached a certain height, and can be used as an alternative to machinery or explosives to blow open the dams which cause erosion and negatively impact wetland habitat.

These violent practices can also be costly and an inefficient form of both water and road infrastructure management at a municipal level (Miistakis Institute, 2017, June 9).

At this point in my fieldwork I had not read much on beavers, nor was I even considering them as part of my analysis on grief in relation to wetlands. But the more I learnt about them and observed them, the more my fascination with them grew. It would be possible to write at length about beaver morphology and why it is so successfully adapted to wetland environments, but that is not my objective here. In short, from the beavers' teeth, fur, front paws, and to their paddlelike tail, each serve a purpose in how beavers interact with their environment and make a home for themselves within it. Beavers also reproduce rather quickly and form mating and kinship relations over long periods of time. But in my literary research about beavers nothing surfaced about the emotional lives of beavers or whether they potentially experience grief due to environmental disruption.

So, what exactly is beaver grief? I cannot claim to have the answer to this question. What I present here is more of a thought experiment or speculative approach about how, or if, beaver's experience grief in relation to wetlands as dwelling places, and whether such grief is part of an adaptive strategy to care for or preserve such places. "From the perspective of Heidegger, man chooses to stay in this world, and human beings are meant to dwell. To dwell conveys the meaning of remaining safe and free from anxiety. In other words, the concept of dwelling has a two-way meaning: first, taking care of the dwelling; second, guarding and taking care of the dweller (Shariatinia, 2015, p.93). But dwelling as a matter of "remaining safe and free from anxiety" is arguably not an exclusively human quality. All animals and countless other species make for themselves a home or dwelling—whether it be a den, a nest, a lodge, or any number of structures, places, or groupings—which are spaces where they can feel secure, be at peace, and perhaps even raise their young. Beavers are no different. They build dams in order to create watery environments to which their bodies have adapted alongside over thousands of years, environments that provide access to resources and protection from predators for themselves and their kin within their built lodges. What I have tried to accomplish with my research so far is to demonstrate how dwelling and grief are intimately connected and part of phenomenological experience between the sensing body and the landscape or environment in which it is situated. The idea of humans as separate from the rest of the animal world based on the knowledge or awareness of our own mortality, which gives us the capacity to experience grief, to me is a clear example of human exceptionalism.

The point that I am trying to make here is that if animals, like humans, have the capacity to dwell then arguably the response that comes from the loss of dwelling could be considered as a form of grief. By acknowledging such grief it is then possible to consider the ethical and political implications that reach beyond the human in terms of habitat loss such as wetlands.

Having learnt about the sound of water as stimuli for beavers to build, I was interested to test out this hypothesis for myself. Each day over a period of three days I went down to the dam that served as important infrastructure for beaver village, and with my walking stick I would carve out a small channel through the mud for water to pass at the top of the dam. I also displaced two or three sticks and small logs, just enough to hear the faint sound of water trickling over and through the dam without causing any major structural damage. Each time I returned the following day, the small channel was repaired with a fresh layer of mud and grass supporting a few sticks or logs. I began to wonder if the sensory response that beavers experience from the sound of water could be considered as a form of grief in relation to dwelling.

In an attempt to understand this, I return to Heidegger's phenomenological perspective of dwelling. Heidegger believed that dwelling is associated to the human knowledge or awareness of our own mortality, death being the ultimate threat to one's existence or place in the world (Shariatinia 2015). Therefore if our dwelling place in its material or embodied form is compromised or disrupted thus threatening our sense of security, or sense of being, such a change could arguably lead to a response of grief. While Heidegger does not explicitly make reference to grief in his phenomenological theory related to Being or death, the concept of care is fundamental to his understanding of being-in-the-world, and of dwelling. For Heidegger, one's capacity to dwell is not only dependent on a material structure where one resides, rather dwelling takes on a second connotation as a verb stemming from the German word *bauen*, which means "to build" (Heidegger 2001; Ingold 2011). Ingold (2011) clearly explains how Heidegger's understanding of "building" is fundamental to one's "sense of dwelling" as it involves two distinct significations beyond the act of building itself: the first being, "to preserve, to care for, or more specifically to cultivate or to till the soil;" and the second, "to construct, to make something, to raise up an edifice" (p. 185). The argument that I am trying to formulate here is that care in relation to dwelling is analogous to grief in relation wetlands, because both care and grief are not only predicated on loss or the potential of loss through death, they are also very much part of the preservation of life.

