GROWING RESILIENT NORTHERN INDIGENOUS COMMUNITIES: SUSTAINABLE

LAND-BASED FOOD SYSTEMS AND INDIGENOUS-LED CONSERVATION IN THE

DEHCHO REGION OF THE NORTHWEST TERRITORIES

by

EMALEE AIRD VANDERMALE

Bachelor of Arts and Science, Quest University Canada, 2018

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR
THE DEGREE OF:

MASTER OF SCIENCE IN ENVIRONMENTAL SCIENCE

Thesis examining committee:

Dr. Courtney W. Mason., Thesis Supervisor, Thompson Rivers University

Dr. Natalie Clark, Committee Member, Thompson Rivers University

Dr. Douglas Booth, Committee Member, Thompson Rivers University

Dr. Cindy Gaudet, External Examiner, University of Alberta

June 2023

Thompson Rivers University

Thesis Supervisor: Dr. Courtney Mason

ABSTRACT

Northern Indigenous communities experience great disruptions to their land-based relationships from the cumulative and continued effects of settler-colonial impositions. Restrictive government policies entrenched in colonial capitalist land uses and climate change further exacerbate these disruptions. As a result, communities face multi-faceted inequalities compared to non-Indigenous communities in Canada, including high rates of food insecurity and diet-related disease, low economic opportunities, and great knowledge gaps between youth and Elders. Existing state-led efforts to address these interrelated social and environmental issues are criticized for being largely ineffective and reifying colonial power dynamics. In response to these challenges, communities have enacted localized programming to (re)build community and environmental sustainability and resiliency. This research highlights the perspectives of contemporary garden and Indigenous-led conservation initiatives in one northern Dene and Métis community, Fort Providence, Northwest Territories. Indigenous methodologies informed all aspects of this project. Data was collected using policy analysis and semi-structured interviews with Elders, land-users, and knowledgeable community members. This research builds on literature that examines land-based food systems, garden programming in northern communities, and Indigenous-led conservation in Canada. The findings align with existing literature that suggests community-led food and conservation initiatives build resilient and sustainable communities by facilitating cultural resurgence, shifting decision-making power to Indigenous governments, and supporting local food systems and economies. Communities and governments can use this research to inform future local food systems and conservation initiatives, policies, and funding opportunities.

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ABBREVIATIONS

Abbreviation	Meaning
BC	British Columbia
BIPOC	Black, Indigenous, and People of Colour
CBD	Convention on Biological Diversity
DFN	Dehcho First Nations
DGGFN	Deh Gáh Got'įę First Nation
FAO	Food and Agriculture Organization of the United Nations
GC	Government of Canada
GNWT	Government of Northwest Territories
ICE	Indigenous Circle of Experts
IM	Indigenous methodologies
IPCA	Indigenous Protected and Conserved Area
ITI	Department of Industry, Tourism and Investment of the GNWT
IUCN	International Union for Conservation of Nature
LGBTQIA2S+	Lesbian, gay, bisexual, transgender, queer/questioning, intersex, asexual, two-spirit, and all gender and sexual orientations that are constantly changing or that do not fit under any one term
NWA	National Wildlife Area
NT	Northwest Territories
PO	Participant Observation
UN	United Nations
UNDRIP	UN Declaration on the Rights of Indigenous Peoples
UNDRIPA	UN Declaration on the Rights of Indigenous Peoples Act

CHAPTER 1: INTRODUCTION

Northern Indigenous communities in what is now known as Canada have experienced great disruptions to their sovereignty since the arrival of Europeans, which affect all aspects of life, including health and wellness, education, livelihoods, and food security. Colonial processes and policies aimed at dispossessing northern Indigenous peoples of their lands[1] and exposing them to assimilatory practices expanded in scope and intensity throughout the 19th and 20th centuries. As a result of these legacies and ongoing settler-colonial impositions, many Indigenous peoples experience a variety of barriers including access to the land and nutritious land-based foods.[2] This has led to disproportionate rates of food insecurity and diet-related disease in northern Indigenous communities compared to their southern and non-Indigenous counterparts (Council of Canadian Academies, 2014; De Schutter, 2012a). Colonial conservation regimes have further impeded Indigenous peoples' access to land and disrupted Indigenous governance, economies, land stewardship, and community health practices (Binnema & Niemi, 2006; Truth and Reconciliation Commission of Canada, 2015b). As climate change continues to exacerbate these barriers (J. D. Ford et al., 2020; Furgal & Seguin, 2006; Romero-Lankao et al., 2014), immediate action is needed to address colonial legacies and build sustainable and resilient northern Indigenous communities and environments.

Rates of Indigenous food insecurity, biodiversity loss, and the effects of climate change continue to rise in northern regions, despite government-led efforts to improve these conditions (Ford, 2009; Government of Northwest Territories [GNWT], 2008; Mbow et al., 2019; Prowse et al., 2009; Romero-Lankao et al., 2014). These strategies are criticized for relying on top-down approaches that exclude local input, perpetuating settler-colonial power dynamics, ignoring historical legacies that have disrupted Indigenous peoples' sovereignty,

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[1] In this thesis the term "land" is used to refer to the collective terrestrial and aquatic territories that Indigenous peoples have sustained relationships with from time immemorial. Different nations have unique words and concepts to describe "land," which broadly include living and non-living things above and below ground, the spiritual world, songs, practices, ceremony, and a complex web of place-based relationships (Atleo & Boron, 2022).

[2] Land-based foods refers to foods harvested from the local region that are culturally acceptable (Kuhnlein & Receveur, 1996; Power, 2008). The term is used interchangeable with "traditional foods" in this thesis.

or not going far enough to support Indigenous self-determination (Indigenous Circle of Experts [ICE], 2018; Loring & Gerlach, 2015; Wilson et al., 2020; Zurba et al., 2019).

As a result, Indigenous communities have continued to initiate their own responses to these issues, which centre Indigenous knowledge and cultural resurgence, increase access land, and assert Indigenous governance. Specific to food systems, these activities involve land-based food programming, improving access to market-foods, and innovative gardening practices. Examples demonstrate that these efforts contribute to more local decision-making power over food systems and improved access to fresh, nutritious foods (Robidoux & Mason, 2017; Skinner et al., 2018; Sumner et al., 2019). Indigenous communities have also been actively involved in asserting territorial governance and stewardship through Indigenous-led conservation. This work supports Indigenous governance, improves local food systems, and diversifies local economies (Artelle et al., 2019; ICE, 2018; Reed et al., 2020; Tran et al., 2020). Canada's North[3] is unique, with vast, unfragmented ecosystems, ongoing land-claim agreements, and a large population of Indigenous communities that experience disproportionate rates of food insecurity and poverty compared to non-Indigenous and southern communities (Coristine et al., 2018; Council of Canadian Academies, 2014). Community-based approaches to food security and conservation in northern regions are effective and sustainable strategies that address these legacies of colonialism and other ongoing injustices. These initiatives are also imperative for building sustainability and resiliency in the face of great social and environmental change.

This thesis examines some of the food system and conservation strategies the Dene and Métis community, Fort Providence, Northwest Territories (NT), is using to increase their sustainability and resiliency. All aspects of this work are guided by Indigenous methodologies. Data was collected by policy analysis and semi-structured interviews with Elders, land-users, leaders, and non-Indigenous community members involved in food-related programming. The results are intended to highlight some of the challenges and benefits of these community-based efforts to guide Canadian food and conservation policy. I

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[3] Northern Canada is culturally, linguistically, politically, and ecologically diverse. The term can be used to refer to various geographical areas. In this thesis, I use "Canada's North," "the North," and "northern Canada" to describe the land, waterways, and oceans of Canada's three territories and northern areas of provinces. These regions face similar food security challenges, although it should be noted that each community, household, and individual experience food security differently (Council of Canadian Academies, 2014).

argue that community-based initiatives that support cultural resurgence, transform colonial power-dynamics, and localize food systems and livelihoods are essential to building sustainable and resilient communities.

Community Profile

This project was conducted in partnership with the community of Fort Providence, NT. Fort Providence is located on the north bank of the Deh Cho (Mackenzie River), about 300 km southwest of Yellowknife in the Dehcho Region of the NT (see Figure 1). In 2019, the population was 711, with about 87% of community members identifying as Indigenous, primarily Dene and Métis (Northwest Territories Bureau of Statistics, 2019). There are three local governments in town: 1) the territorial government, represented by the Hamlet of Fort Providence; 2) the Deh Gáh Got'įę First Nation (DGGFN); and 3) the Fort Providence Métis Council. The DGGFN and Fort Providence Métis Council are part of the regional Dehcho First Nations (DFN) with seven other Dene and one other Métis nations (DFN, 2023a). The DFN is currently engaged in negotiations with Canadian federal and territorial governments on the terms for agreements on lands, resources, and public governance of the Dehcho Region (DFN, 2022). As signatories of Treaty 11, the DFN affirms that these present-day negotiations are "to keep the Treaty and to seek an equitable relationship with Canada" (Nadli, 1998, p. 6).

The completion of a bridge across the Deh Cho in 2012 provided Fort Providence and other towns along the Yellowknife Highway north of the Deh Cho with year-round road access to southern markets via Alberta. Before this, goods and people were transported by ferry in the summer months, and by ice road in the winter. During the ice freeze and break up periods when the river was unsafe for ferry and ice road travel, helicopters were used for transport, which reduced access to southern imports. Two grocery stores (the Northern Store and the locally owned M&R General Store), two restaurants, a hotel, and various small businesses operate in the community. In 2020, part of the unused curling rink in the recreation centre was converted to an indoor growing space with 15 garden boxes about 3.3 m^2 in area, and a section of the adjacent field outside was converted into an outdoor garden space with nine similar sized boxes. These areas are run by a local not-for-profit, Northern Loco, in partnership with the Hamlet and DGGFN.

Figure 1

Map of Fort Providence and Edéhzhíe Protected Area
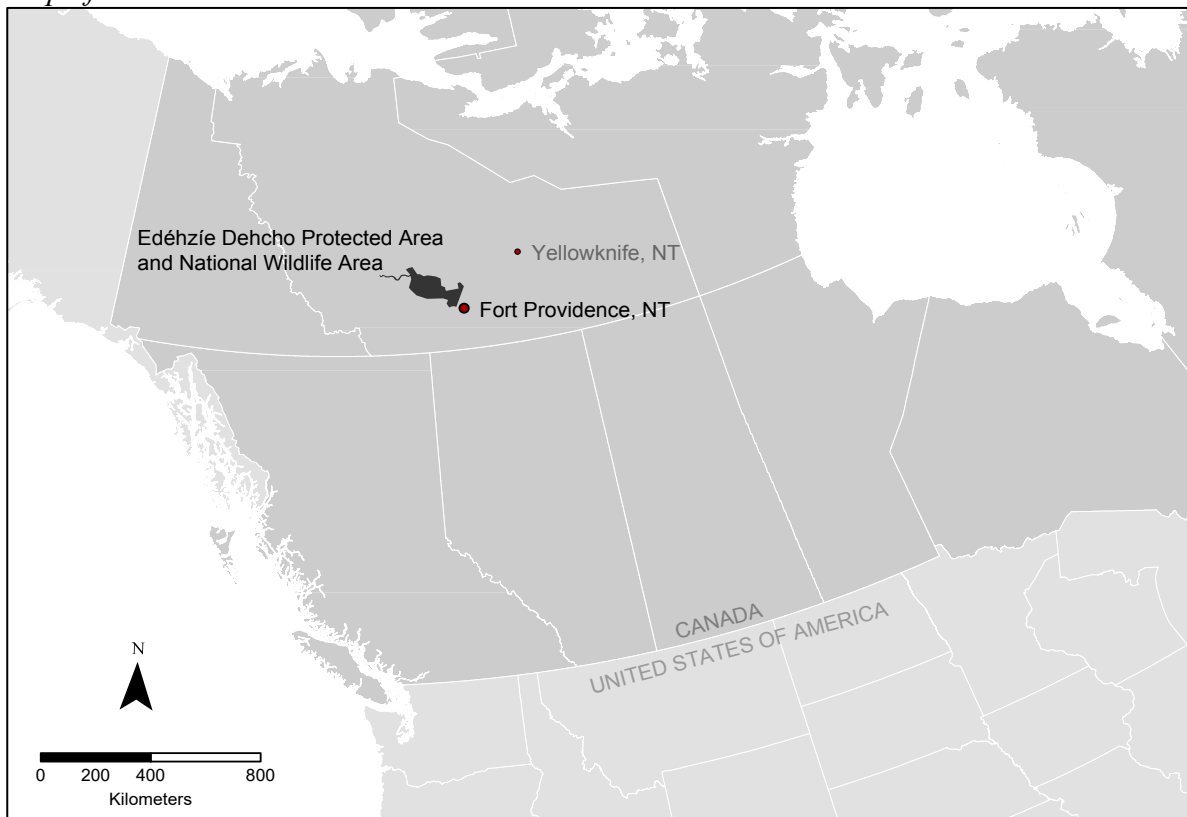
Note. Map by Olea Vandermale, 2023.

In 2018, an important food, ecological, and spiritual area northwest of Fort Providence, known as Edéhzhíe, was designated as a Dehcho Protected Area under Dehcho law, then later in 2022, as a National Wildlife Area (NWA) in partnership with the Government of Canada (GC). This is the first official Indigenous Protected and Conserved (IPCA) established in Canada. IPCAs are a new framework of protected area that moves beyond existing Crown-Indigenous co-management structures and ensures Indigenous nations lead the creation, management, and stewardship of the area (ICE, 2018). Edéhzhíe is cooperatively managed by the Edéhzhíe Management Board, which is made up of equal representation of DFN and GC staff. This board guides all management activities in the area (DFN & GC, 2018). The Dehcho K'éhodi Guardian Program undertakes most management activities and includes ecological monitoring, youth mentorship, facilitating land-based camps, and the cultural protection of sites.

Methodological Approach

Indigenous Methodologies

      This research was guided by Indigenous methodologies (IM). As Smith (2012) asserts, the roles academia plays in the systemic marginalization and assimilation of Indigenous peoples has demanded the formation of alternative methodological approaches when conducting research with Indigenous communities. IM offers ways of disrupting this historical context to foster respectful, reciprocal, and ethical approaches to research (Kovach, 2021). Research guided IM demands trust, respect, reciprocity, and inclusion (Kenny, 2004). It encourages researchers to work from an understanding of colonial power dynamics, to respectfully engage in relationship building, and to challenge the role of researcher in these processes.

      Due to the grounding of IM in Indigenous worldviews and epistemologies, my use of IM cannot be overemphasized or stated uncritically. As a non-Indigenous researcher of settler-Canadian heritage, IM offer a framework that informs and challenges my approach, and demands critical reflexivity about my worldviews, positionality, and assumptions in coming to this research. To aid in these processes, I conducted a literature review that centred Indigenous perspectives and focused on Indigenous epistemologies, philosophies, resurgence, histories, and fiction—both broadly from across Canada, and localized to northern Dene, Métis, and more specifically, Dehcho perspectives (Alfred, 2005; Canadien, 2010; Corntassel, 2012; Lafferty, 2018; Simpson 2017; Watkins, 1977). I also included decolonial and feminist works to better understand and disrupt my own understandings, settler-normativity, and colonial binaries (Braun & Castree, 2001; Daigle, 2019; De Leeuw & Hunt, 2018; Smith, 2012; Snelgrove et al., 2014; Tuck & Yang, 2012). Engagement in these texts included personal reflection and discussions with peers and mentors in reading groups and regular meetings. Critical reflexivity also took the form of regular journaling throughout the research process to infuse the personal with the academic. It is important to note that my engagement with these works and ideas, and processes of critical reflexivity is ongoing.

      IM are distinctly unique, place-based, and relational, as they are embedded in localized languages, cultures, stories, and knowledge (Kovach, 2021). This research was directed by local, community-based protocol. Lois Philipp, Dene woman and resident of Fort Providence, community champion, and education leader, acted as guide and gatekeeper,

assisting with all community and cultural aspects of this research. She codeveloped the research questions, ensuring they were relevant, culturally appropriate, and within the scope of this project. Her esteemed position in the community (as a celebrated school administrator, project champion, and local business owner) was instrumental to recruiting participants. Her support for, and facilitation of, my research work while in the community, and outside of my time in the community, was foundational to every part of this thesis. It would be an understatement to say my thesis (and many community projects) would not have succeeded without the guidance, kindness, and dedication of Lois.

My project is part of an ongoing research relationship between my supervisor, Courtney Mason, and the community of Fort Providence, through Lois, who is also a co-investigator on numerous research grants. This relationship began in 2010, when Courtney was recruited to contribute to several local food procurement initiatives at the community level. This collaboration has focused on local food security goals. It has involved numerous professors as well as undergraduate and graduate students that participate in food-related projects and conduct research with the community (O'Hare-Gordon, 2016; Ross, 2019; Ross & Mason, 2020a, 2020b). In addition to Lois, these projects have also been approved by the Hamlet of Fort Providence, the Aurora Research Institute, an academic governing body in the NT that helps facilitate, resource, and share northern research (Aurora Research Institute, 2023).

In this relationship-centred context, Courtney, Lois, and I worked together to ensure my project reflected community priorities. We determined that my gardening experience and research ideas aligned with current community projects, and Lois invited me to Fort Providence to assist in revitalizing their community garden spaces. My first 5-week trip to Fort Providence in June 2021 was spent primarily working in the community garden, attending community events, and learning from community members I met during these activities. From this trip I built relationships, gained a better understanding of northern life, and worked with Lois to shape relevant research questions that reflect community perspectives. This process continued into my second trip to the community in September 2021. The connections I made in my first trip created a more welcoming and familiar environment to approach community members about participating in my project.

Research guided IM demands trust, respect, reciprocity, and inclusion (Kenny, 2004). Trust and respect were built throughout my research process but primarily throughout my first 5-week trip to the community in June 2021. Respect continues to guide my research process and underlies each interaction I have with participants. Throughout this project I shared knowledge, experience, and time through gardening and conversations I had with community members, ensuring both respect and reciprocity guided these activities. A reciprocal, relationship-based approach seeks to promote knowledge sharing and community engagement. No community members were explicitly excluded from participation in the research project, and effort was made to include different ages, genders, roles, and cultural backgrounds in the data.

Collaboration further informed the types of research methods I used and the cultural protocols that should be followed throughout data collection. Based on past research experiences in the community and with the guidance of Lois, semi-structured interviews were determined to be the most appropriate research method. All participants were also offered remuneration for sharing their time and knowledge, which was determined and distributed by Lois, and resourced through our co-developed research grant (Social Sciences and Humanities Research Canada Insight).[4] Upon discussion of my interview guide with Lois, she suggested I change the wording from "interview" to "conversation" which was reflected in all proceeding communications with community members. Some community members experienced negative experiences with previous research, where "interview" connotated an inequal knowledge acquisition from researchers. This change was important to further build trust and respect and to keep aligned with local protocol..

As noted above, all participants were offered remuneration for their time and knowledge shared, as well as small, personalized gifts as thanks for their participation. Upon completion of this project, all participants and the community will receive both a final copy and a summarized version of the study.

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[4] This grant also provided funding for a community-based research coordinator, equipment and other resources to support local gardening and food procurement activities.

Researcher Positionality

I grew up in the traditional territories of the K'ómoks and Wei Wai Kum Nations and was brought up with a broad (albeit unnuanced) understanding that the land I lived on was Indigenous land, thanks in large part to my mother and aunt. My parents instilled a strong connection to the natural world in me and my three sisters by encouraging us to garden, woodwork, and play outdoors. This led me to pursue an undergraduate degree in environmental geography where I learned from Indigenous teachers, Elders, and community members in Haida, Squamish, and Tla-o-qui-aht territories. After finishing this degree, I moved on to small-scale organic vegetable farming in the Pemberton Valley, British Columbia (BC). During this time, I quickly learned that growing food in a small-scale, sustainable way requires intensive time and resources, and how inaccessible the price of locally produced food was to many people in my community. From these experiences I was motivated to look further into food access and land-use in Indigenous communities to better understand food-related challenges and adaptive capacity, which led me to this research.