The trouble with using Heidegger's phenomenological approach to dwelling to interrogate animal grief, and more specifically in this case beaver grief, is that he ultimately believed that animals do not have the cognitive capacity to be conscious of their own mortality. "Heidegger knew death as the full characteristic of humanity, and in his view, only the animal was destroyed and deprived of the property of death" (Shariatinia, 2015, p. 93). But if animals have the capacity to dwell, which involves building a material structure in a safe environment in order to care for and preserve their life and that of their kin, I argue that such animals also have the capacity for grief as a sensorial response to the loss of the dwelling places that are very much part of their being-in-the-world. By taking a phenomenological perspective of dwelling, Ingold asks "how animals and people make themselves at home in the world" by recognizing dwelling as a matter of "being inhabited" as an "agent-in-its-environment," "as opposed to the self-contained individual confronting a world 'out there'" (Ingold, 2011, p. 173). I therefore build on this dwelling perspective by suggesting that if the beaver or other animals can build in relation to their environment, then there should be room made for the possibility that they grieve in relation to the loss of their environment as well. In the case of the beaver, if the sound of water stimulates a response to care for their dams, and if care is analogous to grief as I have argued by adopting a dwelling perspective, perhaps grief then could be considered as an adaptive strategy or response to environmental change.

Thinking with wetlands as dwelling places, and the sensory or emotional responses that surface as a consequence of their loss, has opened to deeper reflections about the idea of ecological grief. Rather than grief being a response to ecological loss and a sense of insecurity or instability, I question whether grief or other emotions experienced by humans and non-humans should be considered as a form (or part of) ecology and not solely a matter of human psychology. So instead of ecological grief, which up until now is primarily associated to a human based response, by thinking with and observing wetlands and wetland species, what it has taught me is that grief is perhaps not separate from ecology, nor is the sense of responsibility (or the response-ability) to care for it much like a home or dwelling. Could the sound of water create a sense of anxiety or be unsettling for beavers, much like my experience of witnessing wetlands disappear, or the smell of smoke coming from forest fires blowing in from British Columbia over the summer of 2021? I am not saying that the beaver and I experience the same thing, rather it is a way of considering how

disruption in our environments have the potential to stimulate an embodied response that could be associated to grief.

* * *

Walking along creek had been a daily ritual and important part of my fieldwork. Particularly when it comes to observing this wetland and its nonhuman inhabitants. In addition to walking, I also developed a habit of stopping and sitting at a few different locations. My second and final encounter with the great blue heron happened at one of these locations, and was far less dramatic than the first. As brief as this encounter was, it has made a profound impression on me and on my reflections about being and dwelling together with the beaver and this wetland.

I noticed the great blue heron as soon as I arrived, and it obviously noticed me. But I was far enough away that it remained in place. The heron was wading in the waters of beaver village near the shoreline opposite from me. I quickly crouched down, taking a seat on an aged and weathered tree near the edge of the water, hidden by the tall dry grass. I took out the binoculars I had borrowed from my cousin, and with my head above the grass I zoomed in on the heron, and we in a sense locked eyes, both very much aware of each other's presence. Even at such a distance of more or less one hundred yards, the heron seemed unsettled. With one eye on me, I watched it through the binoculars moving slowly and carefully, positioning itself behind a small leafless willow sticking out above the surface of the water, as if to hide or camouflage itself from me. Much like my encounter with the beaver, we stared at each other for several minutes motionless. But once I stood up I broke the quiet and still tension between us, sending the heron in flight away from me until I could no longer see it.

* * *

Like the beaver, the great blue heron that I encountered while in the field also played a role in developing my ideas about dwelling and grief in relation to wetlands, as did another YouTube video titled *When Two Worlds Collide* (Cochrane Environmental Action Committee (CEAC), 2014, February 15) sent to me by a research participant. The short documentary was created by the Cochrane Environmental Action Committee (CEAC) and included interviews with members

of the community, past and present city councillors and the owner of a local car dealership, in order to tell a story about rapid urban development in Cochrane, Alberta and the impacts on surrounding wetlands. In one particular interview the interviewee recounts how he witnessed the draining of a wetland that he was very familiar with after a trench was carved through the south end of the wetland and the remaining water was being pumped out. He explains that when he arrived, half of the wetland had been drained. But what impacted him the most, and what motivated him to report the draining of the wetland to Alberta Environment was seeing a white heron pacing anxiously between the receding water levels and its nest (5min 05secs). After watching the video and listening to the story told by the interviewee about the behavior being exhibited by the white heron I began to think more seriously about grief that humans and nonhumans experience in relation to wetlands and how we are entangled with them both materially and emotionally as dwelling places.

My encounters with beavers and the great blue heron, along with the YouTube videos sent to me by research participants were essential to my thought process and offered a pathway to build on Ogden's methodological approach of speculative wonder by thinking with wetlands and some of their non-human inhabitants. This entire project from the very beginning was largely inspired by my own feelings of grief in relation to wetlands, which are derived from the sensory and material engagements with this place over a long period of time. These experiences that I have had with wetlands from an impressionable age have ultimately led me to associate the loss of wetlands with the loss of home. But what was becoming clearer over the course of my fieldwork where I spent countless hours walking along, and sitting with the wetland creek system that passes through my family's farm, is the role that beavers play in not only shaping their own environment or dwelling place, but also my own and that of the great blue heron. At the same time, if the sound of water generates a response in beavers to repair or care for their dams, a response that I argue may be motivated by grief, then it is worth thinking about and taking more seriously how the beaver, the great blue heron and myself are connected through both dwelling and grief, or more specifically an emotional hydrogeography in which I have tried to map here; because making present entanglements of human and nonhuman grief is a way of demonstrating how grief, like water, connects us to this watershed and each other.

Conclusion

The methodological work represented in this chapter combines multispecies ethnography with landscape ethnography, not because they operate in parallel, but rather in relation to each other. To speculate about grief in relation to wetlands is to think about how these shared worlds are lived and lost through material and sensorial processes that shape phenomenological experiences. Interrogating these processes offers ways to imagine or better understand our sense of being and place in the world as being dependent on (or in) relations with others. Through my interactions with beavers and the great blue heron, and by thinking more seriously about how our lives are connected by wetlands, ultimately shows how wetlands as dwelling places makes us vulnerable to each other, particularly in terms of being-in-the-world together. As I have mentioned, my objective of this research has been to map grief in relation to wetlands by using the watershed as a geographical and conceptual frame. If the sound of water can be speculated as being a grief-like response in beavers which is part of the adaptive strategy, perhaps it is worth taking more seriously place-based or ecological grief as being a response to the broader geological changes currently taking place and to think about ethically and politically responsible solutions for getting on together across species.

Conclusion

John...John...

Startled out of a deep sleep I open my eyes and all I can make out is a figure in the doorway of my room. I hear my cousin Deanna's voice, "wake up, the neighbor's house is on fire."

I quickly got dressed and made my way upstairs to join my cousin and her husband on the veranda. Together we watched the house located in the open field across from their property completely engulfed by flames. The fire department had already arrived and another was on their way, the sirens echoed and got increasingly louder as they approached.

It was October and it's 3am, so the evening air was cold and wet. I grabbed a blanket from inside, wrapping it around my shoulders. Standing motionless, I watched in disbelief at the sight of the immense fire glowing in the darkness in the middle of the open field. The house, which had only been built the year prior, was already too far gone for the fire department to save it.

In the morning the whole thing felt like a dream and it took a moment to process what actually happened. We were relieved to learn that the young family of four who live in the house made it out safely. Still, feeling unsettled by the whole thing, I decided to layer up and head out early for what would be my last daily walk along the creek. The air was thick with fog so I could

barely make out what was left of the neighbor's house as I made my way across the yard, but there was a smell of burnt wood and plastic lingering in the air.

The riparian area along the creek was now brown and bare, and the surface of the water was covered by a thin sheet of ice. With my walking stick I repeatedly pressed into the ice until it crackled and broke, getting great satisfaction from the sound it made and seeing the water bubble up from below. As I looked over the expanse of the creek which had begun to freeze, I felt a sense of relief by the thought of winter holding these waters in place, especially after a summer of heat waves, forest fires and extreme drought. But this relief is only temporary as thoughts of the house fire return. Sitting with the fire and the creek I began to think more seriously about 'home' and how our sense of being and place is not only dependent on dwelling within a material object or physical structure, but more so how it is shaped by the mundane yet extraordinary ways of living alongside others. It is home that brings me back to the Prairies; a home where wetlands are very much entangled; a home I care and grieve for because potentially losing it means losing part of myself. This is the last time I will visit this place, at least for the purpose of fieldwork. I returned to Montreal the following morning. But the image of the neighbor's home burning in the dark will stay with me, as it sadly serves as a metaphor for the grief which I have come here in search of, including my own and those I have encountered in the process.

* * *

I returned to Alberta to conduct ethnographic research on grief in relation to the loss of wetlands during a rather worrying time. The unprecedented heat waves, forest fires, and drought taking place across western Canada in the summer of 2021 have no doubt added to such grief, especially since the loss of wetlands, and biodiversity loss more generally, have contributed to the climatic and geological shift taking place globally. By utilizing landscape ethnography and phenomenology as a methodological and theoretical approach I have attempted to map grief in relation to wetland loss within the North Saskatchewan Watershed (NSW) not only to make present the loss of wetlands, but as a way to think more seriously about the emotional, political, and ecological implications associated to such loss. My encounters with wetland spaces and with those who inhabit the NSW served more than points on map, rather I have come to understand them as what Tsing et al. (2019) has described as "phenomenological markers." These markers

serve as the starting points for deeper research, reflection, and analysis that has the potential to uncover historical relationships to landscape which help to better understand how and why the landscape has changed, and determine what the potential impacts are as a result of these transformations.