As a non-Indigenous settler-Canadian woman from southern Canada doing research in a northern Indigenous community, the layers of my identity influence every aspect of this project. In almost all ways I am an outsider to the Fort Providence community. My research is conducted in an institution that operates within legacies of settler-colonialism and systems of power that privilege my identity and western perspectives. Given these complexities, looking to IM to guide my methodological approach is imperative, and demands that I engage in processes that challenge the power dynamics inherent within these topics and research. This includes conducting a thorough literature review that centres Indigenous authors, and ongoing critical reflexivity. Ultimately, my worldview and identity inherently limit my understandings of Indigenous philosophies, which IM is based on, but encouraged approaching this work with openness and humility and to move forward from these places of difference with a good heart, in a good way.

While in Fort Providence, strict COVID-19 travel restrictions on visitors to the NT and other more obvious factors (like my appearance as a European-descendent with a fair complexion in a rural Indigenous community) made it very clear I was an outsider. Yet small things (like wearing black pants around horseflies, asking a lot of questions, and walking through town with bundles of sticks for the garden) brought these differences up in more

nuanced and pointed ways. These distinctions were often humorous talking points that led to conversations and sharing meals, knowledge, and laughs with community members. My experiences working with youth and in farming offered avenues to engage and connect further with community members and this research.

During writing and interview stages, these differences encouraged me to work from a place of inquiry, read literature from the area, and centre the perspectives of community members by regularly incorporating direct quotations into the text. I was encouraged to think critically about the politics of my research, which influenced the questions, quotes, and stories I chose, and helped balance and ground this work in the relationships I had made and the limitations and possibilities of these experiences. This was apparent at various times throughout this research process, but particularly during the 2021 Indigenous Day ceremony I attended in Fort Providence. Community leaders took turns speaking about the resiliency and strength of the Dene and Métis in the North, their governance, and relationships to land, and how these needed to be shared. This moment—just days after the conclusion of the Dehcho Annual Assembly, amid an unprecedented heat wave, and in the wake of the recovery of children's remains at the former residential school in Kamloops—embodied both the interpersonal and political significance of *doing research*. While my research is just a small drop in an extensive history and inquiry, I hope it provides readers with a snapshot of the experiences of some community members in the Dehcho Region as they work to address the ongoing legacies of settler-colonialism and strengthen their resilient communities.

Methods

Semi-Structured Interviews

In alignment with IM and local protocol, this project employed semi-structured interviews with open-ended questions. A semi-structured approach fosters a more relaxed, conversational tone to the interview process, and open-ended questions allow greater depth and detail, while ensuring sensitive information is kept protected (Battiste & Henderson, 2000; Kovach, 2010). Open-ended questions also provide participants with control over the information shared. This method works to challenge and balance the roles of researcher and researched, where both parties participate and there is room for inquiry, sharing, and agency from each side (Kovach, 2010). It also compliments oral knowledge traditions of Dene and

Métis cultures in the NT (and other oral traditions in Indigenous cultures), where a conversational approach facilitates the transmission of knowledge through story (Cajete, 1994; McGregor et al., 2010; Wilson, 2008). While the term "conversation" was used with community members, I use the term "interview" in this thesis to differentiate this established conversational interview method from less formal methods of dialogue in IM research.[5]

Participants[6] were recruited for semi-structured interviews through the connections I had made during my trips to Fort Providence and through the guidance of Lois Philipp. From these initial discussions, non-probability snowball sampling was used to recruit additional participants. Interviews were conducted in-person, online via video chat, and by phone call. Before each conversation, all information regarding consent for participation was shared orally and agreed to verbally. This facilitated and affirmed trust between researcher and participant and aligned with oral histories and cultural practices of Indigenous participants. Translators were provided upon request, but none were required. Interviews consisted of 15-20 open-ended questions that acted as prompts for discussion. Not all questions were asked to each community member. Instead, participants guided conversations based on their experience and our relationship, and what I asked responded accordingly. For example, with participants that I knew had experience with politics, I questioned more about governance or law. See Appendices A & B for interview guides.

In total, 23 in-depth interviews were conducted, with 16 Indigenous and four non-Indigenous participants. Three Indigenous participants were interviewed twice with some additional questions and follow up inquiries, first in 2018 and again in 2021. All participants were long-term residents of the North, and the non-Indigenous interviewees were chosen for their experience with food security programs in the NT. Harvesters, political leaders, food programming participants and facilitators, youth, and Elders were specifically sought out due to their rich knowledge and unique insights to land-based food systems and political

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[5] See Gaudet (2021) for an example of these methods used alongside each other and differences between them.
[6] While "participant" may denote unequal power-dynamics where the researcher holds authority over a participant, it is used in this thesis to convey shared participation in the research process. A conversational approach helps break down these power-dynamics, where all parties involved in a conversation are active participants in the process and each other's sharing (see Kovach, 2021, p. 56). Use of this word is consistent with a variety of works guided by Indigenous methodologies (Goodman et al., 2017; Loukes et al., 2022; Martens et al., 2016). This term could be used interchangeably with interlocutor or collaborator.

movements in the north. Table 1 outlines participants' positions as they relate to the scope of this research and interview dates.

Table 1

Overview of Participants and Interview Dates

	Date	Participant name	Position
1	2018-09-13	Lois Philipp	Dene woman, retired school administrator, founder of local sustainability organization, Northern Loco
2	2018-09-14	Brandon Thom	Dene man, young adult (18+), Deh Gáh Got'įę First Nation (DGGFN) Councillor
3	2018-09-16	Boris Sanguez	Dene man, harvester
4	2018-09-18	Michael Nadli	Dene man, Chief Negotiator of the Dehcho First Nations (DFN)
5	2018-09-19	Bradley Thom	Dene man, young adult (18+), DFN Negotiations Team member
6	2018-09-19	Christina Bonnetrouge	Dene woman, young adult (18+)
7	2018-09-20	Laura Sabourin	Dene woman, Elder
8	2018-09-22	Theresa Bonnetrouge	Dene woman, Elder
9	2018-09-22	Nimisha Bastido	Non-Indigenous woman, local science teacher
10	2018-09-24	Xavier Canadien	Dene man, former Chief of DGGFN
11	2018-09-24	Jason Collard	Non-Indigenous man, former Northern Loco employee
12	2018-09-24	Mike Leishman	Métis man, vice-principal
13	2018-09-25	Gladys Norwegian	Dene woman, former Grand Chief of DFN
14	2018-09-26	Albert Nadli	Dene man, harvester
15	2018-09-26	Charlene Bonnetrouge	Dene woman
16	2018-09-27	Michael McLeod	Métis man, Member of Parliament for the NT
17	2018-10-10	Joachim Bonnetrouge	Dene man, Elder, former Chief of DGGFN
18	2021-10-12	Danny Beaulieu	Dene man, Mayor of Fort Providence
19	2021-11-18	Niroja Thiru	Non-Indigenous woman, Northern Loco employee
20	2021-11-24	Bradley Thom	Dene man, young adult (18+), DFN Negotiations Team member
21	2021-11-24	Brandon Thom	Dene man, young adult (18+), DGGFN Councillor
22	2021-12-20	Lois Philipp	Dene woman, retired school administrator, founder of Northern Loco
23	2022-01-29	Dawn Trembley	Non-Indigenous woman, Executive Director of Ecology North

All interviews were audio-recorded with permission and transcribed verbatim. All participants were offered anonymity; however, all chose to have their names associated with their contributions. This is a current trend in research with Indigenous communities, and

consistent with other community-based work in Fort Providence, where participants want to support transparency and own their words (Loukes et al., 2022; Ross & Mason, 2020a, 2020b). Data were analyzed using content analysis (Elo & Kyngäs, 2008). All transcripts were read several times using open coding to find reoccurring or divergent patterns. These patterns were then categorized and coded into themes. All participants were given the opportunity to review transcripts. This was an important step in keeping with IM's principles of respect and ensuring any sensitive information was protected. Direct quotes are used as often as possible to ensure local voices are centred in this research.

Policy Analysis

Policy analysis was used as a method to explore international and Canadian federal conservation and Indigenous rights policies (Dunn, 2016). I reviewed original documents through online access from the official websites of each pertaining organization. More specifically, I reviewed protected area and Indigenous rights legislation from the GC (*Canada National Parks Act*, 2000; *Canada Wildlife Act*, 1985; *Migratory Birds Convention Act*, 1994; *UN Declaration on the Rights of Indigenous Peoples Act*, 2021); formal IPCA agreements between Indigenous Nations and Crown governments (DFN & GC, 2018; Łutsël K'é Dene First Nation & GNWT, 2020); guiding conservation documents and reports from Canada (GC, 2016; ICE, 2018) and international organizations (Convention on Biological Diversity, 2010, 2022; International Union for the Conservation of Nature, 2003); and the UN Declaration on the Rights of Indigenous Peoples (UN General Assembly, 2007).

This method unraveled some of the complexity of Crown-Indigenous relations, and the reasoning behind certain government and international policymaking. Better understanding this context helped chart changes in discourse and power relations to situate the perspectives of research participants within national and international movements. Combined with interview data, it also allowed me to evaluate the outcomes of national and international policies for community members and ground these often abstracted and displaced texts in lived experiences. The results of this analysis can be used to better advocate for policy improvements that reflect the perspectives of local communities (Browne et al., 2019).

Participant Observation

With its roots in anthropology, participant observation (PO) refers to learning by exposure or involvement with participants every-day lives and activities during field work. This method helps the researcher engage with the community they work with in meaningful ways that build relationships, explore concepts and terminology outside of formal interviews, and provides a more holistic understanding of the study's context and issues (Kawulich, 2005). Data collection for PO was primarily done through writing field notes during the nine weeks that I lived in community, through two separate methods: 1) jot notes in a small notebook when appropriate while out in the community to record important or new names, dates, and ideas; and 2) daily journaling that included descriptions of events that occurred each day, personal reflections, questions, and analysis of conversations and topics (Musante & DeWalt, 2010). While an important secondary research method, no data collected through this process is included as direct evidence. As an outsider to the community, PO was vital to my approach and helped me ground this research in the local context. It pushed me to ask questions, seek out opportunities, and become involved in events and activities to gain familiarity with the community. Through these processes, my experience, relationships, and observations helped inform and facilitate interview data collection and analysis in more nuanced and meaningful ways.

Time Spent in Community

My time in Fort Providence on my first trip was spent primarily working in the newly created community gardens with a Thompson Rivers University horticultural student, Shaleyea (Shay) Paul. The gardens' proximity to the Youth Centre naturally led to Shay and I becoming involved in Youth Centre events and programming. We worked with Lois Philipp to revitalize and organize the gardens for easier community use. I also attended various public community events, including the DFN's Annual Assembly, the 100 Year Commencement of Treaty 11, and National Indigenous Peoples Day. On my second trip, I stayed with a couple, Danny Beaulieu and Susan Fleck, and volunteered as a dog handler at their kennel. Outside of this time with the dogs, I worked with the Youth Centre and community members in the gardens. This trip helped refine my interview guide and continue to build relationships for interviews that fall and winter. This research was approved by the

Thompson Rivers University Research Ethics for Human Subject Board (#102785), and the Northwest Territories' Aurora Research Institute (Scientific Research License # 17021).

COVID-19 restrictions greatly impacted this research, specifically my participation in community programming, relationship building, and community members' participation in interviews. Despite loosening public health orders that allowed more social gathering during my first visit to the community in spring 2021, many community programs were cancelled or disrupted, and many community members were still very cautious about public gatherings. Non-essential entry into the school was limited and many land-based food programs were postponed, which were two places previous graduate students had spent most of their time and made many community connections (O'Hare-Gordon, 2016; Ross, 2019). This combination of factors reduced my ability to build relationships, and thus, limited community participation in my research project. Instead, my participation in community activities was focused on the community garden and attending public events, and many of the connections I made were largely thanks to Lois and the existing relationships from previous work. A previous graduate student, Paulina Ross, who also conducted research in Fort Providence, shared her raw transcripts. This increased the amount of data to be analyzed in this project, but it also provided context, facilitated snowball sampling recruitment, and encouraged follow up interviews with community members who had knowledge of local food systems and conservation practices. This opportunity was important because the pandemic also interrupted the K'éhodi Guardian Program's activities and visitors to Edéhzhíe, which further limited community members' perspectives of the impact of these processes. Despite these limitations, COVID-19 restrictions provided unique experiences that further enriched discussions of community resiliency and sustainability.

Literature Review

Colonialism, Land, and Food

Indigenous peoples, their lands and waters, and their relationships to them were, and continue to be, targeted by settler-colonial policies and practices in ways that undermine Indigenous sovereignty and assert settler-colonial power. Renaissance and Enlightenment ideas of anthropocentrism, humanity, and a nature/culture binary greatly informed and justified the institutions and processes designed by Europeans to colonize Indigenous peoples

and their lands (Smith, 2012). These ideas about humanity and nature affirmed the identity of settlers and their relationships to nature and others. Euro-Canadian settlers began to consider themselves as "holding dominion over the earth and its flora and fauna, as the anthropocentric normal, and as more developed, more human, more deserving than other groups or species" (Tuck & Yang, 2012, p. 6). This hierarchy is rooted in early Greek philosophy, where the creation of humans was marked by their ascension *out* of nature through dominating and cultivating land via agriculture, transforming natural spaces of "wilderness" into cultured spaces of "civilization" (Anderson, 2001). The nature/culture binary was further entrenched in emerging Enlightenment sciences, such as sociology, geography, and anthropology (Smith, 2012). These disciplines provided the tools and technologies to study, classify, and rank other humans based on their trajectory from nature, towards the "modern" and "civilized" man.

Race became the dominant tool used and differentiate people deemed as other to a normalized, modern European human (Anderson, 2001). This myth of racial superiority, upheld by overlapping structures or hierarchies of economic and gendered power, helped justify the settler-colonial institutions and development that spread across Turtle Island in the 19th and 20th centuries. These institutions varied but generally sought to erase Indigenous presence on the land, dispossess them of their territories and self-determination to fill those spaces with the emerging settler-state (Coulthard, 2014).

As Euro-Canadian settlers and economies demanded more resources and expanded across the continent, Indigenous peoples' land-based knowledges and practices, once very necessary for European resource exploitation and travel, were strategically ignored or banned by colonial officials (N. J. Turner et al., 2013). This not only undermined Indigenous relationships and rights to their lands but was necessary to further colonial expansion and exploitation of seemingly "untouched" or "misused" lands. Tuck and Yang (2012) explain:

> Within settler colonialism, the most important concern is land (. …) land is remade into property and human relationships to land are restricted to the relationship of the owner to his property. Epistemological, ontological, and cosmological relationships to land are interred, indeed made pre-modern and backward. Made savage. (p. 5)

Anishinaabeg scholar, Simpson (2017) adds:

> A great deal of the colonizer's energy has gone into breaking the intimate connection of Nishnaabeg bodies (and minds and spirits) to each other and to the practices and

associated knowledges that connect us to land, because this is the base of our power.
(p. 41)

Western hierarchal relationships to land determined "proper" uses, represented by ownership and domination through cultivation or extraction (Grey & Patel, 2015; N. J. Turner et al., 2013). With mounting economic, political, and social pressure, land dispossession and assimilation strategies spread across the continent through the 19th and 20th centuries. As settler-colonial nation-building projects evolved across space and time, natural resource extraction, privatization, and conservation regimes were employed to further disrupt Indigenous relationships to their lands and assert settler-colonial ownership and authority (Binnema & Niemi, 2006; Daigle, 2017; Kepkiewicz, 2020; Sandlos, 2007).

Western gender binaries braided with race to enforce and reify settler-colonial control. Although not strict or exclusive, women, queer, and two spirited peoples across Indigenous societies held important positions of power and influence that diverged from Western patriarchal structures. In food systems across Indigenous societies in North America, women were primarily in charge of gathering plants, farming, harvesting small game, and typically oversaw the processing, storage, consumption, and exchange of goods (Grey & Patel, 2015). They also held political and educational roles that upheld food systems and the transmission of knowledge (Anderson, 2016; Daigle, 2017; Gaudet, 2017). Because of their influential political positions and roles in food systems, women, queer, and two-spirit peoples were (and are still) directly targeted by Western patriarchal economic, political, and educational systems that sought to impose Euro-Canadian ideals (Ferreira et al., 2022; National Inquiry into Missing and Murdered Indigenous Women and Girls, 2021). As Métis scholar, Anderson (2016) states:

> The Europeans who first arrived in Canada were shocked by the position of Native women in their respective societies. It was not long before they realized that, in order to dominate the land and the people who were occupying it, they needed to disempower the women. Indigenous systems that allocated power to women were incompatible with the kind of colonial power dynamics that would be necessary to maintain colonial power. (p. 34)

With the imposition of natural resource industries across Canada, Indigenous men who entered these economies often received privileged roles, where women were largely ignored, limited to specific piece-rate positions, or confined to the house to support men's work (Daigle, 2017; Grey & Patel, 2015). Politically, women were looked over as leaders, banned

from participating in the imposed Chief and Council governance system, and were excluded from colonial policy that granted limited rights (Stevenson, 1999). The residential school system further disrupted women's knowledges and transfer of this knowledge, which goes beyond just practical skills and physical acts of education and embodies a milieu of relationships, beliefs, and ways of being (Gaudet, 2017). Women's roles in land-based knowledges and relationships permeate throughout Indigenous epistemologies and ontologies, and disruptions to them affect all aspects of life.

Furthermore, past food related research in Canada had often ignored or excluded women and women's knowledges. Ferreira et al. (2022) state this results in literature that "risks being incomplete at best, and at worst, risks perpetuating the colonial legacy of erasing Indigenous women from the kin (including human and non-human) they intimately know and love" (p. 212). Since the mid-2000s, this narrative has shifted with more Indigenous women leading food projects and scholarship across the continent (Coté, 2016; Gaudet, 2017; Joseph & Turner, 2020; Kimmerer, 2013; LaDuke, 2005; Morrison, 2011; Robin, 2019; Settee & Shukla, 2020). However, Indigenous women, girls, two-spirited, and queer peoples still experience systemic discrimination (National Inquiry into Missing and Murdered Indigenous Women and Girls, 2021). To respond to this and other legal and government exclusions, Cree scholar, Daigle (2017), calls for scholarship that "centers the role of Indigenous women, youths, Elders, queer, trans and two-spirited peoples as these sovereign authorities are central in the caretaking of food harvesting grounds and waters, and in the regeneration of Indigenous foodways" (p. 16). These authors suggest that a critical examination of settler-colonial framings of gender and their implications on Indigenous foodways and land relationships is necessary to better understand these issues and incite change (Daigle, 2017; Ferreira et al., 2022). Although my thesis lacks specific gender-based analysis, explicit effort was made to include the perspectives of Indigenous women, Elders, youth, and queer peoples in the primary and secondary research.

Indigenous relationships to their land and food systems are intertwined with, and upheld by, all aspects of individual and community life. Therefore, the multi-dimensional effects of settler-colonial impositions permeate through social, cultural, political, and economic spheres, disrupting systems held in place from time immemorial. Settler-colonialism, as Grey and Patel (2015) state, "is both a goal and ongoing process" (p. 435).

Tuck and Yang (2012) add that settler-colonial violence "is not temporally contained in the arrival of the settler but is reasserted each day of occupation" (p. 5). Thus, settler-colonialism continues to affect all aspects of life in Canada and other settler-colonial states and must be understood as a present issue. Examining Canada's historical context helps to situate contemporary Indigenous food and land sovereignty struggles by uncovering roots often ignored in food security and conservation discourse and policy.

Indigenous lands and food systems have been targeted through a complex array of power structures that overlap and are reinforced to dispossess people of their lands and assimilate them into settler society. Despite great disruption and violence, Indigenous peoples continue to resist, and adapt to, colonial power structures. The following section overviews some of settler-colonial impositions through economic and legal means and specifically examines how land dispossession and residential schools continue to impact northern Indigenous food systems and land relationships in the 21st century.