For the purpose of this research I have focused largely on the history of Alberta's political economy and political ecology since wetland drainage has been an important component of the province's economic development. From the beginning of Alberta's early settlement, wetlands have been considered as impediment to economic growth, so they have been drained or filled for the purpose of industrial expansion, urban sprawl, and transportation infrastructure. Despite the scale of wetland loss in Alberta, the Alberta Wetland Policy (AWP) which is used as a regulatory and evaluative tool based on a mitigation sequence that supposedly takes a balanced approach between economic and environmental sustainability, offers no real sustainability at all since industries can move directly to the process of compensating Alberta Environment for the replacement of wetlands lost. As such, wetland loss continues to be part of Alberta's economic and ecological legacy, which will further impact hydrological systems that support life on the Prairies.

Over the course of my research I have come to realize that wetlands are largely misunderstood. They are often perceived as marginal spaces that can be manipulated or completely removed without much thought about the broader consequences associated to such loss. There seems to be a complete lack of awareness about the important ecological functions they provide, some of which include flood and drought mitigation, and their ability to sequester large amounts of carbon, to only name a few. These functions are more critical now that climate change is not just a concern for the future, but very much part of present day experience. I often wonder why the loss of wetlands across the Canadian Prairies or along the eastern slopes of the Rocky Mountains where agriculture has dominated the landscape has not received the same level of attention as the loss of the Amazon Rainforest in South America for example. Is it because images of fallen trees and clear cut forests a thousand miles away which are used in environmental campaigns create a strong emotive response? Or is it because the life and death of wetlands largely go unnoticed?

This is why I wanted to map what I have come to understand as an emotional hydrogeography which encompasses the NSW. Such a process is a way of making present the grief in relation to the loss of wetlands in Alberta through the stories and encounters with those who

experience(d) such loss. What I have tried to demonstrate through my ethnographic research is how wetlands are more than a material object with inherent affective qualities that draw our attention, rather for those who participated in this study, wetlands are connected to our sense of being and place because our perception of them is entangled with matters that shape our lived experience such as kinship, home, and cultural politics. Mapping an emotional hydrogeography is a way of “forging alternative imaginaries” (Neimanis 2017) about wetlands, ones that challenge ideas of humans as somehow separate from nature, or as being in control of it. To *Be with* wetlands is therefore to imagine what it means to live and die together (Haraway 2016) particularly at a time of unprecedented loss and growing ecological instability. If my objective in returning to Alberta was to explore grief in relation to wetlands, what I have learnt is that it is far from a cause and effect relationship. Rather, it is an ongoing process where grief and wetlands inform each other, allowing me to come to terms with the past, as well as the end.

Bibliography

- Abram, D. (1996). *The Spell of the Sensuous: perception and language in a more-than-human world*. Vintage Books.
- Ahmed, S. (2006). *Queer Phenomenology: orientations, objects, others*. Duke University Press.
- Alberta Government. (2003, November 1). *Water for Life: Alberta's strategy for sustainability*. Retrieved from: <https://open.alberta.ca/publications/0778530582>.
- Alberta Government. (2013, September 1). *Alberta Wetland Policy*. Retrieved from: <https://open.alberta.ca/publications/9781460112878>.
- Alberta Government. (2022). *Drainage Districts Act*. Retrieved January 11, 2023 from <https://open.alberta.ca/publications/d16#:~:text=The%20Act%20addresses%20the%20for,ation,and%20the%20review%2Fappeal%20procedures>.
- Alberta Water Council. (2021, June). *Alberta Wetland Policy. Implementation Review*. Retrieved from: https://www.awchome.ca/uploads/source/AWC_AB_Wetland_Policy_Review_Final.pdf.
- Alberta Water Council. (2023). *Wetland Policy* [webpage]. Wetland Document Package retrieved from: <https://www.awchome.ca/projects/wetland-policy-11/>.
- Archer, J. (1999). *The Nature of Grief: the evolution and psychology of reactions to loss*. Routledge. <https://doi.org/10.4324/9780203360651>.
- Ash, J., & Simpson, P. (2016). Geography and Post-Phenomenology. *Progress in Human Geography*, 40(1): 48-66. <https://doi.org/10.1177/0309132514544806>.
- Basso, K.H. (1996). Wisdom Sits in Place: notes on a Western Apache landscape. In: Feld, S., & Basso, K. H. (eds.), *Senses of Place*. School of American Research Press: 53-90.
- Bessire, L. (2021). *Running Out: in search of water on the High Plains*. Princeton University Press.
- Biehl, J. (2013). Ethnography in the way of theory. *Cultural Anthropology*, 28(4): 573–597. <https://doi.org/10.1111/cuan.12028>.
- Brazier, R. E., Puttock, A., Graham, H. A., Auster, R. E., Davies, K. H., & Brown, C. M. L. (2021). Beaver: nature's ecosystem engineers. *Wires. Water*, 8(1): 1-29. <https://doi.org/10.1002/wat2.1494>.
- Bruchac, M. (2004). Earthshapers and Place Makers: Algonkian Indian stories and the landscape. In: Smith, C., & Wobst, H.M. (eds.), *Indigenous Archaeologies: decolonizing theory and Practice*. Routledge: 52-74.