Economic Means of Disruption

Early interactions between Indigenous communities and European colonists were motivated by economic means, primarily through the fur trade. The early fur trade relied on the knowledge, skills, labour, and existing economic networks of Indigenous peoples. As trade increased throughout the 19th century, so too did material and philosophical exchange across the different cultures, altering the social and political economies of Indigenous communities as they responded to the demand of the European economic system (Leblanc & Burnett, 2017). As Leblanc and Burnett (2017) explain, this European economic system "lay in direct contradiction to Indigenous modes of community, reciprocity, mutual respect, and collective well-being" (p. 22). Local species were exploited and exported to serve the much larger European systems, and to directly disadvantage Indigenous peoples. Loukes et al. (2021) examine how the booming early 20th century fur trade in Cree, Oji-Cree, and Anishinaabe communities of James Bay led to increased Euro-Canadian settlement and Indigenous relocation around trading forts. This put pressure on wild food sources and depleted resources, which left some communities vulnerable. Food shortages were then leveraged by treaty officials to entice Indigenous peoples to cede their lands through treaties in exchange for goods and services (Loukes et al., 2021; Miller, 2009).

Of course, not all these exchanges were negative, and indeed some introduced technologies and goods brought prosperity to Indigenous communities (J. D. Ford, Pearce, et al., 2010). Corntassel and Bryce (2012) describe early trade between settlers and the Lekwungen peoples in what is now known as Victoria, BC as beneficial to both parties; the Lekwungen maintained trade with settlers as a secondary form of economic exchange, and Euro-Canadians were able to establish trade networks and outposts. Upon settlement and construction of Fort Victoria in the middle of Lekwungen ancestral territories, this relationship turned. Corntassel and Bryce (2012) assert that the creation of this economic post decreased trade, disrupted traditional land and food management, and was "directly aimed at destroying the combined strength of the culture, people, and land" (p. 158).

Despite some benefits, the drastic lifestyle changes brought about through exchange and the sudden imposition of Euro-Canadian economic systems facilitated three main processes: 1) disruption of Indigenous lifeways; 2) dispossessing Indigenous peoples of their lands; and 3) processes of assimilation. Daigle (2017) explores how the expanded European colonial capitalism system through the 19th to 21st centuries impacted Anishinaabe culture and foodways:

> The political and legal authority of a range of community members, including women, Elders, youths and queer, trans and two-spirited peoples who are Knowledge Holders in the caretaking of land and water, have been historically targeted by settler colonial policies and capitalist development. (…) [This resulted] in the weakening of Anishinaabe political and legal relationships, such as those between Elders and youths, which were once widely cultivated through everyday practices of food harvesting and sharing. (p. 7)

As Euro-Canadians began to expand and settle Indigenous lands, Canadian economic development quickly exploited and eroded Indigenous food systems and the complex relationships upheld through regular participation in these systems.

Legal Means of Disruption

Soon after the formation and expansion of settler-colonial economic structures, emerging Canadian legislation began confining Indigenous peoples and lands within strict boundaries of colonial law to wrongly assume settler control. The British Royal Proclamation of 1763, while not perfect, recognized Indigenous title and outlined the need for nation-to-nation relationships with Indigenous communities (Lawrence, 2003). These relationships

were quickly abandoned in the mid-1800s as the Euro-Canadian settler-state established new Canadian legislation to facilitate nation-building processes. As Mi'kmaw legal scholar, Palmater (2014), states, "the underlying objective of Canadian Indian policy has been to get rid of Indigenous peoples through whatever means necessary, with a view to securing permanent access to Indigenous lands and resources for the settler population" (p. 30). An early example of this are the two acts for Upper and Lower Canada in the 1850s that created reserves and outlined Indigenous identity as it related to who belonged on the land (Lawrence, 2003). This asserted legislative authority over Indigenous people and lands. Processes like these completely disregarded and undermined Indigenous self-determined identities, governance, and sovereignty.

Racialized and patriarchal western values guided and justified subsequent 19th century legislation (housed primarily under the *Indian Act* (1985) that further entrenched Indigenous identities and lands within colonial legal systems (Coulthard, 2014; Leblanc & Burnett, 2017). Leblanc and Burnet (2017) examine how the *Indian Act* (1985) uprooted Indigenous relationships with their land and foodways:

> The Indian Act has restricted [Indigenous peoples'] ability to use and manage their lands as they had for generations. Indeed, the basis of all Indian legislation has been to force Indigenous people to adopt Euro-Canadian forms of governance, private property, individualism, and nuclear patriarchal families. (p. 25)

Loukes et al. (2021) add, that "the overt racialization of Indigenous peoples' lives and bodies was so deeply entrenched in colonial superiority and laws that it justified the State's attempt to take over the control of Indigenous peoples' land, food, governance, knowledge, education, and families" (p. 6).

This legal control manifested in various material ways, including policies that banned ceremony, which, as Daigle (2017) reflects in Anishinaabe food traditions, "were aimed at disrupting Anishinaabe peoples' ability to visit harvesting grounds and waters, and to engage in the legal protocols that are central to food practices," (pp. 6-7). This legislation also included gender discrimination through the "marrying out" rule (Palmater, 2014). Under this law, Indigenous women lost all rights under the *Indian Act* (1985) if they married a non-Indigenous person, cutting these women off from their communities, lands, and legal recognition. As nation-building projects expanded over the next 100 years with settlement,

Indigenous bodies, lands, and foodways were increasingly confined within settler-colonial legal systems to falsely legitimize the emerging Canadian sovereignty.

The Impacts of Residential Schools on Indigenous Food Systems

The residential school system and intergenerational trauma experienced because of the forced attendance of these institutions have deeply impacted all aspects of Indigenous peoples' life, which disrupted their connection to land, language, spirituality, and knowledge. These institutions were used to assimilate Indigenous peoples into the emerging Euro-Canadian society, and as Chair of the Truth and Reconciliation Commission, Justice Sinclair (2015a), states, "were a key component of a Canadian government policy of cultural genocide" (p. VII). Children were separated from their families, lands, and food systems, and forced to attend these institutions where they were taught their culture and ways of land-based living were uncivilized and needing to be replaced by Western culture and food systems (Miller, 1996). This separation caused great disruptions in the transmission of land-based knowledge, including language and food skills (Chrisjohn et al., 1994; Miller, 1996; Streit & Mason, 2017). While at these institutions, children often only had access to foreign foods, causing many survivors to lose their taste for, and knowledge of, traditional foods (Coté, 2016; Mosby, 2013). The legacies of abuse and neglect Indigenous children experienced at these institutions has been linked to various health concerns that affect generations of Indigenous people, including addiction, chronic conditions, and spiritual distress (Bombay et al., 2014; Brave Heart, 2003; Wesley-Esquimaux & Smolewski, 2004).

Fort Providence is the site of the first residential school in the North, the Sacred Heart Residential School, which opened in 1867. This institution was run by the Catholic church and educated primarily orphaned Dene and Hudson Bay Company children (Abel, 2005). Orders to encourage Indigenous people to move into settlements and take up farming from the church in the South were largely ignored by northern missionaries because of their own difficult experiences with agriculture. Instead, missionaries focused their work to spiritual-change over cultural- or economic-change. Consequently, the schools augmented their work to fit Dene and Métis seasonal rounds rather than a forced cultural transformation in what Abel (2005) describes as "an unrealistic and improbable direction" (p. 118). However, these schools still pressured Dene and Métis lifeways, especially the parts incongruent with

Christian values. By the 1950s, attendance at these schools was tied to family allowances. Many families began enrolling their children in school to receive this support, having experienced great hardships from the decline of the fur trade and impact of influenza epidemics (Fumoleau, 2004; Watkins, 1977). As a result of this shift of settlement into towns, many adults entered wage-based economies. This changed how people spent their time and transformed northern food systems and economies.

Land Dispossession: Treaties, Natural Resource Extraction, and Conservation

A myriad of related settler-colonial processes followed these early impositions that sought to further erode Indigenous relationships with their lands and dispossess them of their traditional territories. These methods are numerous, but three of the most impactful tools are the imposition of treaties and reserves, resource extraction, and the formation of parks and protected areas. When combined with other settler-colonial institutions, these processes facilitated the physical removal of Indigenous peoples from their lands and confined them to reserves where they were exposed to assimilatory processes (Bernauer & Roth, 2021; Mason, 2014). This had immense effects on the intrinsically place-based Indigenous cultures, legal and knowledge systems, economies, health, well-being, and foodways. The following section highlights how treaties, natural resource industries, and conservation regimes facilitated land dispossession in Canada, and then more specifically in the NT.

The 11 treaties signed between Euro-Canadian and Indigenous leaders in the 19th and 20th centuries, known collectively as the numbered treaties, share a similar arrangement: annuities, education, and health care from the federal government, protection of hunting, fishing, and gathering rights, all in exchange of Indigenous nations' cession of land and settlement on reserves (Miller, 2009). Countless accounts affirm the vastly different understandings and translations of treaty terms between Indigenous groups and Canadian governments, attributed largely to strategic avoidance and coercive pressure from Crown officials (Asch, 1997; Berger, 1977; Borrows, 2002; Krasowski, 2019; Simpson, 2008). These treaties were largely viewed by Indigenous signees as protecting their food systems, language, economic and governance systems, building mutually beneficial relationships, and *sharing* the land, with no reference to ceding or surrendering land. On top of these calculated misunderstandings, many of the protections and provisions described to Indigenous treaty

signatories were either ignored or provided in ways that furthered assimilatory practices. For example, federal commitments of supplies and provisioning outlined in Treaty 5 in northern Manitoba led to the imposition of Western style farming on reserves (Rudolph & McLachlan, 2013). This style of food production was not suited for all environments or cultural contexts. Some communities were in northern or mountainous regions which had short growing seasons and poor soil quality. Other communities had no gardening history or training so agricultural production did not align with mixed-source food systems and it failed to meaningfully contribute to local economies and food security (Miller, 2009; Rudolph & McLachlan, 2013; Spiegelaar & Tsuji, 2013). Indigenous communities still commonly evoke the political and legal powers of treaties, and their cultural relevancy and sacred nature in Crown obligations to uphold nation-to-nation relationships and treaty rights (Nuttall, 2010; Starblanket, 2019).

The treaty process in the NT began only after natural resource discoveries in the North (Fumoleau, 2004). Upon finding oil near what is now known as Normal Wells, the Canadian government quickly began drafting Treaty 11 to advance resource development. While the Dene signatories sought nation-to-nation agreements to share the land and resources, the colonial government considered this treaty as an extinguishment of title to the Crown (Nuttall, 2010). With this treaty signed, the federal government could begin large-scale settlement and resource extraction. The Dene of Treaty 11 had heard how reserves restricted Cree communities' access to their hunting and trapping areas and resisted the creation of reserves without their input (Fumoleau, 2004). Reserves and other provisions, like protecting harvesting rights, education, and medical care, outlined in Treaty 11 were left vaguely described and almost forgotten in the proceeding years; no land was set aside for reserves, Euro-Canadian encroachment threatened Indigenous hunting and trapping rights, and education and medical care commitments were inadequately fulfilled by the underfunded residential schools in the territory (Fumoleau, 2004; Miller, 2009). Throughout the latter half of the 20th century, treaty and other Indigenous rights have gradually become better articulated through Canadian court cases and in the *Constitution Act* (1982). However, these rights are still greatly limited by colonial institutions that have failed to fully recognize Indigenous sovereignty and enact systemic change (Harris & Millerd, 2010; Palmater, 2014; Starblanket, 2019). In attempts to clarify rights and address failed treaty commitments, many

northern Indigenous nations have, and continue to, negotiate modern agreements with Crown governments that secure self-governance and land claims (Kulchyski & Bernauer, 2014; Nadasdy, 2012).

Across Canada, natural resource extraction remains a colonial key tool that facilitates and justifies the dispossession of Indigenous peoples from their lands and the disruption of food systems. As previously highlighted with the early fur trade, colonial capitalist extraction facilitated the exploitation of local and regional food resources in ways that negatively impacted communities, leaving them vulnerable to colonial processes (Leblanc & Burnett, 2017; Loukes et al., 2021). Canada's economy and national development has always been closely tied to natural resource extraction for export, including resources such as furs, fish, hydroelectricity, minerals, wheat, and forest products (Bernauer & Roth, 2021). These industries were premised on dispossessing Indigenous peoples from their lands through persuasion and coercion techniques. Natural resource extraction further affected Indigenous food systems through the habitat destruction and pollution, decreasing the health of ecosystems and the wildlife populations that rely on them (J. D. Ford, 2009; Sandlos & Keeling, 2016). For harvesters that have been able to access the land and land-based foods, these impacts have created concerns about the safety and sustainability of harvesting wild foods.

Throughout the 19th and 20th centuries, federal agencies repeatedly constructed Canada's remote northern areas as resource frontiers at the forefront of national development strategies (Keeling & Sandlos, 2015; Nuttall, 2010). Incited by the Yukon's Klondike Gold Rush, resource exploration into the NT first began in the late 1800s (Fumoleau, 2004). Once treaties were signed, the Canadian government expanded their infrastructure, extending outsiders' reach into the previously sparsely settled areas. Prospectors, turned trappers, came to the North in droves. With fractured game regulations and administration from the federal government, high fur prices, and broken treaty promises of protecting Dene trapping rights, this influx of largely temporary trappers depleted game and fur populations and subsequently threatened Dene economies and food sources.

With the post-WWII development boom in Canada, mining expanded across the NT with severe social and environmental impacts to Indigenous communities (Sandlos & Keeling, 2016). Environmental pollution and habitat destruction from mines destroyed or

greatly disrupted many adjacent Indigenous food systems. One example is the Giant Mine in the Yellowknives Dene territory in operation from 1949-1999. The mine leached arsenic into the surrounding environment, which Sandlos & Keeling (2016) refer to as "a historical agent of colonial dispossession that alienated an Indigenous group from their traditional territory" (p. 7). Sudden influxes of external workers, infrastructure, and policy for the mining industry further strained game populations and Indigenous ways of life (Kulchyski & Bernauer, 2014). Jobs from these industries were largely sourced elsewhere, which deepened economic disparities for local communities. As Keeling & Sandlos (2015) explain, the federal government regarded resource development "as the key to assimilating northern people and territories into the national economy" (p. 7), adding that some Indigenous people regarded mining as "a key agent of colonialism in their regions" (p. 8).

Throughout the latter half of the 20th century, many Indigenous leaders pressured industry and government for mineral rights and royalty agreements to improve the quality of life for their communities (Kulchyski & Bernauer, 2014; Kuokkanen, 2011; Levitan & Cameron, 2015; Paci & Villebrun, 2005). These have offered communities many benefits, including strengthened self-governance, enhanced socio-economic circumstances, and disrupted cycles of dependency. However, they are not without their criticisms for coercion or limiting Indigenous governance. Additionally, Indigenous workers that found employment in these industries were often limited to entry-level positions or only offered short-term contracts (Watkins, 1977). This mirrored the socio-economic marginalization of previous economies in the region. Contamination, habitat destruction, and socio-economic and political concerns from these industries continue to impact Indigenous lives and food systems (Keeling & Sandlos, 2015; Paci & Villebrun, 2005).

During the late 19th and early 20th centuries, the federal government began establishing protected areas and conservation policies in the western and northern regions of the country to facilitate colonial expansion. While the specific motivations for these efforts varied, they were largely based on the colonial goals of economic development, undermining Indigenous sovereignty, asserting hierarchies of knowledge, and facilitating assimilatory practices. In Canada's earliest parks, Indigenous communities were removed from and denied access to these areas and excluded from decision-making structures, which enabled the expansion colonial power over appropriated Indigenous lands (Sandlos, 2008; Snow, 2005). Combined

with other colonial institutions, parks confined Indigenous peoples to reserves in attempts to assimilate them into the emerging Canadian society (Binnema & Niemi, 2006). A myriad of agencies including parks, police, missionaries, government, and tourism organizations, facilitated these processes. Outside the boundaries of protected areas, wildlife conservation policies (namely hunting regulations) restricted Indigenous subsistence activities, further disrupting their relationships to lands (Burnett et al., 2016; Sandlos, 2007). Conservation policies were based on Western scientific management regimes and knowledge that were assumed to be superior to Indigenous ways. Hierarchies of knowledge and the importance of western economies justified attempts to control Indigenous subsistence practices due to their perceived threat to wildlife game populations and tourism industries (Kulchyski & Tester, 2008; Mason, 2020).

In the NT, early 20th century conservation regimes were intimately tied to the federal government's attempts to assert power over the North through settlement and economic expansion. Compared to southern Canada, the harsher climate, prevailing Indigenous populations and subsistence activities, and presence of great wildlife herds (caribou, bison, and muskox) in the North limited the widespread establishment of colonial conservation practices (Sandlos, 2014). Crown officials still asserted wildlife management policies (specifically hunting regulations), established protected area, and used coercive attempts to shift Indigenous subsistence practices throughout the late 19th and early 20th centuries (Sandlos, 2007). These policies bore little regard for Indigenous subsistence practices or their perspectives, undermined Indigenous sovereignty and knowledge, and greatly impacted their food systems (ICE, 2018; Kulchyski & Tester, 2008). Two notable examples of this are the Wood Buffalo National Park and the Thelon Game Sanctuary. The establishment of these protected areas facilitated the removal of Cree, Métis, and Dene communities from within their boundaries and the imposition of various levels of restrictions on Treaty and non-Treaty (Métis) Indigenous harvesters (ICE, 2018; Sandlos, 2014).

Indigenous peoples have always resisted some colonial policies, continued to access protected areas for subsistence and cultural purposes, and pushed for decision-making power in colonial conservation structures (Devin & Doberstein, 2004; Johnston & Mason, 2020; Mason, 2015; K. L. Turner & Bitonti, 2011). Protected areas and conservation policies continue to be sites of tension over decision making power and land rights. Since Canada's

first parks were established, Indigenous peoples' resistance and international pressure have shifted colonial conservation and protected area regimes to include, support, and reflect Indigenous knowledge, governance, and values (Armitage et al., 2011; Finegan, 2018; Langdon et al., 2010; Zurba et al., 2019). This will be explored in greater detail in Chapter 4.

Food Security and Food Sovereignty

Food Security: International, National, and Northern Indigenous Perspectives

Food security discourse and policy has greatly increased after WWII when great reformations of policy, trade, and universal human rights took place (McMichael, 2009). Agricultural policies were created to facilitate a global food system that concentrated power to a few Global North agri-business corporations, transnational organizations (such as the World Trade Organization), and government agencies. Large quantities of cheap, quickly produced food were needed to fuel this system, resulting in the industrialization of food production, processing, and distribution. This system quickly expanded across the world, often packaged in colonial expansion, development discourse, and neoliberal agendas (McMichael, 2009; Wittman et al., 2010). The cheap food produced and distributed in these systems relies on fossil fuels, intensive chemical inputs, and unsustainable methods of agriculture that diminish biodiversity, exclude local and Indigenous knowledges, and causes great environmental degradation (Altieri & Toledo, 2011; Kepkiewicz & Dale, 2019; Wittman et al., 2010). Small-scale food producers and already disadvantaged communities (especially women and BIPOC populations) are the most negatively impacted by this industrial system (Grey & Patel, 2015; Wiebe & Wipf, 2011; Wittman, 2012).

Despite advances in agricultural and transportation technology, global hunger and food insecurity rates continue to rise and exceed those prior to the imposition of this globalized food system (Wittman et al., 2010). The Food and Agriculture Organization of the UN (FAO) estimates that enough food is produced worldwide to feed 10 billion people (FAO et al., 2017; Holt-Giménez et al., 2012). This suggests that food security is not simply about supply or market access, but instead about the underlying power relations that control conventional food system production, distribution, and consumption patterns across the globe (Wittman et al., 2010).

One of the most used definitions of food security originates from the FAO, who describe it as a situation that "when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life" (1996). Following this definition and aligning with the neoliberal food regime, international organizations and global agri-business corporations have largely framed food insecurity in economic terms tied to international trade and issues of access, poverty, and supply (Wittman, 2012). This framing and subsequent government and agri-business solutions largely ignore historical and racialized underpinnings of food insecurity and reproduce concentrated power dynamics (Desmarais & Wittman, 2014; Rudolph & McLachlan, 2013). Wittman, Demarais, and Wiebe (2010) critique the FAO definition for: 1) ignoring where, how, and by whom food is produced; 2) focusing food policy on maximizing food production; and 3) lacking criticism of prevailing industrialized food systems that cause social and environmental harm. Wittman (2012) adds that this definition "treats food as a problem of insufficient trade rather than hunger by privileging *access* to food rather than *control over* systems of production and consumption" (p. 91). Further critique of this definition from Indigenous food activists and allies highlight its failure to consider Indigenous perspectives, rights, and experiences of procuring, sharing, and consuming wild-harvested food (Power, 2008).

National food security remains poorly understood by most Canadians, often thought of as a problem in distant and less economically stable countries (Wakefield et al., 2015). For example, during the 2012 visit of the UN Special Rapporteur to the Right to Food, then Immigration Minister, Jason Kenney, proclaimed the visit was a waste of time (Payton, 2012). However, the UN Special Rapporteur's findings affirmed that food insecurity rates in Canada were a growing problem that particularly affected low-income, single parent households, those on social assistance, off-reserve Indigenous people, and new immigrant households (De Schutter, 2012a). He stated that Canada had "a system that presents barriers for the poor to access nutritious diets and that tolerates increased inequalities between rich and poor, and Aboriginal and non-Aboriginal peoples" (2012b, para. 2).

Canada's reputation as a land of abundance and leading global food exporter further obscures domestic food insecurity and assumes agricultural systems are successful (Wakefield et al., 2015). Wiebe and Wipf (2011) add that "industrialized, export-orientated

agriculture, which characterizes much of the Canadian food system, is degrading soils, polluting water, denuding forested areas and undermining biodiversity in fundamental and life-threatening ways" (p. 3). While some Canadians realize these issues and can participate in alternative food systems, access to these systems is largely limited to privileged, white, urban individuals (Matties, 2016; Rudolph & McLachlan, 2013). So, while food insecurity might be out of sight for many Canadians, already disadvantaged populations not only experience greater rates of food insecurity but face systemic barriers that limit their access to food resources and programs. In Canada, food insecurity rates have continued to rise since the 1980s when it was first formally recognized as a problem (Tarasuk et al., 2022). In this structure that already privileges majority groups (namely Euro-Canadian, affluent, two-family households), great change is needed to not only increase access to food resources and programs for minority groups, but to challenge conventional food systems that operate with unsustainable and environmental degrading methods.

 Northern Indigenous people experience unique circumstances and disproportionate rates of food insecurity compared to other groups in Canada (Council of Canadian Academies, 2014). The UN Special Rapporteur, De Schutter (2012a), found that food insecurity rates for Inuit adults in Nunavut were six times greater than Canada's average, and the highest of any Indigenous population in a developed country. Food insecurity contributes to equally disproportionate rates of diet-related illnesses such as obesity, cardiovascular disease, and Type II diabetes in Indigenous communities (Haman et al., 2017; Martens et al., 2007). Many scholars trace these food and health outcomes to rapidly imposed settler-colonial policies and practices that transformed Indigenous diets and lifestyles (Burnett et al., 2016; Kepkiewicz et al., 2015; Wiebe & Wipf, 2011).

 As outlined above, Euro-Canadian intuitions sought to undermine Indigenous sovereignty and impose Western economic, political, and social systems to align with the emerging Canadian society. These systems continue to impact Indigenous communities and must be understood as active barriers to Indigenous self-determination and food security (Council of Canadian Academies, 2014). Furthermore, Canada's dominant definitions of food security have failed to fully consider Indigenous perspectives of food systems, such as specific regard for land-based foods, food quality, and the connections between food and culture (Power, 2008). As a result, many Crown-derived initiatives that attempt to tackle food

insecurity in Indigenous communities have limited success. Rudolph and McLachlan (2013) go further and suggest that these initiatives tend to be apolitical and thus, continue to uphold the structural inequalities underlying Indigenous food insecurity. Burnett et al. (2016) add that these failures and the key role food played in assimilatory processes make food insecurity "manufactured not just as symptom but as a central constituent of the architecture of settler colonialism" (p. 8).

Food Sovereignties: Issues in Global and National Movements

In response to rising rates of food insecurity and the adverse social, environmental, and economic effects of the globalized industrial food system, activists and scholars are turning towards the concept of food sovereignty as a critical alternative to food security. Popularized first in 1996 by the group La Vía Campesina, food sovereignty emerged from the collective tension that peasants, rural farmers, Indigenous peoples (primarily in Latin America) experienced because of dominant neoliberal modes of trade and agriculture (Altieri & Toledo, 2011; Desmarais & Wittman, 2014). Instead of focusing on the right to food and access (as with food security), food sovereignty encompasses broader aspects of these systems, such as the types of food produced, where and how it is produced, and who grows, distributes, and consumes it. It moves past a rights-based discourse and policies that emphasizes supply and economic solutions, and instead highlights the unequal power relations of food production, distribution, and consumption (Wiebe & Wipf, 2011). A food sovereignty approach pushes scholars, activists, and policy makers to "rethink our relationships with food, agriculture and the environment" and "rethink our relationships with one another" (Wittman et al., 2010, p. 4). Because of its regional nature grounded in local struggles, definitions and experiences of food sovereignty vary and depend on historical, social, ecological, political, and cultural contexts (Desmarais & Wittman, 2014) Thus, food sovereignty in Canada, Indigenous food sovereignty, and each community's own conceptualization of food sovereignty all differ greatly and should be contextualized appropriately.

Food sovereignty was first introduced in Canada in the late 1990s by the country's two members of La Vía Campesina, the National Farmers Union and the Union Paysanne (Desmarais & Wittman, 2014). The term was first used in agricultural production and trade

policy realms, then later in the national food sovereignty movement that sought to redefine food and agricultural policies. This work operated primarily through the pan-Canadian People's Food Policy Project. Indigenous peoples' participation in and perceptions of this process were mixed. The project has been criticized for its focus on agriculture and exclusion of Indigenous food practices like hunting, fishing, trapping, and gathering (Daigle, 2017; Desmarais & Wittman, 2014; Kepkiewicz, 2020). These scholars also point out its limited transformational potential while being rooted in Crown agendas that do not fully consider decolonization, self-determination, and Indigenous food (and other) sovereignties. These tensions have given increased attention and use of Indigenous food sovereignty as distinctly different from "Canadian" or "peasant" food sovereignty experiences and with nuanced understandings of power in food systems (Grey & Patel, 2015; Morrison, 2011).

Indigenous Food Sovereignty and Contemporary Northern Food Systems

Indigenous food sovereignty represents an alternative approach to understanding and tackling the food related challenges Indigenous communities experience. Morrison (2011), a Secwépemc food activist and founder of the Working Group on Indigenous Food Sovereignty, outlines this concept:

> Indigenous food sovereignty describes, rather than defines, the present-day strategies that enable and support the ability of Indigenous communities to sustain traditional hunting, fishing, gathering, farming and distribution practices, the way we have done for thousands of years. (…) We have rejected a formal definition in favour on one that respects the sovereign rights and power of each distinct nation to identity the characteristics of our cultures and what it means to be Indigenous. (pp. 97-98)

Food sovereignty is a useful framework to examine food insecurity in Indigenous communities for three main reasons: 1) it emphasizes a community's right to define and have greater control over their food system (Desmarais & Wittman, 2014); 2) it recognizes the historic and continued impact of colonialism on Indigenous food systems (Wilson et al., 2020); and 3) it connects food with land-based struggles and cultural resurgence (Kepkiewicz & Dale, 2019). This approach offers a framework that addresses food insecurity and related disruptions of sovereignty in ways that recognize their roots in colonialism and focus on long-term, solutions-oriented approaches that centre Indigenous knowledge (Daigle, 2017).

Morrison (2011) expands the concept of Indigenous food sovereignty to a framework that transforms industrial food systems to more just models for everyone. She stresses the

importance of working across cultures and using relationship-centred approaches that operate at grassroots levels of traditional food strategies and education, and higher levels of policy reform in resource extraction and conservation. Applied in this way, Indigenous food sovereignty extends beyond Indigenous communities and demands engagement from non-Indigenous individuals and institutions. Indigenous food sovereignty allies and activists emphasize the significance of decolonization, self-determination, and traditional subsistence activities to building sustainable Canadian food systems (Desmarais & Wittman, 2014; Morrison, 2011).

This is particularly important in northern Canada where food insecurity and dietary disease rates are the highest amongst Indigenous communities (Council of Canadian Academies, 2014; Kepkiewicz et al., 2015; Robidoux & Mason, 2017). Morrison (2011) suggests Indigenous food sovereignty "provides a more solution-orientated strategy for improving the health of Aboriginal people" (p. 102) in contrast to the deficit-based framing of Indigenous communities common in health and food security research. Wilson et al. (2020) add that this approach "embodies greater emphasis on Indigenous-led and Indigenous-derived solutions to food insecurity, [and] offers a promising conceptualization for sustainable northern food systems" (p. 293).

Northern Indigenous communities experience mounting barriers to consistently access land and good quality, nutritious foods. Where food security focuses too narrowly on access to foods, Indigenous food sovereignty opens larger conversations of sovereignty, decolonization, self-determination, and truth and reconciliation. Northern Indigenous communities' urgent needs for consistent access to nutritious foods, rising barriers land-based foods, and deeply entrenched settler-colonial structures draw sharp attention to food sovereignty's limitations. While food sovereignty is vital for long-term and meaningful change, immediate action is needed to address the growing environmental, political, and health issues northern Indigenous communities face related to safe, accessible, culturally appropriate food.

Canada's North is geographically, politically, socially, economically, and culturally diverse, but Indigenous communities in these areas share similarities in their food systems compared to southern communities. Northern food systems typically consist of traditional foods (wild game, berries, roots, birds, eggs, fish, etc.), imported market-based foods (those

bought in stores), and locally grown foods (Council of Canadian Academies, 2014). All three aspects must be considered to address the food and health challenges in northern communities (Kamal et al., 2015; Loring & Gerlach, 2015; Power, 2008; Skinner et al., 2013). Chapters 2 and 3 examine some of the common challenges northern Indigenous communities experience to access nutritious, culturally relevant foods, and various initiatives communities have employed to overcome these barriers.

Overview of Thesis

This thesis examines the roles community-driven approaches to local food systems and Indigenous-led conservation play in building sustainable, resilient northern communities in three distinct data chapters and a conclusion. Chapter 2 overviews the importance of land-based food systems to community members in Fort Providence, NT, and the current barriers and facilitators to access land and land-based foods. This chapter explores how local food programming bolsters culturally relevant, land-based food systems that increase access to traditional foods, facilitates intergenerational knowledge transfer, and supports land-based livelihoods. The following three questions emerged from conversations with community members, and guide this chapter: 1) How do community members value traditional foods?; 2) What are the current barriers and facilitators to access traditional foods?; and 3) How do culturally relevant and local food system programming help build resilient and sustainable communities?

In the third chapter I profile some recent gardening projects in Fort Providence, their barriers and successes, and community perspectives of the role of gardening in building land-based relationships and adaptive capacity. The aim of this chapter is to identify some of the drivers and constraints of community-based gardening initiatives and highlight how they support local food systems that increase decision-making, facilitate land-based relationships, and build adaptive capacity to social and environmental change. This chapter is guided by the following questions that emerged from discussions with community members: 1) What types of food production is occurring in Fort Providence?; 2) What are the challenges these projects faced and how have community members worked to overcome those challenges?; and 3) How does community-based gardening support broader community sustainability and resiliency?

In Chapter 4, I explore how Indigenous-led conservation in the Dehcho Region contributes to local, regional, national, and international goals. The aim of this chapter is to highlight ways some communities are using Indigenous-led conservation to improve food security and local economies, assert Indigenous governance and shift power relations, and to address broader conservation and reconciliation goals. The following three questions emerged from conversations with participants and are examined in this chapter: 1) Why is Indigenous-led conservation important to the DFN and community members?; 2) How does Indigenous-led conservation contribute to reconciliation and environmental stewardship in northern Canada?; and 3) How do community members view Indigenous-led conservation as contributing to local priorities?

The final chapter summarizes the significance of local food initiatives and Indigenous-led conservation for northern Indigenous communities. It explores how these findings extend to other community-based projects, policy makers, and partners working on building sustainability and resiliency.

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CHAPTER 2: LAND-BASED FOOD SYSTEMS, COMMUNITY-LED PROGRAMMING, AND CULTURAL RESURGENCE

Indigenous food systems across the Canadian North have undergone rapid changes in recent decades. Climate change, historically imposed lifestyle transitions, and enforced colonial power structures have shifted Indigenous food systems away from primarily land-based to a reliance on market-based foods. At the root of this change is the displacement and dispossession of Indigenous peoples from their lands, the destruction of Indigenous food systems, and the attempted assimilation of Indigenous peoples into settler-Canadian society (Robidoux & Mason, 2017). These disruptions create complex barriers for community members to access the land and land-based foods. High import costs and long supply chains greatly impact the quality and cost of fresh, nutrient-dense market foods, such as fruits and vegetables. Many Indigenous communities have been forced to rely on less expensive, shelf-stable market foods which are typically lower in nutrients and high calorie (Batal et al., 2005; Sharma et al., 2010). Researchers have connected this dietary transition, coupled with less physical activity from subsistence activities, with unprecedented levels of chronic disease in Indigenous communities (Kuhnlein et al., 2004; Martin & Amos, 2017; Samson & Pretty, 2006). Northern food security challenges are compounded by climate change that impacts the availability of land-based foods and access to the land, the vulnerable transportation infrastructure in these areas, and growing conditions in southern market systems these communities rely on (Mbow et al., 2019; Prowse & Furgal, 2009).

Past government-led efforts to address these issues have been criticized for focusing too heavily on access to market-based foods, excluding Indigenous perspectives in food security policy, or hindering local food initiatives (Kenny et al., 2018; Loring & Gerlach, 2015; Power, 2008). Furthermore, little information is known about the experiences of food insecurity in sub-Arctic Indigenous communities, and qualitative research is needed to fill these gaps (Skinner et al., 2013; Spring et al., 2018). Recent federal policy changes and food initiatives show promising steps towards better inclusion and representation of northern Indigenous perspectives (Wilson et al., 2020). However, many communities continue to enact local strategies to build more sustainable and community-specific food systems. The

Food and Agriculture Organization of the UN (FAO) defines a sustainable food system as one that "delivers food security and nutrition for all in such a way that the economic, social and environmental bases to generate food security and nutrition for future generations are not compromised" (Nguyen, 2018, para. 3). On top of economic, social, and environmental considerations, northern Indigenous food systems are also deeply cultural and political, and as such, should be supported in ways that advance Indigenous self-determination and self-governance. This is more representative of an Indigenous food sovereignty approach that recognizes the colonial context of Indigenous food insecurity and focuses on community-driven efforts that improve control over food systems (Morrison, 2011; Wilson et al., 2020).

Communities across the North have implemented a variety of local food strategies that revitalize land-based practices, support local food systems, and build resiliency and adaptive capacity in their communities. These strategies are diverse and include various initiatives to improve access to land and land-based foods and reduce the cost of market-based foods (Ahmed et al., 2022; Ferreira et al., 2021; Kenny et al., 2018; Robidoux & Mason, 2017; Skinner et al., 2016; Wesche et al., 2016).

This chapter examines land-based food systems in the Dene and Métis community of Fort Providence, Northwest Territories (NT) and how local programming initiatives build culturally relevant, land-based food systems that increase access to traditional foods, facilitate intergenerational knowledge-transfer and cultural practices, and support land-based lifestyles. Guided by Indigenous methodologies, this research presents the analysis of 23 semi-structured interviews with Fort Providence Dene and Métis community members, Dehcho First Nations (DFN) leadership, and non-Indigenous community members involved in food initiatives. First, I draw from existing literature to overview the historical context of northern food systems, the current challenges other northern Indigenous communities face to access nutritious, fresh foods, and some of the initiatives used to overcome these challenges. I then turn to Fort Providence community members' perspectives and examine the importance of land-based foods to better understand the roles traditional foods and land-based activities play in the community. I overview participants' observations of the current and future challenges and facilitators to access the land and traditional foods. Lastly, I discuss how these challenges and facilitators contribute to community resiliency and sustainability. The results emphasize the significance of community-driven strategies that

revitalize and build local food systems. The following key questions emerged from conversations with community members and are addressed in this chapter: 1) How do community members value traditional foods?; 2) What are the current barriers and facilitators to access traditional foods?; and 3) How do culturally relevant and local food system programming build resilient and sustainable communities?

Histories of Food Systems in Northern Canada

The Dehcho Region remained relatively isolated from settler-colonial impacts and processes until the late 1800s. During the 18th, 19th and early 20th centuries when Euro-Canadian presence was minimal in the region, the Dehcho enjoyed a rich variety of land-based foods, from large game (primarily caribou and moose), to small game (lynx, rabbits, spruce grouse, geese, ducks), and multiple varieties of freshwater fish (especially walleye, northern pike, whitefish, arctic grayling) (Abel, 2005; Hank & Winter, 1991). These animal proteins were supplemented with various berries, roots, and herbs. Traditionally, men hunted larger game, while women trapped smaller game around camps and processed and distributed foods, but some variation in gendered roles occurred. Small familial groups followed game as food availability changed throughout the seasons, coming together in larger numbers for harvesting events in the spring and fall (Abel, 2005; Helm, 2000). As Euro-Canadian influence and settlement increased in the late 19th century, Dene life and food systems began to shift in various ways. Waves of introduced diseases resulted in large losses of life and disruptions to culture, knowledge, and lifeways. The rise of the fur trade and dramatic increase of non-Indigenous trappers in the area put pressure on wildlife populations, reduced the economic opportunities of Indigenous trappers, and introduced Crown control over Dene lands and subsistence practices (Helm, 2000; Watkins, 1977). Growing interest in natural resource extraction by the federal government spurred the development of Treaty 11 in 1921. In the years following the signing of Treaty 11, Euro-Canadian populations rose with increased settlement, transportation infrastructure construction, and mining and other natural resource exploration (Fumoleau, 2004).

By the 1950s, Dene and Métis across the NT had moved into permanent settlements, often in key fishing or meeting areas that were also chosen by settlers to establish townsites and build churches, schools, trading posts, stores, and nursing stations (Fumoleau, 2004).

This shift from land-based to more town-based lifestyles was the result of various political, social, economic, and technical pressures that arose with increased Euro-Canadian settlement in the North. Forced attendance at residential schools, the disruptions of family structures due to disease epidemics and treatment strategies, and increased participation in wage-economies due to fur trade collapse are some of the main factors that contributed to this transition. As a result of these multifaceted pressures, many Indigenous people were spending less time out on the land for subsistence activities, and instead came to rely more on market-based foods (Watkins, 1977). Over the past 70 years, diets have continued to shift away from land-based foods, but these systems and practices remain important to the health, social, political, and economic fabrics of Dehcho communities.

Contemporary Land-Based Food Systems in the Northwest Territories

Challenges to Access Fresh, Nutrient-Dense Foods

The colonial processes of dispossession and disruption discussed in Chapter 1 all contribute to the complex and interrelated barriers that northern Indigenous communities encounter to access nutritious, culturally relevant traditional and market-based foods. Loring and Gerlach (2015) summarize these challenges as being driven by "top-down governance structures, policies regarding land use and resource management that are not sufficiently flexible or responsive to rapid environmental change, and economic development agendas that marginalize the rights and needs of Indigenous peoples" (p. 387). They state that northern Indigenous communities are locked into a "manufactured insecurity" where the forced sedentary lifestyles from colonial impositions such as the reserve system, western land-use policies, wildlife management, and economic marginalization restricted their movements and adaptability (2015, p. 387). Many other scholars echo these findings and stress that the challenges to access local, nutrient-dense food in northern Canada are the direct result of a complex interaction of socio-economic, environmental, political, and logistical challenges rooted in continued settler-colonial policies (Burnett et al., 2016; Robidoux & Mason, 2017; Rudolph & McLachlan, 2014; Wilson et al., 2020).