<https://doi-org.lib-ezproxy.concordia.ca/10.4324/9780203009895>.

Butler, J. (2004). *Precarious Life: the powers of mourning and violence*. Verso.

Cochrane Environmental Action Committee (CEAC). (2014, February 15). *When Two Worlds Collide* [Video]. YouTube. <https://www.youtube.com/watch?v=kydEvck8OdE&t=352s>.

Chandler, D., Pugh, J. (2021). Anthropocene Islands: there are only islands after the end of the world. *Dialogues in Human Geography*: 1-21.
<https://doi.org/10.1177/2043820621997018>.

Chen, C., MacLeod, J., & Neimanis, A. (2013). *Thinking with Water*. McGill-Queen's University Press.

Clare, S. (2013a). *Wetland Loss in Alberta: identifying successes, barriers, and unintended outcomes of public policy* (Doctoral thesis, University of Alberta, Edmonton, Alberta).
<https://doi.org/10.7939/R3MH0M>.

Clare, S. (2013b). Bureaucratic Slippage and Environmental Offset Policies: The Case of Wetland Management in Alberta. *Society and Natural Resources*, 26: 672-687.
<https://doi.org/10.1080/08941920.2013.779341>.

Clare, S., & Creed, I. F. (2014). Tracking wetland loss to improve evidence-based wetland policy learning and decision making. *Wetlands Ecology and Management*, 22(3): 235–245.
<https://doi.org/10.1007/s11273-013-9326-2>.

Clare, S., Danielson, B., Koenig, S., & Pattison-Williams, J.K. (2021). Does drainage pay? Quantifying agricultural profitability associated with wetland drainage practices and canola production in Alberta. *Wetlands Ecology and Management*, 29: 397-415.
<https://doi.org/10.1007/s11273-021-09790-z>.

Clare, S., & Krogman, N. (2013). Bureaucratic slippage and environmental offset policies: the case of wetland management in Alberta. *Society and Natural Resources*, 26(6):672–687.
<https://doi.org/10.1080/08941920.2013.779341>.

Clare, S., Krogman, N., Foote, L., & Lemphers, N. (2011). Where is the avoidance in the implementation of wetland law and policy? *Wetlands Ecology and Management*, 19(2): 165–182. <https://doi.org/10.1007/s11273-011-9209-3>.

Clifford, J. (1986). Partial Truths. In: James Clifford, J., & Marcus, G. (eds.), *Writing Culture: The Poetics and Politics of Ethnography*. University of California Press: 1-26.

Cloke, J. and Jones, O. (2000). Dwelling, place, and Landscape: an orchard in Somerset. *Environment and Planning A: Economy and Space*, 33 (4): p. 649-666.
<https://doi.org/10.1068/a3383>.

- Cortus, B.G., Jeffrey, S.R., Untersschultz, J.R., & Boxall, P. (2011). The Economics of Wetland Drainage and Retention in Saskatchewan. *Canadian Journal of Agricultural Economics*, 59: 109-126. <https://doi.org/10.1111/j.1744-7976.2010.01193.x>.
- Cortus, B.G., Untersschultz, J.R., Jeffrey, S.R., & Boxall, P. (2013). The Impacts of Agriculture Support Programs on Wetland Retention on Grain Farms in the Prairie Pothole Region. *Canadian Water Resources Journal*, 34(3): 245-254. <https://doi.org/10.4296/cwrj3403245>.
- Crouch, D. (2003). Spacing, Performing, and Becoming: tangles in the mundane. *Environment and Planning a: Economy and Space*, 35(11): 1945–1960. <https://doi.org/10.1068/a3585>.
- Crutzen, P.J., & Stoermer, E.F. (2021). The ‘Anthropocene’ (2000). In: Benner, S., Lax, G., Crutzen, P.J., Pöschl, U., Lelieveld, J., Brauch, H.G. (eds.), *Paul J. Crutzen and the Anthropocene: A New Epoch in Earth’s History*. Springer: 19-21. https://doi.org.libezproxy.concordia.ca/10.1007/978-3-030-82202-6_2.
- Cunsolo, A., & Landman, K. (2017). To Mourn Beyond the Human. In: Cunsolo, A., & Landman, K. (eds.), *Mourning Nature: Hope at the Heart of Ecological Loss and Grief*. McGill-Queen’s University Press.
- Cunsolo, A., Ellis, N. (2018). Ecological grief as a mental response to climate change-related loss. *Nature Climate Change*, 8: 275-281. <https://doi.org/10.1038/s41558-018-0092-2>.
- Cunsolo Willox, A. (2012). Climate Change as the Work of Mourning. *Ethics and the Environment*, Vol. 17(2): 137-164. doi:10.2979/ethicsenviro.17.2.137.
- Davidson, J., Milligan, C. (2004). Embodying Emotion Sensing Space: introducing emotional geographies. *Social & Cultural Geography*, 5(4): 523-532. <https://doi.org/10.1080/1464936042000317677>.
- Davidson, J., Bondi, L., Smith, M. (2005). *Emotional Geographies*. Ashgate.
- Derrida, J., Brault, A., & Naas, M. (2001). Introduction: ‘To Reckon with the Dead: Jacques Derrida’s Politics of Mourning.’ In: Brault, A., & Michael Nass, M. (eds.), *The Work of Mourning*. University of Chicago Press: 1-30.
- Dias, V., Belcher, K. (2015). Value and provision of ecosystem services from prairie wetlands: A choice experiment approach. *Ecosystem Services*, 15: 35-34. <https://doi.org/10.1016/j.ecoser.2015.07.004>.
- Ducks Unlimited Canada (2023). What’s the solutions for Canada’s sick lakes? Retrieved from: <https://www.ducks.ca/healthy-lakes>.