Barriers to land access remain fundamental challenges to traditional food procurement in northern Indigenous communities. Forced attendance at residential schools and other disruptions of land-based practices had great effects on cultural practices,

knowledge transmission, and language, and created large gaps in food knowledge and skills (Reading & Wien, 2009; Streit & Mason, 2017). The rising cost of fuel and motorized equipment to access the land adds financial barriers (Leibovitch Randazzo & Robidoux, 2019; Pal et al., 2013). Natural resource industries that pollute and damage habitat further disrupt wild food species, making their quality and safety a concern for many community members (Parlee et al., 2018; Sandlos & Keeling, 2016). Climate change further exacerbates these challenges by impacting the safety of harvesters and the availability and quality of food species in ways unknown to Elders (J. D. Ford, Berrang-Ford, et al., 2010; Pearce et al., 2015; Romero-Lankao et al., 2014; Ross & Mason, 2020b; Spring et al., 2018).

Community members' consistent access to fresh, nutrient-dense market foods is limited by the high price of these foods and long supply chains that impact their quality. The high cost of importing foods and limited retail competition in many northern communities drive up food prices to over double the cost in southern communities (Council of Canadian Academies, 2014; Wein, 1994; Wendimu et al., 2018). Long supply chains affect the quality and freshness of perishable foods, limiting their availability (Burnett et al., 2015). Government programs aimed at reducing the cost of market food prices are criticized for their ineffectiveness and limited scope (Galloway, 2017; St-Germain et al., 2019). High rates of poverty resulting from settler-colonial disruptions of traditional economies, economic marginalization, and low employment opportunities in many rural communities only exacerbate the financial barriers to market- and land-based foods (Tarasuk, 2005; Tarasuk et al., 2019; Willows et al., 2009).

Community-Based Approaches to Improve Food Insecurity

In response to the complex challenges discussed above, many northern Indigenous communities use various localized strategies to improve access to good quality, nutrient-dense foods. These approaches are aimed at reducing barriers to land- and market-based foods and facilitating better access to the land (Kenny et al., 2018; Robidoux & Mason, 2017; Skinner et al., 2012; Thompson et al., 2012; Wesche et al., 2016). Land-based foods (e.g., game, fish, berries, etc.) are critical to Indigenous peoples' cultural, spiritual, and physical well-being (Loring & Gerlach, 2009; Power, 2008; Receveur & Kuhnlein, 1998). However, land-based food programming funding, infrastructure, and dependable access to land and

food species impede the abilities of Indigenous communities to rely solely on these foods for sustenance (Chan et al., 2006; Loukes et al., 2022; Robidoux et al., 2021; Skinner et al., 2013).

Access to market-based foods is also impeded by complex socio-economic factors. Increasing access to market-based foods often requires great changes to infrastructure, policy, and economies that rely on large-scale structural changes (Council of Canadian Academies, 2014). Systemic change and policy intervention are vital to enhance northern Indigenous food systems and address rates food insecurity. Many communities and researchers stress the impact and efficacy of community-driven approaches for building local capacity and sustainable food systems (Loring & Gerlach, 2015; Ross & Mason, 2020a; Skinner et al., 2016; Spring et al., 2018; Thompson et al., 2012; Wesche et al., 2016; Wilson et al., 2020). One example is the Moose Cree First Nation community's "Farmers' Markets" that the Local Food Developer facilitates as part of their broader food security strategy (Ferreira et al., 2021). This market imports bulk fresh produce twice a month at more affordable costs for community members than is available in local stores.

Land-Based Food Systems in Fort Providence

Current food systems in Fort Providence consists primarily of land-based foods that are harvested, hunted, fished, or gathered regionally from the land, market-based foods from the local and regional grocery stores, and locally grown foods. Many households still actively harvest and consume traditional foods, but the overall contribution of these foods to one's diet is declining (Northwest Territories Bureau of Statistics, 2019; Ramirez Prieto et al., 2022). There are two grocery stores in town, The Northern Store, which is owned by The North West Company, and the local, Indigenous owned M & R Grocery, which was purchased by Michael and Rose Vandell in 2020. In addition to land- and market-based foods, Fort Providence's recent gardening history contributes to many families growing foods both in town and at cabins out on the land. The hamlet is uniquely situated beside the Mackenzie Bison Sanctuary, which was established in 1963 to house and protect a population of wood bison from northern Alberta (Mackenzie Bison Working Group, 2018). When populations are healthy, the band receives tags from the Government of Northwest Territories (GNWT) to hunt these bison and is sometimes incorporated into the school's

land-based programming to teach harvesting and food processing skills. The GNWT also distributes meat on a first come, first serve basis when bison are hit and killed by vehicles. While Fort Providence is uniquely situated to have relatively reliable access to external markets, community members are still concerned about the rising costs, reduced availability, and low quality of nutrient-dense foods (either market- or land-based) in the community. Land and land-based foods access are also concerns for community members, especially regarding youth's lack of access and disconnect from local food systems.

The effects of COVID-19 lockdowns and restrictions had some temporary effects on food access in the community. The NT had one of the strictest border closings in the country, with travellers coming to the territory required to self-isolate for 14 days. With strict border rules, very few non-local hunters and fishers came into the region, which had a marked effect on some traditional food species, as Bradley Thom (2021), Dene youth and DFN Negotiations Team member, explains:

> [Fort Providence] is a very popular fishing site for people, I guess, all around, and especially in Alberta, so they like to come up and do as much fishing as they can…But because they haven't been coming up to fish, it's been leaving more fish stocks for the people here to be able to get more and bigger fish and we're like, "holy man, we didn't realize fish can get this big." Because all the big ones are being taken away and…it's just having less time on the water compared to some of the visitors. So that has been a bit of a net positive in terms of food security.

Various groups and governments in the community gave out food and fuel vouchers to local stores, and hampers with supplies and foods that some people were still working through 18 months later (Brandon Thom, 2021). Strict lockdowns in the community cancelled many larger events and programs where food would be shared or provided, such as the school lunch program. This led Niroja Thiru, the non-Indigenous former Youth Centre coordinator, to start a lunch program through the centre for those children who relied on the school. This program gave additional hours to Youth Centre staff, provided a safe, warm location for children to go when the school closed for lunch, and fed between 12 and 20 children, five days a week. Overall, participants did not mention many negative experiences regarding food access during lockdown, and instead, spoke highly of the various community groups' initiatives that supplied food and other provisions. These findings reflect responses of other northern Indigenous communities that enacted similar food programming based on local

decision-making and cultural protocols of sharing that strengthened local food security and community resiliency (Levkoe et al., 2021; Loukes et al., 2022).

The Importance of Land-Based Foods and Practices

Community members unanimously agreed that land-based foods and practices remain important to individual and community health and well-being, cultural continuity, and youth empowerment in Fort Providence. Gladys Norwegian (2018), former Grand Chief of the DFN illustrates the significance of land for the Dehcho people:

> I'm sure you've heard about our negotiating for our land and people say our relationship with the land, so coming from that perspective (…) we have a deep relationship with the animals and without them… without the animals, trees, plants, we wouldn't be here.

This extends to the political realm; Norwegian affirms that their relationship to land grounds the DFN's current negotiations around self-governance. Other community members highlighted the relationship between land-based foods and culture and well-being, where traditional foods have both spiritual and physical benefits, and are part of Dene identity and cultural continuity. Michael Nadli (2018), Chief Negotiator for the DFN, explains:

> What I thought of was the spirit of the land. Like when you're eating moose meat like I said you are what you eat, and you know, uh... people are much healthier when they eat freshly harvested moose meat, like it has a lot of protein and iron in it. (…) You know, when you eat fresh fish and fresh ducks you know, your spirit is strong, and so that's what it's all about.

Laura Sabourin (2018), Dene Elder, expands on these connections:

> It's not just food, it's survival. It's always been about survival for our people. And then, if we eat more of our food, people will learn how to cook it, and they will, you know, learn to appreciate what we have from the land and to know that it's not infected with all sorts of junk like the stuff that makes us sick and gives us cancer and gives us diabetes.

Sabourin emphasizes how harvesting, cooking, and eating traditional foods builds appreciation and relationships with land, and how this all contributes to the well-being of individuals and her community. Community members also recognized the negative health and cultural impacts from being disconnected from the land. In the words of Michael McLeod (2018), Member of Parliament representing the NT and Fort Providence resident:

> If you are not out on the land… touching, holding, feeling it, you're not going to know what it's like and you're not going to be able to communicate it well. So… on the land programs, language programs, all these things are needed. (…) Because now

> we have less wild food, less food from the land and you know less meat, less berries, we even have less medicinal plants. And it's impacting our health... we have diabetes that are going through the roof. We have all kinds of diseases that we never had historically.

These community members inform us that traditional foods and land-based relationships are intricately connected and imperative to Dene and Métis culture and well-being and contribute to community resiliency.

Across northern Indigenous communities, youth play important and influential roles in cultural resurgence and revitalizing local food systems (Gaudet, 2021; Skinner et al., 2014; Spring et al., 2019). In Fort Providence, most youth do not have the same access to the land as their parents and grandparents did at their age, but local organizations, governments, and the school offer a variety of land-based programs that facilitate connections to traditional foods, culture, and land. Many community members spoke highly of these initiatives, and attributed student participation in them with improved school performance, leadership, and well-being (Bradley Thom, 2021). Elder Theresa Bonnetrouge (2018), who teaches in the school's land-based camps, describes one of her experiences on the land:

> Those kids were just calm in the bush, we set up the tent and made the fire and then I said, okay everyone come around the fire we are going to do our prayer and be thankful for another good school year and stuff like that and I said it to them all in Dene Zhatié (…) then I said "Nah hey" and I just let them go and they all just went and did it by themselves! (…) maybe it's just the way the school rooms are, but when the kids are out in the bush the kids are just calm. They will be running around in the bush but they're okay. You know, they're exploring and everything like that. I really like it because sometimes with these kids, that's the only time they will get to go out.

Bradley Thom (2021) reflects on his experiences participating in land-based camps: "I have learned a lot from those types of programs. (…) I think it creates a different relationship or introduces them [youth] to those lands that they've probably never been to before". Being on the land in these camps, which bring together Elders, harvesters, and students, provides vital cultural opportunities to build relationships and learn skills, language, and ways of being that youth might otherwise miss.

Community members across generations expressed the importance of land-based relationships and culture for youth empowerment and community resiliency. McLeod (2018) illustrates these connections:

> [Land-based learning] is going to be one of the key steps in reversing the trends in what's happening [language and culture loss]. And it's going to be one of the ways in

which we will be adjusting to the climate change issues too. You know, is making our youth proud of who they are. You know, it's significant. I did a suicide study here with the Government of Canada and uh, one of the biggest issues, one of the biggest causes of suicide attempts and suicides was people were ashamed of who they were. (…) We got to make people proud of who they are, proud of their language, proud of their culture.

Bradley Thom (2021) elaborates on the roles land-based relationships play for himself and other youth:

As an Indigenous youth walking in two worlds in terms of having my connection to the land, the Dene values and principles, but also operating in this very advanced technological world and crazy economy with money and how that's completely different. (…) I think it is very important to be able to adapt, but that the Dene values and principles of sharing and taking care of one another, are very important and universal and timeless, so that we can still bring those values into our relationships with these types of technologies.

Both Bradley Thom and McLeod emphasize how youth connections to land, language, and culture play vital roles in individual and community resiliency. They demonstrate how empowering youth can build adaptive capacity in the face of great social, economic, and environmental change. Gaudet (2021) echoes these findings from her work with land-based programming in the Moose Cree First Nation of northern Ontario. She emphasizes that, "with land as the very core of Indigenous people's worldview and the core of the colonial conquest, there is a critical urgency of re-rooting new generations of young people in land-based knowledge" (2021, p. 189). Land-based food systems and youth involvement in these practices, knowledges, and relationships, are imperative to youth and community resiliency.

Challenges to Access Land-Based Foods

Most community members were concerned that the overall consumption of land-based foods and the time spent out on the land is declining, especially amongst youth. Many barriers to access land-based foods experienced in Fort Providence reflect those of other sub-Arctic communities across Canada (Loring & Gerlach, 2015; Robidoux & Mason, 2017). As explored above, these challenges are primarily the result of imposed changes from the colonization and creation of Canada. In Fort Providence, community members' safety and ability to access the land and traditional foods, and the availability, quality, and use of the foods themselves, have been most affected by these changes. Some of the main barriers to access the land and land-based foods discussed in the community were rising costs associated

with harvesting, lifestyle changes and time constraints, climate change, and social pathologies resulting from years of colonial institutions and impositions. The following sections explore each of these four barriers in greater detail.

Access to Financial Resources and Land-Based Equipment

Almost everyone who was asked about current challenges for harvesting land-based foods spoke about the rising price of fuel and high upfront costs of essential equipment to access the land. Although technological advancements, such as all-terrain vehicles, powerboats, and rifles, have greatly reduced the physical and temporal burden of harvesting, they are expensive to purchase, maintain, and run. For younger people who do not already have the equipment, these upfront costs can be prohibitory. Sabourin (2018) explains: "most of our young men want to go hunting but they can't because they don't have the means to get the boats, kickers, or rifles." Increasing gas prices was identified as a barrier to access the land for all community members, even those who already have equipment, like long-time Dene harvester, Albert Nadli who remarks: "it costs a lot of money to go out, you know. The price of gas is sky rocketing compared to what it used to be" (2018). Various scholars have reported similar limitations in other northern communities (Leibovitch Randazzo & Robidoux, 2019; Robidoux & Mason, 2017; Wesche et al., 2016).

Employment and income support are common in Fort Providence but, as M. Nadli (2018) suggests, there are limited financial resources for harvesting: "They're living on almost a fixed income, where they have to appropriate some of their dollars to apartment, food, and clothing, and then whatever is left, they probably would have to buy some gas, and gas is really expensive." Conversely, some participants suggested that restricted incomes facilitated more land-based food consumptions, where these foods were used to supplement the diets of low-income community members (Charlene Bonnetrouge, 2018). As these participants explain, cost remains a prohibitory factor for new and seasoned harvesters, but it is not a universal experience and varies across everyone's individual resources and lifestyles.

Another aspect of the financial burdens discussed in the community were the bureaucratic hurdles associated with funding for land-based programming. Often small communities like Fort Providence have limited human resources to dedicate towards finding and applying for various types of financial support. A. Nadli (2018) explains:

> If we could get someone that knows more about government programs to help guide us through the processes. (…) We don't use the programs available to us because we don't know about them, or we don't know how to apply for them.

Even when funding is located and received, Xavier Canadien (2018), former Chief of the Deh Gáh Got'įę First Nation (DGGFN), expresses his frustration with these cumbersome processes:

> Funding would go to three different hands before it reaches us. So, if it is ten cents given out, then five cents goes to one guy, then maybe this guy will take two cents, then the next one takes two cents, and we end up with one cent. When it started with ten cents. (…) So, we are asking that it would be directly given to us, instead of transferring the funds between three different hands.

He continues, referencing a proposed local food procurement program: "with the government, you have to go through a lot of people, and a lot of different departments, just to get some base funding, to get it up and running" (2018). Community members also discussed how harvester or land-based programs from the GNWT require certifications, reporting processes, and restrictions that deter some community members' access to them (Philipp, 2018). M. Nadli (2018) used to work as a Member of the Legislative Assembly in the NT, and illuminates how GNWT bureaucracy can limit program adaptability in communities:

> The Take-A-Kid-Trapping Program—you know, maybe [the GNWT] will give close to five thousand to Fort Providence and in the end, it's for gas money, for grocery money (. …) Like Henry Sabourin takes maybe two boys, to Willow Lake on his trap line for two weeks, and so that will cover his gas and groceries and he'll be happy with that. But from a government standpoint, how do you measure the accountability in that? You know... and that's where some of the challenging obstacles arise, the policy... so that's just one example of the challenges at the local level where you're trying to be adaptive.

The impact of rigid funding policies and external programming can be limited at the community level, where a variety of unique factors go unnoticed, unattended to, or otherwise overlooked by larger organizations. Wilson et al.'s (2020) review of federal policy for sustainable northern food systems echoes similar findings. They suggest that government policy and programming should support Indigenous self-determination by building local capacity and providing sustainable funding to community organizations (2020).

Time Constraints and Lifestyle Changes

Community members suggested work commitments limited their time available to harvest traditional foods. For example, Dene woman, Charlene Bonnetrouge reports "I just

go to work and home, work and home, I don't have time to go hunting" (2018). These lifestyle constraints tended to have a temporal pattern in adults' lives, where many had spent a lot of time on the land with their parents as children, but due to current work commitments, do not get out as much as they used to. M. Nadli (2018) explains: "I eat less [traditional food] because of my lifestyle… we used to spend more time in the bush with my parents (…) but it's just work and lifestyle."

Since the 1970s and 1980s, when many adult participants recalled spending time out on the land with their families, many imposed economic, political, and social shifts have occurred that have cumulated in more community members entering wage-based economies (Philipp, 2021). This transition had two main impacts on land-based food systems: 1) community members had less time to spend out on the land, reducing the knowledge, skills, and equipment to sustain these practices; and 2) wage-economies had strict Western schedules based on economic productivity that conflicted with harvesting seasons and time commitments, leaving many to hunt around town or change the types of foods they harvested. When asked about barriers to getting out on the land, Bradley Thom (2018) expressed his frustrations with imposed Western schedules:

> I guess just having a bit more time off to go out. Because I feel like a lot of the jobs in the territory comes from the GNWT, and the GNWT is like super colonial and they don't even let people take time off to go to... Chief and Council meetings or to Dene National Assembly meetings or the Regional Assemblies, because they are not seen as civic holidays.

The time required to harvest land-based foods (large game, in particular) is often greater than many people can balance in their work schedules. Joachim Bonnetrouge (2018), former Chief of the DGGFN, details these tensions:

> If you really wanted a moose, you would pick your boat, and try to travel light, but you still need, because it's fall time, you still need a canvas tent and to get some food and you pretty well have to go about 100 miles down the river… and even for me that's a big commitment. I was committed to meetings in town, so I had to work around meeting dates, and I still had to do a little bit of work with a few different groups. You still need income, eh.

Other work has suggested ways of overcoming this tension between employment and harvesting commitments by diversifying local economies to include Indigenous "mixed economies" that support subsistence activities and provide participants with an income (Kuokkanen, 2011; Loukes et al., 2021; Morris & Fitzherbert, 2016).

The Impacts of Residential Schools and Intergenerational Trauma

Many community members discussed the interrelated and long-lasting effects of residential schools as having overarching impacts on land-based food systems. Older adults and Elders who attended these institutions spoke about their pain from being disconnected from their families, losing their language, and not experiencing traditional foods while away at these schools. Survivors who were refused these influential childhood experiences of harvesting and eating traditional foods, combined with cultural and language losses, lived most of their lives without the knowledge, skill, and taste for these foods. Norwegian (2018) shares her experiences:

> I'm initially from Jean Marie River and I lived in Jean Marie until I was 13 years old. So... then I went away to residential school and so I didn't eat wild food for some time (…) now that I'm an adult and living back in the Dehcho I definitely cannot go without it!

Some survivors, like Norwegian, acquired the skills, knowledge, and taste for land-based foods later in life. However, her experience is not universal. These institutions wedged great knowledge gaps between generations, created great barriers for some community members to learn about traditional food systems.

Other community members suggested that the lasting intergenerational trauma from these school experiences still affects all types of food acquisition in Fort Providence. Extensive research demonstrates how intergenerational trauma from residential schools still effects all aspects of individual, family, and community well-being (Bombay et al., 2014; Brave Heart, 2003; Truth and Reconciliation Commission of Canada, 2015). Bradley Thom (2021) reflects on his experiences:

> There's definitely a lot of people that probably don't eat as often as they can or make choices that they are—it's not really choices, I guess, in some ways, it's mostly them trying to also deal with, I guess, social pathologies or… dependency on being able to self-medicate, or something, as well. Because when people do binge drink, they tend to also not eat properly as well.

As with any complex, wide-reaching, chronic health issue, symptom management and basic survival tasks require great energy and can take priority over the likes of harvesting traditional foods that already comes with many prohibitive hurdles.

Lois Philipp is the former vice-principal of the Deh Gáh School and founder of a local organization dedicated to building sustainable futures for northern communities, Northern Loco. With these roles, she has been involved in many local food programs, and suggests the effects of residential schools extend beyond an individual or community level, to external stigma that affects local food programming:

> I suspect that some of the policies and procedures put in place to be very aware of risk management, are actually hindering the process... something like criminal records checks, which if you look within a residential school context, has tremendous limits. It's a very... what's the right words... you know it's not really indicative of who the communities are. When we are dealing with multi-generational trauma, and then you get some bureaucrat in Yellowknife that's put these policies and procedures in place, hindering our students from being able to go out versus supporting them. (2018)

M. Nadli (2018) also addresses this stigma and residential schools' legacy:

> I see how people struggle socially when there's drinking, alcohol, or drugs and... you know... it's so easily to get it when it's a negative thing. It's so easy to say, "well everyone has a drinking or drug issue," but I always try to see the positives. I worked extensively in the Dehcho Region you know... Wrigley, [Fort] Simpson... [Fort] Providence, one of the strengths of the community... is in some ways, the people from the community don't see it themselves... but it's their resilience. The resilience of the people there. When they go out hunting and trapping, they're really good at it. They're very skillful, it's just a natural gift for them to do that, so... The traditional skills are very strong in [Fort] Providence. It can be a reflection of the defiance to the governmental system, you know. It could be a reflection of survival mode.

Here, M. Nadli importantly shifts a common negative narrative to one of survival, defiance, and resiliency. His comment suggests that traditional practices were integral to the survival of the Dehcho people throughout colonial impositions and remain a source of strength. Despite great trauma that still impacts community members, their ongoing cultural practices, language, and skills remain an imperative contributor to individual and community resiliency.

The Effects of Climate Change on Harvester Safety and Local Food Quality and Availability

The effects of climate change have impacted the safety of harvesters and the quality and availability of traditional foods. Unpredictable hydrological and weather patterns have created unsafe travel conditions, especially on ice, as A. Nadli (2018) describes:

> The ice is more thin now. Because some places, you know, the ice will freeze then it will snow right away and it insulates it, eh. (…) Ice stays thin with all the snow on it (…) it just gets dangerous for people going out to travel on the ice.

Travel on the river during summer months was also a safety concern, where run-off and melt patterns of hydrologic systems have changed, creating unpredictable water-levels that expose or hide certain hazards along the Deh Cho (Sanguez, 2018). Harvesters have also noticed reduced access to the creeks and streams they would typically go to hunt moose. The rivers in the Dehcho are transportation highways, and unpredictable changes lead to great safety and access challenges when harvesting on the land.

Changing weather patterns, forest fires, and a general warming trend have also affected food quality and availability. Some participants found fish textures undesirable, often "mushy," and attributed this to warming water temperatures (Charlene Bonnetrouge, 2018). Other participants suggested warming waters were affecting fish availability, where there would be more fish casualties, or fish would swim deeper and be difficult to access (A. Nadli, 2018). Elders and community members have noticed that fires are larger and more intense than previously experienced in the area (Philipp, 2018). Forest fires have a noted effect on food availability and species movement patterns, specifically regarding moose, which is an important food source for the community. M. Nadli (2018) explains how local and regional fires have altered the presence of moose and moose habitat around Fort Providence:

> On the south side there... between where I described, Axe Point to Trout, there must be about close to eight or six major creeks, so basically moose habitat, and those creeks were all burnt out. (…) so 2014... till about now we've been in a drought, and only now are we slowly starting to see the moose come back. Especially with the fires in BC driving all the moose back up here.

M. Nadli touches on a variety of climate-related issues that have affected the moose populations: from large forest fires and drought that damage moose habitat, to the fires themselves causing disturbances that shift moose populations across the Dehcho and surrounding regions.

Berry harvesters have also noticed inconsistencies in the availability and timing of different species. Norwegian (2018) reported that "[normally] in July you pick blueberries… you get out there now and they're not ready or they're gone already." Sabourin (2018) adds: "people used to get boxes and boxes of berries and nowadays you get two little bags and that's about it." Berries are celebrated throughout the community as a relatively accessible and abundant food source, and their vulnerability to climate change greatly affects local food security and women's roles in traditional food systems.

Beyond harvester safety while on the land and species quality and availability, climate change was also having a noted effect on intergenerational knowledge transfer and youth's access to the land. McLeod (2018) explains:

> [The effects of climate change have] caused people to hunt less, and uh, it also means people are spending less time out on the land, which is resulting in diminished knowledge. Our culture is based on passing our history on, down through generations. Our history is oral, right? So, people are losing the ability to be able to tell you where... or find a good berry patch, where the blueberries are, where the place names are, what they are anymore in the Dene language. They're forgetting... they don't know anymore where the historic sites are and the best migration routes for different animals, or when the fish are running. You know, with the different seasons.

He continues, revealing the impacts of this imposed language and experience barrier on community relationships and culture:

> We used to know, from [our Elders], where the best places to cross the river are, what time of year, what kind of conditions to look for, what kind of ice we needed for certain activities. All of that knowledge we needed from our Elders, and now... things have changes so much. The youth don't look at the Elders for knowledge anymore, well I should say not as much. (…) That's really challenging our culture, you lose a language you lose traditional skills, and you end up losing all these things. (2018)

Here McLeod reveals the connections between land-based foods, intergenerational knowledge transfer, and climate change. He demonstrates how environmental changes not only affect the physical act of harvesting or the availability and quality of foods, but the knowledge around traditional food systems and by extension, culture. In this way, climate change impacts all five pillars of food security imperative to Indigenous contexts: access, availability, stability, quality, *and* use (FAO, 1996; Nunavut Food Security Coalition, 2014; Wesche & Chan, 2010). As community members described above, traditional foods contribute more to their lives than calories and nutrients. Traditional foods, harvesting practices, and culture are interdependent, and complex external pressures, such as climate change, affect all parts of these socio-ecological systems.

Challenges Youth Encounter to Access Land-Based Foods

Youth face unique challenges to participate in subsistence activities and access land-based foods. Some youth in the community shared a disconnect between more traditional land-based lifestyles and their own. In the words of Brandon Thom (2021), Dene youth and DGGFN Councillor:

> Traditional hunters, they love that, you know, going out on the land for like a month or so before the ice breaks for example. Where it's just like, in my terms, you wouldn't see me going out for more than a day!

Despite Brandon Thom's disinterest in spending extensive time out on the land, he still expressed a desire for better access to culturally relevant, local foods, and greater independence from an external food supply. Danny Beaulieu (2021), Dene man and Mayor of Fort Providence, who used to take students out to his trapline, also noticed a generational shift in land-based lifestyles: "you take high school students out, but their interest of hunting and trapping… they go do it, for five days, but you could tell that's not what they're going to be doing when they're 20 years old." Despite this general trend, some young adults still try to incorporate land-based practices into their lives, such as Bradley Thom (2018):

> For the last few years, I've really missed [going out on the land] because September is usually when its moose hunting season, so I've been missing out on it. But I'm always here for the spring, which is fun. In the spring is when we do all the fishing, the graylings come out—they're the best! But in the wintertime, I haven't done as much trapping as I would like.

While many lifestyle changes have occurred between youth and their parents' and grandparents' generations, it was clear that land-based relationships and access to local foods were still important to them.

Other youth shared the significance of previous knowledge, equipment, and skills during childhood for harvesting and preparing traditional foods later in life. The amount of traditional food consumed outside of school camps and snack programs is largely dictated by parents who also face barriers to access land-based food (Wesche et al., 2016). Residential schools continue to have immense impacts on knowledge transfer from Elders to youth across Indigenous communities, resulting in many young community members now lacking the essential skills to harvest and prepare traditional foods (Gaudet, 2017; Streit & Mason, 2017). This is a multigenerational affect, where adults might not have had the opportunities to learn from their Elders and parents, and thus, may not possess the knowledge and skills to pass down to their children. In Fort Providence, this knowledge gap is not experienced the same across the community. Some families still participate in a range of land-based activities. According to Charlene Bonnetrouge (2018):

> There are families that go out in the bush, and they do things with other people and invite other families to go out with them. And it's been happening almost every year in the fall time, and it's good to see some of the younger families that come out. But

you know, I know those families don't... they don't have hunters in their family, so they don't get to eat wild meat as much, but you know they like it, like moose meat and that too. It's just that there's nobody harvesting it in their families.

An absence of wild foods from a young age puts youth at risk for losing the taste and preference for wild foods, especially with the presence of advertised, readily available, inexpensive, and engineered for taste market foods. M. Nadli (2018) explains: "my generation, like we were raised on solid traditional foods but like my son and my daughter (…) the only time they would eat [moose meat], is if I cooked it." Charlene Bonnetrouge (2018) adds: "families who are brought up so much on processed foods that when it comes to dry fish, they don't like it anymore. Because they weren't raised with that in that kind of environment."

Community members identified youth aged 18-30 as facing specific challenges to access land-based foods. These include work and school commitments, lack of knowledge or equipment, and not qualifying for many existing youth land-based programs that target school-aged children or established harvesters. Charlene Bonnetrouge (2018) shares her experience: "there are some programs that do that [get younger generations out], but I think that only happens yearly. But I know there are a lot of programs with the school, but not as a community wide." This programming gap is further compounded by a lack of equipment and knowledge. The band office offers some equipment resources and land-based programs, but Canadien (2018) suggests that certification and application processes limit the uptake of these programs for youth:

> We do provide assistance but there's a process that they have to go through. (…) I kind of doubt you'd see a 20-year-old coming in here asking for assistance with going out on the land (…) you also have to have certificates and stuff like that.

Christina Bonnetrouge (2018), young Dene woman, adds:

> When I was younger I used to go a lot with my family, but now as I got older, when I got summer jobs, I didn't have a lot of access to on the land stuff, so it was a lot harder to get out. A lot of the camps that run in the community run throughout the weekdays, so it makes it hard when you start to work, you know?

With lifestyle expectations and limitations of adults in the community, and the knowledge, skill, and equipment gaps of youth, younger adults face compounding barriers that greatly impacts their access to land and traditional foods. Even when children and youth are brought up participating in land-based food systems, the barriers discussed above continue to limit

their access to opportunities to gain the skills and knowledge to harvest and prepare these foods, and the availability and quality of the foods in the community.

Facilitators and Future Opportunities to Increase Access to Land-Based Foods

Current Land-Based Food Programming

In response to the mounting barriers to access traditional foods and the land, the Fort Providence community has implemented a variety of programs and initiatives to increase access to land and traditional foods. Many researchers emphasize how community-driven land-based programming supports long-term food security, cultural resurgence, and knowledge transfer, and improves the health and well-being of individuals and communities in northern regions (Gaudet, 2021; Pearce et al., 2011; Robidoux & Mason, 2017; Wesche et al., 2016). The following section examines some of the programs and strategies the Fort Providence community is employing to improve access to land-based food systems.

Food sharing is a long-standing practice that continues to provide traditional foods to Elders, youth, and other community members who otherwise may not have access to them. Bradley Thom (2021) shares about the traditional sharing economy of the Dene:

> When we're talking about trading back in the day, it wasn't really trading, as it was sharing. So, if you're on a canoe, or coming down into a camp and you're by yourself, and you're like, "I have all this fish." And then the other people say, "well, we have a bunch of sugar and bannock, or flour (...) it looks like you need some of what I have, and you need some of what I have." So, it kind of looked like it was trade or exchange or this kind of us sharing, what we had. (…) It's not like one fish is worth one bag of flour or something. It was like, this is what I have to share with you, and it was just good because it was all about the survivability, sustainability, taking care of one another.

Despite the great political, legal, and economic changes that have adversely affected these sharing economies, many community members still distribute traditional foods to their families and Elders. Sabourin (2018) recalls how harvesters also share their time, equipment, and expertise with others:

> Most of the guys are pretty good, you know, if they know if somebody wants to go hunting then they will ask that person, you know, "I'm going to go out hunting, want to come with me? Just grab your bedding" and then… you know, they might not have a gun, but the other guy probably has an extra gun to share. They're good that way, you know.

Sharing is inherently restricted by the skills and knowledge of harvesters and availability of good quality food for harvest, but it remains an important part of the local economy and continuing and adaptive cultural practices.

The territorial, federal, and DFN governments offer a variety of programs for new and established harvesters that reduce some of the above mentioned financial, knowledge, and equipment barriers to access the land. The DGGFN provides financial assistance for fuel, and some equipment for harvesters who wish to go out on the land. The DFN also hosts land-based programs that bring together youth, Elders, harvesters, and other knowledge holders to share language, traditional skills, and food (Canadien, 2018). Other initiatives run through the GNWT provide harvesting subsidies, fur-market access, and hunting education, among others (GNWT, n.d.-b). Yet, as previously discussed in this chapter, many of the GNWT programs encounter bureaucratic barriers that limit their long-term success and community up-take.

Because of unique barriers youth face participating in land-based food systems, and the important roles they play in community resiliency, local organizations, governments, and the school partner together to facilitate many different youth-specific initiatives. One of the most highly praised land-based programs is the Take-A-Kid-Trapping Program. This program is run through schools and other Indigenous organizations in partnership with the GNWT (GNWT, n.d.-a). School-aged children are partnered with experienced harvesters and Elders who take them out on the land to expand their hands-on experiences with land-based practices. Philipp (2018) explains how the program operated when she worked at the Deh Gáh School:

> Our Take-A-Kid-Trapping Program really depends on the year and the focus. So, some years we focus on having two or three kids go out on a regular basis, particularly those who have struggled in the school and the other, then they went out three days a week and the other two days would be working with specific classes, so it is all very flexible. Nothing is written in stone, other than what needs to be met in the moment.

Numerous community members spoke about the value of this program for youth, who learn traditional skills, but also for experienced trappers, who receive financial support for their land-based livelihoods. The flexibility of this program and its partnership with local organizations allows it to respond to community needs, which, in contrast to other funding discussed above, contributes to its long-term sustainability.

The Deh Gáh School offers various other land-based programs that provide opportunities for students to access traditional foods and cultural experiences. Throughout the year, students spend three to six weeks out on the land with daytrips focused on land-based foods depending on the season. Philipp (2018) illustrates the orientation of this programming:

> In the spring, it is focusing on the fish camp. In the summer/fall, well right now, we're focusing on getting back into school within the language component, uh, when we get into the elementary/jr. high program, they're all overnight camps. (…) So, the winter is down at Horn River and again fishing, trapping, snaring. Then they both do... the elementary classes will do a boat trip where its more about getting to know the land. The jr. highs right now are on a rights-of-passage camp, where the young men are out on a fall hunt. And in the high school program ... we do the winter hunt, and in the past, we've had bison tags, where they go out and shoot a bison.

If bison, moose, or fish are caught, all meat is processed with the students and then divided amongst the participants' families, harvesters, and the Elders in the community. Local harvesters and Elders facilitate these land-based camps, which provides employment in local, land-based economies.

Bradley Thom (2018) praised these programs, stating: "I personally wouldn't know how to skin a moose if it wasn't for the Deh Gáh School allowing me to go out on the land with some Elders and land-users who taught us all of that." Other community members who work at the school expressed similar praises for the land-based programs and their instrumental role in exposing children to traditional foods, language, and land-based skills (Charlene Bonnetrouge, 2018; Sabourin, 2018). The positive responses of students to their experience on the land was noted by several participants (Bastido, 2018; A. Nadli, 2018). These land-based programs have evolved and changed since they were first launched. In the last couple years, local organizations, such as Northern Loco, have also begun facilitating land-based camps and activities throughout the for youth in the community when school programs paused due to COVID-19 restrictions (Thiru, 2021).

Proposed Opportunities to Increase Access to Land-Based Foods

The diversity of harvester and land-based programs that already exist in the community provide great opportunities for a few key groups. However, many community members spoke about a desire for community-level programming that would offer more

support for families and youth aged 18-20. Sabourin (2018) suggested that the DGGFN

should revive community-based hunts, similar to what Behchokǫ̀, a Tłı̨chǫ Dene community

located 220 km north of Fort Providence, had recently initiated.:

> I think they need to do, like fall hunts, spring hunts like… community-based hunts. (…) You know my friend told me, in Behchokǫ̀, in the fall time they have this… everybody goes out, like whole families goes out, they go out on a fall hunt. And they take them all, the community loads them all on a plane and they go way to the tundra. You know, that's what we need to do here. Get whole families out on the land. If a family wants a caribou or meat to get them through the winter then get the whole family out on a plane and go somewhere, get all their caribou, and bring them back… share… you know. (…) they stay there for 2-3 weeks and bring back the trout and people would then know where to go if they wanted fish.

This example from Behchokǫ̀ reflects past community-based hunts that were discussed in

high esteem by some community members. J. Bonnetrouge (2018) describes how these

camps used to run in Fort Providence:

> We created two outpost camps… we even chartered them [families] out there. Like low waters this time of the year, we chartered families and uh, and some of those areas had not been harvested for 10, 20, 30 years so they started trapping and moose hunting and caribous and fishing, and they did well. But even by that time, those families, uh, the uncles were getting on in there years already, but it helped that they had young sons that were able to do most of the bull's work when you're out in the bush.

He continues, discussing the roles these hunts could play in the community:

> I guess the schools are doing the best they can, but the families should really be encouraged, or promoted to get back out to their traditional areas. (…) There should be.... we should be bringing the families out there, uh… they should have like an excursion of moms and children and bring them out there with a Bombardier [snowmobile or watercraft] [laughs]. Too, so that those trappers out there don't have to come rushing back on Friday. (2018)

As J. Bonnetrouge highlights above, existing initiatives, like those through the school,

provide much needed programming but diversifying options can bring together different

groups in the community that other programs might miss. Charlene Bonnetrouge (2018)

elaborates:

> I know a lot of people are trying to share their knowledge with other people's families… I know there are a lot of programs with the school. But not, as a community wide. There used to be community hunts before, for like moose or caribou or buffalos but I haven't seen that in a long time.

Although these larger events may face participation barriers due to work and life

commitments, they have already been praised for bringing together a diversity of community

members, and sharing knowledge to community members who might not qualify for existing programming.

Community-wide hunts were also viewed as holistic approaches that support cultural continuity and reflect traditional lifeways. McLeod (2018) explains: "we used to live as a collective, we don't do that anymore. That's really challenging our culture, you lose a language, you lose traditional skills, and you end up losing all these things." M. Nadli (2018) echoes the importance of collective and familial learning for cultural continuity:

> With the summer and winter camps the band, the First Nations band would operate to take kids out. Parents who wanted their kids exposed to living out on the land, they would travel by canoe and fish and hunt ducks and show their kids what to do. My parents did a lot of that, you know. (…) It's very critical to continue that.

While various imposed factors affect the way northern Indigenous peoples live and organize their communities, M. Nadli and McLeod speak to the importance of bringing forward traditional practices that contribute to individual, community, and cultural resiliency. Gaudet (2021) reports parallel conclusions from Moose Cree participants in a similar community-led, land-based initiative. She states that this program helped participants "remember their roles and responsibilities in relation to community and family well-being" and "reestablish a holistic approach involving learning from one another, valuing difference, and working together to pass on inherent rights and Cree knowledge" (p. 187).

Another suggestion that reflects this community-wide approach and addresses current gaps in programming was a cultural building that acts as classroom, meeting-place, food bank, and tourism location. Sabourin (2018) illuminates:

> Have these programs ongoing and make them year-round, you know, for people to come there to eat and be welcome. It's almost like a food bank I guess, but like a traditional one, where with the food comes working on hides outside and sew inside. (…) And we could even teach language, like have a language program through this centre. Like people could do lots of demonstrations, and it would be open for tourists as well, like a tourist attraction. Tourists could come there and see how we live and share ideas, and sample some of the traditional foods!