- Dumanski, S., Pomeroy, J.W., & Westbrook, C.J. (2015). Hydrological regime changes in a Canadian Prairie basin. *Hydrological Processes*, 29(18): 3893-3904.
<https://doi.org/10.1002/hyp.10567>.
- Fang, X., & Pomeroy, J.W. (2008). Drought impacts on Canadian prairie wetland snow hydrology. *Hydrological Processes*, 22(15): 2858-2873.
<https://doi.org/10.1002/hyp.7074>.
- Faramarzi, M., Abbaspour, K.C., Adamoxicz, W.L., Lu, W., Fennell, J., Zehnder, J.B., & Gross, G.G. (2016). Uncertainty based assessments of dynamic freshwater scarcity in semi-arid watersheds of Alberta, Canada. *Journal of Hydrology: Regional Studies*, 9: 48-68.
<https://doi.org/10.1016/j.ejrh.2016.11.003>.
- Feld, S., & Basso, K. H. (1996). *Senses of Place*. School of American Research Press.
- Foucault, M. (1990). *The history of sexuality*. (R. Hurley, Trans., Gros Frédéric, Ed.). Vintage Books.
- Freudenburg, W. R., & Gramling, R. (1994). Bureaucratic slippage and failures of agency vigilance: the case of the environmental studies program. *Social Problems*, 41(2), 214–239.
- Geertz, C. (1973). *The Interpretation of Cultures*. Basic Books.
- Giblett, R.J. (1996). *Postmodern Wetlands: Culture, History, Ecology*. Edinburgh University Press.
- Government of Alberta, (2013). *Alberta Wetland Policy*. Retrieved from
<https://open.alberta.ca/dataset/5250f98b-2e1e-43e7-947f-62c14747e3b3/resource/43677a60-3503-4509-acfd-6918e8b8ec0a/download/6249018-2013-alberta-wetland-policy-2013-09.pdf>.
- Haraway, D.J. (2008). *When Species Meet*. University of Minnesota Press.
- Haraway, D.J. (2016). *Staying with the Trouble: making kin in the Cthulucene*. Duke University Press.
- Hastrup, K., & Hastrup, F. (Eds.). (2016). *Waterworlds : anthropology in fluid environments*. Berghahn Books.
- Heidegger, M. (2001). *Poetry, Language, Thought*. Perennial Classics.
- Hetherington, K. (Ed.). (2019). *Infrastructure, Environment, and Life in the Anthropocene*. Duke University Press.