She continues, emphasizing the significance of such a place for some Elders in the community: "our Elders always shy away from the school, but they need a place, or something like that for them to go and share their knowledge. They would appreciate it" (2018). Her idea was echoed by a youth in the community who hoped to build a centre for people of all ages to engage with their culture that would offer both structured and drop-in

programming (Thiru, 2021). Currently, there are few spaces in Fort Providence that offer these gathering areas for mixed demographics or community members older than 18. A town-based building dedicated to cultural activities provides a more accessible location that can support land-based programming that comes with many prohibitive barriers.

Other community members suggested financial incentives tied to economic ventures such as guided hunting tourism (Bradley Thom, 2018), a commercial fishery and processing plant (Philipp, 2021), and selling meat locally (Brandon Thom, 2021). Brandon Thom (2021), who does not see himself spending extended time on the land for hunting, shares:

> I still want food security. I want access to our natural foods! Sorry I can't go buy it at our store. We could have that, like why don't we as the Dene people, like its 2021, and it's just like, we're buying chicken in the store that came from 2000 kms down south?

However, as Charlene Bonnetrouge (2018) explains, selling meat does not align with cultural protocols and is controversial within the community: "it's upsetting how people are harvesting food but selling food. And in our Dene way, it's not how we treat our people." She continues, complicating the sale of meat in the community, "but it's also like for now, for surviving too you know. Everything in society today is just money, you know, and people have to survive" (2018). Work from other northern Indigenous communities that explores local perspectives of commodifying wild foods suggest these markets are ways to move from binary frames of economies as "capitalist" or "not", to more holistic and place-based economic expressions (Kuokkanen, 2011; Loukes et al., 2021). These authors demonstrate how Indigenous communities have pushed the boundaries of western markets and allowed space for Indigenous models that reflect their specific cultural, economic, and political contexts. While tensions exist for financial compensation for traditional foods, Dene and Métis across the NT have continually adapted their food systems to pressing environmental and socio-economic change in ways that support cultural continuity.

Researchers involved in northern Indigenous food security stress the importance of place-based and Indigenous-led food programming to build adaptive capacity and overcome many of the food crises these communities experience (Kenny et al., 2018; Loring & Gerlach, 2015; Robidoux & Mason, 2017; Wesche et al., 2016; Wilson et al., 2020). As community members described earlier in this chapter, relationships to land and land-based food systems are vital to address not just food insecurity and health and well-being, but part

of the broader socio-economic, cultural, and political fabric of the community. The adaptability and flexibility of the existing youth and harvester programs discussed above allow them to be applied to local contexts and increase their value to communities. Other initiatives that were proposed, such as community-wide hunts, a cultural centre, and economic ventures, all encourage harvesting practices and knowledge sharing with a diverse range of community members that are missed by existing programming. Part of their success aligns with other researchers' findings, where financial sustainability, support from community leadership, and strong local champions contribute to long-term sustainability of these programs (Spring et al., 2018; Wesche et al., 2016). While not an exhaustive list, the examples discussed above highlight some initiatives the Fort Providence community is taking to support land-based relationships and contribute to adaptive capacity and resilient communities.

Conclusion

This chapter examined why local food systems are important to northern Indigenous communities. Imposed settler-colonial political, economic, and cultural changes have created complex, interdependent barriers that limit community members' access to land and ability to harvest, prepare, and eat traditional foods. These challenges are only compounded by climate change, which affects the safety of land travel, and the availability and quality of land- and market-based foods. In response, communities have implemented and proposed a variety of strategies to improve access to land and traditional foods, especially for youth. Community-based initiatives work with other organizations to offer culturally relevant and land-based programming that not only increases access to traditional food, but supports cultural continuity, adaptive capacity, and resilient communities.

The results of this chapter indicate that Fort Providence's land-based food programming increases community members' access to traditional foods, facilitates intergenerational knowledge-transfer and cultural practices, supports land-based lifestyles, and builds adaptive capacity. However, land-based foods alone cannot address the ongoing food insecurity and health related disparities in northern Indigenous communities. Many of these communities lack the essential equipment, funding, available and necessary time, and safe and reliable access to the land required to support the dietary intakes of all community

members (Robidoux et al., 2021). Immediate interventions are needed that bolster community-based initiatives and that reduce costs and improve the availability of nutritious, good-quality market foods. Federal policy and frameworks are integral to facilitate more effective and sustainable access to market-based foods and to support land-based food systems, self-determination, and Indigenous rights (Fieldhouse & Thompson, 2012; Kenny et al., 2020; Wilson et al., 2020). Examining the barriers and strategies to various local food systems programming allow communities and their partners to work towards more sustainable community initiatives and more supportive government policy.

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CHAPTER 3: COMMUNITY GARDEN INITIATIVES AND LOCAL FOOD SYSTEMS

Northern Indigenous communities face multifaceted barriers to access both market- and land-based foods. As explored in Chapter 2, the rising cost of fuel and equipment, lifestyle changes, systemic vulnerabilities from settler-colonialism, and climate change have raised the cost and reduced the availability of land-based foods. As a result, many communities rely on store-bought foods from southern markets. Fresh, nutritious market foods often arrive to communities spoiled or damaged and without great diversity (Burnett et al., 2015; Socha et al., 2012). The price of these foods are usually over double the price compared to southern markets, and government attempts to reduce their cost have been largely ineffective (St-Germain et al., 2019; Wendimu et al., 2018). Furthermore, these import-based practices rely on the globalized food system that is fossil fuel dependant, diminishes local knowledge and food systems, and reduces overall cultural resiliency and ecosystem sustainability to socio-economic and environmental changes (Spiegelaar & Tsuji, 2013). Climate change further exacerbates these issues by putting pressure on northern transportation infrastructure and southern food systems (Council of Canadian Academies, 2014; Mbow et al., 2019; Prowse et al., 2009).

To combat these environmental and socio-economic challenges, and improve access to fresh, nutritious foods, many northern communities are rebuilding local food systems and implementing community garden programming. These actions vary, but include greenhouses and indoor growing with LED lights, and smaller, less resource-intensive methods like hoop houses, agroecology, and open garden beds (Avard, 2015; Chen & Natcher, 2019). Comprehensive research suggests that local food production provides access to some fresh foods and builds socio-economic, cultural, and environmental sustainability (Barbeau et al., 2015; Price et al., 2022; Rudolph & McLachlan, 2013; Skinner et al., 2014; Socha et al., 2012; Stroink & Nelson, 2009; Sumner et al., 2019; H. A. Thompson et al., 2018; S. Thompson et al., 2011). However, these researchers stress that garden yields do not satisfy a community's need for fresh and nutritious foods. Other studies propose that significant investments in knowledge and infrastructure are needed to improve the impact of gardens on

regional food insecurity, and instead offer steps towards greater food sovereignty (Ferreira et al., 2021; Wilson et al., 2020).

In this chapter I examine local gardening programming in the Dene and Métis community of Fort Providence, Northwest Territories (NT) and how these initiatives support land-based relationships, increase decision-making over food systems, and build local adaptive capacity to pressing environmental and socio-economic change. All aspects of this research were guided by Indigenous methodologies. This chapter presents the analysis of 23 semi-structured interviews with community members and northern residents involved in local food production initiatives. First, I use existing literature to explore the historical context and contemporary resurgences of gardening in northern Indigenous communities. I then overview the gardening history in Fort Providence and highlight recent food production projects. Next, I examine participants' views of the challenges and benefits of gardening and conclude by discussing how gardening contributes to individual, community, and environmental resiliency. The results emphasize the importance of long-term support for community-based gardening initiatives and can be used by other communities to support future garden projects. The following questions emerged from conversations with community members and are explored in this chapter: 1) What types of food production has recently occurred in Fort Providence?; 2) What are the challenges these projects faced and how have community members worked to overcome those challenges?; and 3) How does community-based gardening support broader community sustainability and resiliency?

Histories of Gardening in Northern Canada

Indigenous peoples across the North have cultivated edible plants for millennia and strategically adopted western style agricultural practices and crops to supplement their land-based diets. Throughout the late 19th and early 20th century, agriculture was part of federal attempts to assert control over northern regions and assimilate Indigenous peoples into the emerging Euro-Canadian economy and society (Sandlos, 2007). This attempt was not as consolidated as it was in the South where federal policies and farming incentives worked to dispossess Indigenous peoples of their lands and facilitated widespread Euro-Canadian settlement. These policies sought to confine and transform southern Indigenous peoples'

subsistence practices[7] to western styles of agriculture with devastating impacts to their food security, economies, land-based practices, and women's knowledge (Carter, 2019; Grey & Patel, 2015). In the North, federal agricultural initiatives were abandoned due to very few successful attempts to grow food at a large scale (Abel, 2005; Piper & Sandlos, 2007). Western crops and gardening practices were largely limited to Euro-Canadian settlements, such as missionaries, forts, and schools. Similar to communities in the South, Indigenous peoples in sub-Arctic regions adopted the western gardening practices and crops that complemented their land-based diets (Loring & Gerlach, 2010; Rudolph & McLachlan, 2013; Streit & Mason, 2017; S. Thompson et al., 2011). This improved food access, provided goods for trade, and diversified economies.

Colonial agriculture and other policies still had a marked effect on northern Indigenous food systems through the 20th century. Residential schools removed Indigenous children from their families and food systems, and they were often forced to participate in agriculture as labourers or for punishment (Leblanc & Burnett, 2017; Miller, 1996). An array of interwoven socio-economic, cultural, and political impositions encouraged Indigenous peoples to relocate from their land-based lifestyles into permanent settlements and enter wage-based economies (Spiegelaar & Tsuji, 2013; Watkins, 1977). This left little time for land-based harvesting, gardening, and preparing and storing foods, created gaps in knowledge about these practices. As a result, many Indigenous community members in the North may carry negative experiences with gardening, and many have limited lived experience with gardening (Rudolph & McLachlan, 2013; Spring et al., 2018).

Furthermore, as overviewed in Chapter 1, Indigenous subsistence practices were largely misunderstood, ignored, or viewed as "uncivilized" and targeted by colonial policies that sought to "civilize" Indigenous peoples by imposing "modern" land use practices, including agriculture (Loring & Gerlach, 2010; Sandlos, 2007; Turner et al., 2013). Governments and scholars narrowly defined Indigenous subsistence practices as "traditional" and dichotomized them with "modern" agriculture, which was sustained through assimilatory processes and policies like the ones described above. This limited Indigenous food and land

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[7] Indigenous communities across southern Canada also have long histories of gardening and cultivating edible plants with advanced techniques that are still in use (Kuhnlein & Turner, 1991; Waisberg & Holzkamm, 1993; Yerxa, 2014).

management policy and initiatives throughout the 20th century, and risks further restricting Indigenous communities' alternative food systems projects (Loring & Gerlach, 2010; Stroink & Nelson, 2009; Turner et al., 2013).

Scholars and Indigenous communities challenge this western constructed modern/traditional dichotomy (Rudolph & McLachlan, 2013; Skinner et al., 2013; Socha et al., 2012; Waisberg & Holzkamm, 1993). They highlight the adaptability and resiliency of northern Indigenous communities who integrated western methods and crops into their food systems which filled important subsistence and economic gaps. In their work on 20th century gardening histories in Indigenous communities in Alaska's interior, Loring and Gerlach (2010) affirm that "it is the strategy of flexibility, and spatial and temporal patterns of land use, that is most traditional to these peoples, far more so than the specific harvest technologies" (p. 193). They continue: "Alaska Native subsistence is a dynamic and innovative enterprise and is changing today to meet the needs of the present just as it did in the past" (2010, p. 195). Deconstructing this dichotomy also allows for a multitude of localized efforts of weaving western and traditional practices in producing local food. From their gardening work with the northern Ontario community of the Cree Wapekeka First Nation, H. A. Thompson et al. (2018) found that "the line between 'modern' and 'traditional' food practices is increasingly blurred" (p. 414).

It is important to not minimize the historical context of agriculture in Canada's attempts to assimilate Indigenous peoples and disrupt their food systems to advance Euro-Canadian settlement, economies, and power. This is especially true when examining territorial and federal governments' current interest in advancing profit-oriented systems in Canada's North which risk perpetuating colonial capitalist systems that degrade Indigenous food practices and lands (Price et al., 2022). However, the adaptability and flexibility of Indigenous peoples who have implemented a variety of food practices and knowledges must also be recognized. Western worldviews, values, and understandings cannot limit current Indigenous-led food projects.

Contemporary Gardening in Northern Canada

Community-based gardening initiatives generate a wide variety of benefits that extend far beyond improved access to fresh foods. Research suggests that these projects also

bolster local food systems and increase cultural and individual well-being (Price et al., 2022; Socha et al., 2012). Examples from northern Ontario demonstrate how communities view gardening projects as complimentary to land-based food programming, emphasizing the need to take a holistic, localized approach to food security (Ferreira et al., 2021; H. A. Thompson et al., 2018). More specifically, in their examination of the beginning stages of garden projects in two northern Ontario Indigenous communities, Stroink and Nelson (2009) found that "a strong local food system is important to health and well-being for First Nations individuals and communities" (p. 268). This programming focused on traditional and western agricultural practices, and despite current low knowledge levels they report that:

> A biculturally flexible, holistic, lifelong-learning garden program can have an impact on local food knowledge. As this knowledge base increases, a sustainable local food system that integrates both forest [or land-based] and cultivated gardens may become a reality, benefiting individuals, communities, and the environment. (2009, p. 268)

Similar benefits to these examples are reflected in other projects from southern Indigenous communities that also highlight the role gardening plays in youth, community, and environmental well-being and resiliency (Budowle et al., 2019; Johnson-Jennings et al., 2020; Timler & Sandy, 2020).

Different examples show how community gardens can build community adaptive capacity to environmental and socio-economic change (Chen & Natcher, 2019; S. Thompson et al., 2012; Tsuji et al., 2019). For example, Skinner et al. (2014) describe how a greenhouse project in the Fort Albany First Nation in northern Ontario contributed to greater local food production and agricultural skill development, especially in youth. They conclude that greenhouse initiatives act as "avenues for building individual and community empowerment" (2014, p. 15). Barbeau et al. (2015) explore an agroforestry project that grew potatoes in the Fort Albany First Nation in northern Ontario and its contribution to food security. These authors suggest that this low-input, low-cost initiative builds sustainable food systems by reducing reliance on carbon-intensive imported foods and enhances community resilience towards economic and climate change (2015).

Other scholars echo these findings and add that community-driven gardening initiatives offer steps to advance self-reliance and decision-making power over food systems (Socha et al., 2012; Spiegelaar & Tsuji, 2013; H. A. Thompson et al., 2018). Sumner et al. (2019) overview local gardening initiatives in northern Manitoba and found that the

numerous school and community gardens operating in this region "help to overcome colonially structured food deserts" and improve self-sufficiency from southern food markets (p. 245). Rudolph and McLauchlan (2013), who examine gardening in the in northern Manitoba Métis and Cree communities of Grand Rapids and Misipawistik, respectively, state that reviving land-based programs and "local gardening hold potential for autonomy and perhaps even broader political sovereignty from the South" (p. 1093). However, these scholars stress that the volumes of food produced from current gardening efforts do not meet the dietary requirements of each community. Instead, as Ferreira et al. (2021) report: "these yields are more symbolic of food sovereignty strategy rather than literally addressing household food security needs" (p. 14). Investments in local knowledge, infrastructure, and resources can increase the benefits of gardening to communities, but improving land- and market-based food systems is still needed to address rates of food insecurity (Skinner et al., 2013; Wilson et al., 2020).

Gardening in the North faces a variety of other environmental and resource challenges that hinder the long-term sustainability of many projects. Communities have been quick to respond with unique adaptations (Barbeau et al., 2015; Chen & Natcher, 2019; Spring et al., 2018). To combat the short, cooler growing seasons, communities are using an array of growing infrastructure, such as greenhouses, hydroponics, and indoor spaces, to lengthen and improve growth conditions (Avard, 2015; Brown, 2020; Kinney et al., 2019). Furthermore, climate change is predicted to increase ambient air temperatures in the Arctic (Romero-Lankao et al., 2014), providing the potential to grow greater quantities and varieties of food in outdoor areas (Natcher et al., 2021). Depending on the location, gardening projects in remote, northern communities may require great infrastructural and human resource investments (Rudolph & McLachlan, 2013; S. Thompson et al., 2011). As such, logistical difficulties of providing these resources and inadequate funding often limit these projects. To combat these challenges, communities often link garden projects with established institutions, like schools or health centres, to pool resources, reduce knowledge gaps, and inspire greater interest in gardening (Skinner et al., 2014; Sumner et al., 2019).

Gardening Experiences in Fort Providence

As explored in Chapter 2, local- and global-scale environmental, political, and socio-economic change have greatly changed the food systems of the Dene and Métis people of Fort Providence. Community members are spending less time on the land, resulting in reduced consumption of nutrient-dense foods, increased knowledge gaps between youth and Elders, decreased health and well-being, and a reliance on external markets. Many participants expressed a desire to re-localize their food systems to become more self-reliant, improve health and wellness, and shift towards a more land-based lifestyle. Traditional foods were clearly defined as an important way to achieve these goals, but gardening was also discussed as a strategy. Fort Providence has a rich agricultural history. Western practices and crops were introduced to the region by non-Indigenous missionaries and settlers in the late 19th century (Abel, 2005). Many Indigenous community members and their families had adopted western gardening practices as a strategic food security strategy to compliment local knowledge and existing subsistence activities.

No participants distinguished between "modern" or "traditional" when referring to western cultivation practices or the typical vegetables grown in many home gardens. Instead, it was clear that the gardening practices had come to complement land-based foods and lifestyles. Danny Beaulieu (2021), Dene Mayor of Fort Providence who grew up "in the bush," recalls how his mother and grandmother's gardening practices aligned with his family's land-based lifestyle and was used to supplement traditional meats:

> They'd make a potato garden. Potato and turnips, I hated turnips, but they used to have turnips growing in the ground. It's something that's easy to grow… not that much maintenance to it. You could just put it in the ground and keep the dirt up, and it rains on it once in a while. And in the fall time you just dig up potatoes and turnips… they're busy with the fishing and the hunting. (…) Potato was the big thing for you to eat with meat.

Other land users and Elders shared their experiences growing up with garden plots at their houses or summer camps, such as Laura Sabourin (2018), Dene Elder: "for as long as I can remember, my mom has been gardening." Michael McLeod (2018), Member of Parliament representing the NT, shares his experience:

> Historically, all families even if they were out in their cabins would have little gardens in their yards. My family always had little gardens, all my neighbors did... I lived in the small Métis area of the community, and everybody had gardens.

Despite its relatively recent introduction, home gardening became an activity entrenched in local Dene and Métis lifestyles in just a couple generations.

Gardening has become less popular in the Dehcho Region among adults. Some participants attribute this to a busier lifestyle limiting time available to garden or becoming reliant on the convenience of market foods (Beaulieu, 2021; A. Nadli, 2018; Sabourin, 2018). A few Indigenous and non-Indigenous community members still have gardens at their homes in town, or at their cabins along the river. Community members enthusiastically described the soil in the Dehcho as being nutrient rich and able to support variety of vegetables: "Fort Providence, Fort Liard, Fort Simpson and Hay River area, all those are really good gardening areas... good soil, good everything, good climate, and Fort Providence is probably the best" (McLeod, 2018).

Community-Based Garden Initiatives

Due to this rich gardening history and favourable conditions, the community has implemented and explored several variations of community gardening projects over the past two decades to address rising rates of food insecurity. In 2009, a community garden was built at the former community nurses' station through the Government of Canada (GC) and Government of Northwest Territory's (GNWT) Small Scale Foods Program (GC & GNWT, 2011). This program was created in 2006 by the territory's Department of Industry, Tourism and Investment (ITI) as a way to "create an environment within communities which encourages residents to work together, and to gain and share knowledge in growing food for community consumption" (2011, p. 3). The GNWT's Department of Health and Social Services was involved in the Fort Providence Small Scale Foods Program project, hence the location at the past nurses' station (GC & GNWT, 2011). Despite the program's good intentions, this community garden was not extensively used and was abandoned after the initial start-up (T. Bonnetrouge, 2018).