- How to Survive. (2021, June 1). *How to Survive a Rabid Coyote Attack* [Video]. YouTube. <https://whatifshow.com/how-to-survive-a-rabid-coyote-attack/>.
- Ingold, T. (1993). The Temporality of Landscape. *World Archaeology*, 25(2): 152-174.
- Ingold, T. (2011). *The Perception of the Environment: essays on livelihood, dwelling and skill*. Routledge, Taylor & Francis Group.
- Ingold, T. (2018). *Anthropology and/as Education*. Routledge.
- Jones, D. C. (2002). *Empire of dust: settling and abandoning the prairie dry belt*. University of Calgary Press.
- Kearney, A. (2009). Homeland Emotion: An Emotional Geography of Heritage and Homeland. *International Journal of Heritage Studies*, 15(2-3): 209-222. <https://doi.org/10.1080/13527250902890746>.
- Kienzle, S.W., Nemeth, M.W., Byrne, J.M., & MacDonald R.J. (2012). Simulating the hydrological impacts of climate change in the upper North Saskatchewan River basin, Alberta, Canada. *Journal of Hydrology*, 412-413: 76-89. <https://doi.org/10.1016/j.jhydrol.2011.01.058>.
- Kimmerer, R. W. (2013). *Braiding sweetgrass* (First edition). Milkweed Editions.
- Kirksey, S.E., & Helmreich, S. (2010). The Emergence of Multispecies Ethnography. *Cultural Anthropology*, 25(4): 545–576. <https://doi.org/10.1111/j.1548-1360.2010.01069.x>.
- Landes, D. (2012). Translator's Introduction. In: Merleau-Ponty, M. (D.A. Landes, Trans), *The Phenomenology of Perception*. Routledge: xxx-li.
- Latour, B. (2017). Anthropology at the Time of the Anthropocene: A Personal View of What Is to Be Studied. In: Brightman, M., Lewis, J. (eds.), *The Anthropology of Sustainability*. Palgrave Studies in Anthropology of Sustainability. Palgrave Macmillan, New York. https://doi-org.lib-ezproxy.concordia.ca/10.1057/978-1-137-56636-2_2.
- Linton, J. (2010). *What is Water? the history of a modern abstraction*. UBC Press.
- Malpas, J. (2008). *Heidegger's Topology: Being, Place, World*. MIT Press.
- Merleau-Ponty, M. (2012). *Phenomenology of Perception*. (D.A. Landes, Trans). Routledge.
- Miistakis Institute. (2017, June 9). *Coexisting with Beavers Part 1: Municipal District of Foothills* [Video]. YouTube. <https://www.youtube.com/watch?v=y7ifi2lbSs8>.
- Mitsch, W., J. Gosselink. (2007). *Wetlands* (4th ed.). Wiley.

- Morgan, R. G. (2020). *Beaver Bison Horse: the traditional knowledge and ecology of the Northern Great Plains*. University of Regina Press.
- Morgan, L. H. (1868). The American Beaver and his Works (Ser. Cihm/icmh microfiche series = cihm/icmh collection de microfiches, no. 29620). J.B. Lippincott.
<https://www.canadiana.ca/view/oocihm.29620/1>.
- Moore, A. (2015). Anthropocene Anthropology: reconceptualizing contemporary global change. *Journal of the Royal Anthropological Institute*, 22: 27-46. <https://doi.org/10.1111/1467-9655.12332>.
- Mortimer-Sandilands, C., & Erickson, B. (2010). Introduction: A Genealogy of Queer Ecologies. In: Mortimer-Sandilands, C., & Erickson, B. (eds.), *Queer Ecologies*. Indiana University Press: 1-47.
- Neimanis, A. (2017). *Bodies of Water: posthuman feminist phenomenology*. Bloomsbury.
- Newton, B. (2017). North Saskatchewan River. In *The Canadian Encyclopedia*. Retrieved from <https://www.thecanadianencyclopedia.ca/en/article/north-saskatchewan-river>.
- North Saskatchewan Watershed Alliance. (2012). *Atlas of the North Saskatchewan River Watershed in Alberta*. The North Saskatchewan Watershed Alliance Society. Edmonton, Alberta. <https://www.nswa.ab.ca/resource/watershed-atlas/>.
- O'Grady, T. (2015, October 6). A Kingdom in North Edmonton: Castle Downs, 1969-1979. *Edmonton City as Museum Project*. <https://citymuseumedmonton.ca/2015/10/06/castle-downs-1969-1979/>.
- Ogden, L.A. (2011). *Swamplife: people, gators, and mangroves entangled in the Everglades*. University of Minnesota Press.
- Ogden, L.A. (2021). *Loss & Wonder at the World's End*. Duke University Press.
- Ogden, L. A., Hall, B., & Tanita, K. (2013). Animals, Plants, People, and Things: a review of multispecies ethnography. *Environment & Society*, 4: 5-24.
- Ojala, M., Cunsolo, A., Ogunbode, C.A., & Middleton, J. (2021). Anxiety, Worry, and Grief, in a Time of Environmental and Climate Crisis: A Narrative Review. *The Annual Review of Environment and Resources*, 46: 10.1-10.24. <https://doi.org/10.1146/annurev-environ-012220-022716>.
- Orlove, B., & Canton, S.C. (2010). Water Sustainability: Anthropological Approaches and Prospects. *Annual Review of Anthropology*, 39: 401-415.
<https://doi.org/10.1146/annurev.anthro.012809.105045>.

- Prairie Habitat Joint Venture Webinar. (2021, Jan 13). *Alberta Wetland Policy* [Video]. YouTube. <https://www.youtube.com/watch?v=S3nYadfvIBQ>.
- Puig de la Bellacasa María. (2017). *Matters of Care: speculative ethics in more than human worlds*. University of Minnesota Press.
- Raymond, C. M., Singh, G. G., Benessaiah, K., Bernhardt, J. R., Levine, J., Nelson, H., Turner, N. J., Norton, B., Tam, J., & Chan, K. M. A. (2013). Ecosystem services and beyond: using multiple metaphors to understand human-environment relationships. *Bioscience*, 63(7): 536–546. <https://doi.org/10.1525/bio.2013.63.7.7>.
- Rooney, R. C., Foote, L., Krogman, N., Pattison, J. K., Wilson, M. J., & Bayley, S. E. (2015). Replacing natural wetlands with stormwater management facilities: biophysical and perceived social values. *Water Research*, 73: 17–28. <https://doi.org/10.1016/j.watres.2014.12.035>
- Rubec, C. D. A., & Hanson, A. R. (2009). Wetland Mitigation and Compensation: Canadian experience. *Wetlands Ecology and Management*, 17(1):3–14. <https://doi.org/10.1007/s11273-008-9078-6>
- Shariatnia, Z. (2015). Heidegger's ideas about death. *Pacific Science Review B: Humanities and Social Sciences*, 1(2): 92–97. <https://doi.org/10.1016/j.psrb.2016.06.001>.
- Schindler, D.W., & Donahue, W.F. (2006). An impending crisis in Canada's western prairie provinces. *PNAS*, 103(19): 7210-7216. <https://doi.org/10.1073/pnas.0601568103>.
- Simpson, L. B., & Canadian Literature Centre. (2021). *A Short History of the Blockade: giant beavers, diplomacy, and regeneration in Nishnaabewin*. University of Alberta Press.
- Sneddon, C., Howarth, R.B., & Norgaard, R.B. (2006). Sustainable Development in a Post-Brundtland World. *Ecological Economics*, 57(2): 253-268. <https://doi.org/10.1016/j.ecolecon.2005.04.013>.
- Statistics Canada. (2022, June 15). *Alberta has the highest farm operating revenues in Canada*. Retrieved from: <https://www150.statcan.gc.ca/n1/pub/96-325-x/2021001/article/00009-eng.htm>.
- Statistics Canada. (2022, November 28). *Farm Income (revised data)*. Retrieved from: <https://www150.statcan.gc.ca/n1/daily-quotidien/221128/dq221128b-eng.htm>.
- Stengers, I. (2011). Wondering about Materialism. In: Bryant, L., Srnicek, N., & Harman, G. (eds.), *The Speculative Turn: Continental Materialism and Realism*. re.press: 368-380.
- Stewart, K. (2007). *Ordinary Affects*. Duke University Press.

- Strang, V. (2014). Fluid Consistencies. Material relationality in human engagements with water. *Archaeological Dialogues*, 21(2): 133-150. <https://doi.org/10.1017/S1380203814000130>.
- Strang, V. (2017). The Gaia Complex: ethical challenges to an anthropocentric 'common future'. In: Brightman, M., Lewis, J. (eds.), *The Anthropology of Sustainability*. Palgrave Studies in Anthropology of Sustainability. Palgrave Macmillan, New York. https://doi-org.lib-ezproxy.concordia.ca/10.1057/978-1-137-56636-2_2.
- Stunden Bower, S. (2011). *Wet Prairie: people, land, and water in agricultural Manitoba*. UBC Press.
- Swinnerton, G.S., & Hinch, T.D. (1987). The Recreation Function of Beaumaris Stormwater Lake. *Canadian Water Resources Journal*, 12(3): 48-58. <https://doi.org/10.4296/cwrj1203048>.
- Tilley, C. (2004). *The Materiality of Stone: exploration in landscape phenomenology* (1st ed). Routledge.
- Trombley, J. (2018). Watershed Encounters. *Environmental Humanities*, 10 (1): 107-128. <https://doi.org/10.1215/22011919-4385489>.
- Tsing, A. L. (2015). *The Mushroom at the End of the World: on the possibility of life in capitalist ruins*. Princeton University Press.
- Tsing, A.L., Mathews, A.S., & Bubandt, N. (2019). Patchy Anthropocene: Landscape Structure, Multispecies History, and the Retooling of Anthropology. *Current Anthropology*, 60 (S20): 186-197. <https://doi.org/10.1086/703391>.
- Van Dooren, T. (2014). *Flight Ways: life and loss at the edge of extinction*. Columbia University Press.
- Wagner, J.R. 2012. Water and the Commons Imaginary. *Current Anthropology*, 53(5): 617-641. DOI: 10.1086/667622.
- Weber, M., Krogman, N., Foote, Lee., & Rooney, R. (2017). Natural capital and the political economy of wetland governance in Alberta. *Journal of Environmental Policy and Planning*, 19(3): 279-292. <https://doi.org/10.1080/1523908X.2017.1308248>.
- Wheaton, E., Kulshreshtha, S., Wittrock, V., & Koshida, G. (2008), Dry Times: hard lessons from the Canadian Drought of 2001 and 2002. *The Canadian Geographer/Le Géographe Canadien*, 52(2): 241-262. DOI: 10.1111/j.1541-0064.2008.00211.x.