Another food-based intuitive in the community was an aquaponics project, led by Northern Loco. This project was housed in the Snowshoe Centre, a local business and office space, and run by Northern Loco employees and a few community volunteers (Collard, 2018). The goal of the project was to explore community perspectives on growing food indoors, create a social gathering space, and to grow enough produce and tilapia to sell to the

local stores to reduce food costs (Bradley Thom, 2018). Jason Collard (2018), former Northern Loco employee and head of this aquaponics venture, describes his broader goal of implementing this project:

> To me it's a part of a long-term vision for building capacity and ultimately food security as well as self-sustainability in the North. It's demonstrating successfully, stories of what's being done and it's not to look at the entirety of the solution or get lost in the entirety of the solution without taking steps along the way. So, I really see this as an incremental step.

The aquaponics project was short-lived due to numerous factors, including low community participation, licensing issues to import fish into the NT, high costs of heating and power, a lack of knowledge, and the limited variety of vegetables that were grown. Even with these challenges, the project still provided a learning opportunity for the organization and was part of building interest and capacity for growing food in the community.

Community spaces for gardening continued to appeal to local leadership and community groups. In the summer of 2020, construction began on two shared growing spaces: an indoor garden in the defunct curling rink in the Fort Providence Community Centre, and an outdoor garden adjacent to the Community Centre. Participants expressed great enthusiasm for the indoor project and viewed it as providing an important community area for growing and learning about food. Beaulieu (2021) illustrates his vision for indoor garden:

> I thought it was a really good thing to have a garden in the winter. (…) [In] the community garden it's indoors and all lit, they could grow vegetables and carrots in the wintertime, and then in the springtime you harvest all what you grew in the winter, and then you make your own garden outside for the summer… So, you're not just buying vegetables that came in on a truck.

Brandon Thom (2018), Dene youth and Deh Gáh Got'įę First Nation (DGGFN) Councillor adds: "I think it's an exponential place for growth and sustainability, I hope that's what we [the community] aims for, instead of going outdoors we should be looking indoors." Despite this excitement, these community garden projects faced various barriers to their long-term sustainability. The following overviews some of these barriers and ends with and examination of community perspectives of the benefits of gardening.

Community Garden Challenges

Fort Providence's community gardens faced many challenges related to their sustainability and community participation in these projects. Theresa Bonnetrouge (2018), Dene Elder, who worked in the nurses' station garden, summarizes the barriers:

> It didn't turn out very good because the ground was mostly mud, and it didn't really have any good black dirt. Like, we tried to get somebody to get us black dirt, but it was going to cost us, and we didn't have a budget for it. So... gardening is expensive, you know. We had to also haul water, because they wouldn't give us any water, so what we did was put a barrel there they gave us water in a barrel and it collected rainwater. But we did get some potatoes out of that garden, and we also managed. I did a lot of work trying to get people to volunteer, but it's a lot of work.

She highlights several compounding challenges similar community gardens in Indigenous communities across northern Canada experienced: reliable access and resources at their locations; sustained and adequate funding; and securing personnel to work and volunteer in the spaces (Barbeau et al., 2015; Ferreira et al., 2021).

Resource and Location Challenges

All three gardens faced unique access and resource challenges relating to their location that limited their long-term use. The two outdoor locations were chosen for their proximity to existing community centres, where staff and volunteers could easily access them. As T. Bonnetrouge explains above though, the soil quality in the nurses' station was poor and had very little drainage (2018). The second outdoor space was in the same field and had similar drainage and soil issues. While the indoor garden had reliable water that was delivered and stored at the Community Centre, the outdoor areas relied on consistent precipitation to fill the barrels (nurses' station) and a well (2020 garden location) and required manually filling watering cans. Without sufficient irrigation infrastructure, watering was not possible at times, or became a cumbersome task (T. Bonnetrouge, 2018). Linking projects with established institutions, such as schools or health centres, can pool resources and garner greater community interest (GC & GNWT, 2011; Sumner et al., 2019; S. Thompson et al., 2012), but garden locations should also be balanced with environmental factors to ensure the best growing conditions. Access to the indoor location was limited to the Youth Centre hours (weekday evenings and Saturdays), and despite a relatively reliable schedule, it did not always align with participants' schedules (Thiru, 2021).

Although the federal and territorial governments and local organizations have offered a variety of funds for initiating gardens, both projects required additional and on-going resources that were not supplied by the original funding or surpassed the initial operational budget. The two outdoor locations required amendments to improve their growing conditions, and the indoor space needs ongoing electricity for heating, lighting, and fans. Power is expensive in the North, and as Brandon Thom (2021) reports, is one of the main barriers to this project:

> I work for the building essentially, and I feel that having to run [the indoor garden], it really builds up the energy costs. (…) Yeah that's probably the only cap for it right now. It's just… we're stuck with a huge bill, and people aren't utilizing it.

While community organizations, governments, and partners continue to provide financial support for the 2020 gardens, high operational costs and low use of the indoor space continues to plague its sustainability.

Community Participation and Human Resources

General participation in the community gardens, whether working, volunteering, or maintaining a personal garden plot, remain a consistent challenge to their sustainability. Some participants suggested this was related to the greater decline of personal gardening, for reasons like a lack of time, knowledge, or interest (Bastido, 2018; T. Bonnetrouge, 2018; Bradley Thom, 2021). Others suggested inadequate community consultation and a lack of ongoing support from external partners as specific challenges to retaining participants in the community garden projects (Beaulieu, 2021; Thiru, 2021). While no one explicitly discussed these challenges for the nurses' station garden, Dawn Trembley (2021), Executive Director from Ecology North which runs food programs throughout the NT, suggests that this GNWT initiative did not always adequately involve or consult communities:

> [The GNWT] has been very supportive of gardens and has done a really great job of building community gardens in every community in the NWT. However, they didn't always have the education piece, or the community engagement piece, or the community buy-in piece. (…) But once that person [the GNWT program coordinator] retired, I think they did try to make it a little bit less colonial for lack of a better word.

Namisha Bastido (2018), non-Indigenous teacher at the Deh Gáh School from Yellowknife, shared a similar observation from a friend of hers:

> One of my friends worked for ITI doing a community garden project that was going down the Mackenzie River dropping off seeds and she said it was kind of weird. That [people not knowing or wanting the garden seeds] was the case in a lot of communities where ITI drops off a bunch of stuff to help start up a garden, and sometimes they would stick around for a few days to help with the community garden or something but then they would leave and she would come back later in the summer to find out that no one had looked after the garden or anything. But it kind of seemed… I don't know you really need to talk to communities first to see if they even wanted a garden or what they wanted to plant so that they would actually eat it.

Many scholars and communities criticize government-derived initiatives like this and stress the importance of community-led approaches to building localized, adaptive capacity that can respond to community needs (Loring & Gerlach, 2015; Robidoux & Mason, 2017; Spring et al., 2019; Wilson et al., 2020). Top-down food security strategies can be short-sighted, and risk perpetuating colonial power dynamics that do not address the root causes of food disparities or community perspectives.

Despite a more locally led effort and sustained funding in the 2020 community garden project, some participants still felt the process lacked adequate community consultation. Some community members thought the builders, who were relatively new to the community, did not fully involve local gardeners in the construction and management of the areas, which led to poor growing conditions and a dearth of knowledge when they moved on to other projects (Beaulieu, 2021; Bradley Thom, 2021). This was perceived as discouraging for local gardeners and as something originating from outside the community that did not reflect their needs or priorities. A similar experience occurred in northern Manitoba communities where a provincial government gardening program hired people from Winnipeg instead of investing in locals, reducing the projects' sustainability (S. Thompson et al., 2012). Other Fort Providence community members felt these "bumps" were all part of a learning process and that the garden still had potential (Philipp, 2021; Bradley Thom, 2021).

Research on Indigenous food initiatives emphasizes the importance of existing food champions and community leadership roles to the success and sustainability of these projects (Skinner et al., 2014; H. A. Thompson et al., 2018). Organizers in Fort Providence (primarily Lois Philipp, founder of local sustainability organization, Northern Loco, and a key figure in the establishment the 2020 community gardens) made many efforts to retain long-term community members to champion the gardens, such as creating a paid management position, amending the locations for better access and improved growing and learning opportunities,

and incorporating the garden spaces into Youth Centre programming. Despite these efforts, a consistent project champion had not been established at the time of interviewing. Community members who did take a leadership role were often new gardeners with no indoor growing experience, had additional employment and family commitments, or needed more knowledge and resource support. As Niroja Thiru (2021), former Youth Centre coordinator, reflects, this role and sustained activity might not have happened if the garden was in a different location:

> We implemented them [the gardens] into the Youth Centre programming, you know, we get the kids to…change the soil out or to harvest, [a youth employee] is still doing his part in there as well…we've just kind of by virtue of it being adjacent to the space. That's really the only reason, I think, because it's there, and we need something to keep the kids busy, and it just works. I wonder if it was located somewhere else… if that would even be happening?

She adds: "there needed to be a lot more back-end support. (…) A lot of the programming here is very ad hoc… and I understand why, it's just because there aren't enough resources to fill all the gaps" (2021). Human and financial resource gaps plague the sustainability and success of many local projects in other northern communities (Ferreira et al., 2021; Wilson et al., 2020). External partnerships can provide important support and fill resource gaps in small communities, but they should work with local knowledge holders and action-oriented community members to build local capacity to ensure sustainability of these initiatives (S. Thompson et al., 2011).

Other participants suggested the short-lived and low participation in the gardens was a result of a general lack of ownership, value, or interest in the projects from the community (Norwegian, 2018; Thiru, 2021; Bradley Thom, 2021). When asked about a previous garden project in her home community, Jean Marie River, Gladys Norwegian (2018), former Dehcho First Nations (DFN) Grand Chief, proposed a more robust effort at the community level was needed to make the project more sustainable:

> We pretty much need a community effort, for sure. You know people getting together and really making and effort to have an effective garden or greenhouse. (…) People have to want to do it. (…) How can we have everybody contribute? How can we get people to take ownership? So... it's a hard question, you know, because to be honest, I'm not really sure. I can say a few things about it, but you don't know what drives people or what doesn't drive them to make these choices.

Norwegian suggested better nutrition and gardening education alongside gardening programming as one way to encourage more ownership and value in the project. Similar initiatives in other northern Indigenous communities attributed the sustainability of their

gardens to greater community involvement at all stages, involving youth, and leadership investing in paid management project (Ferreira et al., 2021; Skinner et al., 2013; H. A. Thompson et al., 2018). These actions fostered greater ownership by the community, and demonstrated value in gardening projects by leadership, which could garner broader community investment.

Despite the challenges faced in the first two years of the 2020 garden initiative, community members were still optimistic about the roles these spaces could play in local food systems. In the words of Philipp (2021):

> We just haven't found that magic formula in terms of how do we… I think sometimes we don't give the latitude for people to try and fail. (…) It might not work today or tomorrow or next year, but at one point, when there's enough people that know what they're doing, and can work with others.

Her optimism was mirrored in other community members who viewed these garden projects as part of the community's larger explorations to improve local food systems, build capacity and infrastructure, and as steps to improve food security (Bradley Thom, 2021). In the summer of 2022, the outdoor garden boxes were moved to a different location and taken over by a local community group, the Deh Gah Art Collective, and supported by Northern Loco, the DGGFN, and various other community organizations. In addition to art-based programming, participants and their families each received a garden box during the 2022 summer. In fall 2022, the group had harvested and processed a variety of root vegetables from the gardens and had just started plants in the indoor garden (Philipp, personal communication, 2022). Philipp attributed the "holistic" approach from the Deh Gah Arts Collective to the high participation and productivity in this gardening programming (personal communication, 2022).

Participants' Perspectives of Garden Benefits

Land-Based Relationships and Well-Being

Community garden projects especially, face an array of challenges in Fort Providence, but participants still overwhelming voiced their support for garden initiatives and viewed them as providing many benefits. Gardening was proposed as one avenue to increase the availability of fresh, nutritious produce and reduce the financial burden of these foods in the community (Beaulieu, 2021; Canadien, 2018). Food freshness and nutrition were

important to many community members, and frequently brought up when discussing both locally grown and traditional foods (M. Nadli, 2018; Sabourin, 2018; Bradley Thom, 2018). Many community members preferred locally grown foods over market foods, which were often poor quality, unreliably supplied, and expensive.

With barriers to land-based food procurement and access to the land increasing, especially for Elders and youth, gardens were identified as closer and more accessible areas to foster land-relationships and support cultural practices. Bradley Thom (2021), Dene youth and Negotiations Team member for the DFN shares his experiences gardening with his brother:

> We don't get on the land as much as we would have or would have liked to. Our way of connecting with the land in some ways was being able to garden and just take care of our lawns or take care of my grandma's backyard. (…) And I think doing that, and then just realizing that we don't have to be out in the bush to have a relationship with land. And then we found out that gardening can kind of be like that type of relationship as well, where we take care of it. And it can take care of us in different ways. And I think we need to stop thinking about how we have to be super, super far out on the land to have that relationship where we can just do it at home.

Similarly, Philipp ensured there was a space in the indoor garden dedicated to Elders who experience physical and financial difficulties procuring traditional foods and medicines. Gardening does not replace the experience of land-based activities, nor does it address the many barriers community members experience to access the land. Instead, it can provide more accessible spaces within the community to procure traditional foods and medicines and to foster land-based relationships.

Adaptive Capacity to Environmental and Socio-Economic Change

Gardening was also viewed as a way to build adaptive capacity and support economic, cultural, and environmental sustainability. A commercialized year-round greenhouse was proposed as a potential economic venture. If fully operational as planned, it would supply food to the local stores to bring down costs of fresh food, provide some desired community-based employment opportunities, and build infrastructural and human capacity (Collard, 2018). Xavier Canadien (2018), former Chief of the DGGFN, explains: "a greenhouse is what we were after, to grow food all year-round. (…) This would also be a job creation thing. (…) a year-round employment opportunity." Other participants hoped the

community gardens would provide economic opportunities for community champions who took on leadership roles (T. Bonnetrouge, 2018).

Indoor spaces open to all ages are limited in the community, and the garden spaces offered families a new place they could access year-round (Thiru, 2021). The social benefits of the gardens were brought up by many community members, such as Philipp (2021), who presents her vision for the spaces:

> It was a place for the community to come together in the dead of winter. One as a social area, but also to just to begin to, in a small, controlled area, figure out what gardening is all about. A place for families to come together in that social aspect of trying to bring in and create opportunities for families to bond, or bond's not the right word. But the ability for families to do something together in a cold environment.

As Philipp suggests, the gardens are also a concentrated area for experienced and new gardeners to exchange knowledge and expand gardening throughout the community.

Other community members stressed the value of food systems that supported environmental sustainability. Bradley Thom believed gardening could foster a more sustainable food system in the face of environmental change: "with climate change being a huge factor in the decision making these days, reducing the food mile is really important, it helps to create food security. (…) the more we can produce, the better" (2021). He connects gardening with composting and broader community lifestyle changes, and adds:

> Waste management is also the other half of food security. Like what you do with that and how you bring it back to your food security and food sovereignty. It's all a cycle, you know. (…) Gardening, composting and farming will change the culture of our communities. Like I also think culture in the sense of what people do on their time off. (2018)

Bradley Thom's holistic view of gardening that supports various areas of sustainability echoes the types of connectivity that numerous scholars have attributed to the success of other community garden projects (Barbeau et al., 2015; Chen & Natcher, 2019; Skinner et al., 2014; Spiegelaar & Tsuji, 2013; S. Thompson et al., 2011; Tsuji et al., 2019). These authors demonstrate how gardening projects foster individual empowerment, knowledge transfer, land- and community-based relationships, and skill-building. They then connect these movements to greater community and environmental resiliency to socio-economic and climate changes. Integrated and multi-stage systems like Bradley Thom describes above require great infrastructural and human resource investment that might not be accessible to

all communities. Projects must balance their scope with current resources and community contexts and build local capacity that supports projects in the long-term.

Increased Self-Reliance and Decision-Making

Gardening was also viewed as an important part of increasing self-reliance by diversifying the food supply. Increasing self-reliance through gardening was important for a variety of reasons, including bringing down the cost of living, decreasing dependency on long and potentially unstable supply-chains, and reducing carbon emissions from imported foods (McLeod, 2018; Bradley Thom, 2018). Participants also spoke about wanting to gain more control over their food system as part of broader community and cultural resiliency. Brandon Thom (2021) shares:

> I love the practicality of [gardening], of us having the ability to grow our own food and have a bit of our own sustainability and taking that bit of… that bit back to our people, I guess. I definitely would like to see a future of it. Especially in the North, where we rely so heavily on southern communities to provide our vegetables when we're very capable of providing for our ourselves. We've survived this long and in cold winters. Right? Like we're capable of doing it, of jarring our own vegetables year-round. I know there's a lot of potential in it! It's just working around the barriers (…) to get back that bit of resiliency.

This self-reliance and resiliency is part of Dehcho culture and survival, which only recently has been disrupted by colonial processes. In this way, gardening offers opportunities to support cultural resurgence in new and adaptive ways.

The overall contribution of locally grown foods to the community's food supply must not be overemphasized. Existing gardeners in the community still relied on market foods for most of their fresh fruits and vegetables. Supplying produce for the community year-round would require great investments to grow, process, and store the vast quantities needed to replace the market supply (Ferreira et al., 2021; S. Thompson et al., 2011; Wilson et al., 2020). Yet, as community members have revealed above, the importance of gardening and locally grown foods extends beyond food security. These activities support land-based relationships, resilient communities, and adaptive capacity to pressing environmental and socio-economic change. Adaptive capacity and sustainable food systems, as Brandon Thom (2018) explains, have always been part of Dehcho life:

> It [food] has a great deal to do with tradition and culture and its always adapting. Nothing is ever set in stone. I feel like it's growth, we need to continue to grow. We need to continue to work toward sustainability in our food source.

Community-led sustainable food systems programming, through local food production and other localized efforts, provide communities with steps to gain greater control over their food systems (Budowle et al., 2019; Robidoux & Mason, 2017; Sumner et al., 2019). This represents an assertion of self-determination and a move towards food sovereignty. Food sovereignty acknowledges that the disproportionate rates food insecurity in Indigenous communities in Canada are rooted in colonial disruptions to food and other sovereignties (Desmarais & Wittman, 2014; Morrison, 2011). It emphasizes (re)building food systems that support self-determination, community-driven initiatives, and social and environmental sustainability. Full independence from external markets, or total control over food systems, was not desired or even deemed realistic by Fort Providence participants. Instead, community members emphasized the importance of working *towards* greater control alongside strategies that address the immediate health and food security concerns. Bradley Thom (2021) clarifies:

> Just having total control (…) I feel like that might be a little bit unrealistic in some respects, because there are things that I do appreciate that we have access to, like coffee and stuff like that (…) and also bananas. I think there are things that are a little bit unrealistic to take over. But I think having a degree, or a greater degree of food security is definitely a priority before we start thinking about the realm of sovereignty in terms of those respects. (…) It's not like it has to be one or the other or that it's a binary. I feel like it's more of a duality.

He adds that in addition to policy changes, "we need hands on the ground… and feet on the ground, and knees too!" (2018). As community members express, gardening facilitates greater decision-making and increased self-reliance, but immediate action from government is still needed to address local food insecurity.

Conclusion

This chapter overviewed how northern Indigenous communities are using gardens to increase cultural, community, and environmental sustainability and resiliency. These communities face growing challenges to access both land- and market-based foods. Local food production helps reduce the costs and improve the quality of fresh foods available in

these communities. While this impact may be limited by current capacity and resource challenges in many communities, the benefits of community gardening initiatives extend beyond providing some access to fresh foods. As the Fort Providence community members demonstrate, they also strengthen local food systems and community and individual well-being by fostering land-based relationships in ways that align with current lifestyles. Community gardens were also viewed as providing local employment opportunities and skill- and knowledge-building areas. Local food procurement was valued as a sustainable alternative to market-based foods that supported adaptive capacity to environmental and socio-economic change. Finally, these initiatives offer opportunities for communities to decrease reliance on external markets and grow self-sufficiency and decision-making power over their food systems. While not without their challenges, garden projects offer communities important steps towards greater food security and food sovereignty.

The results of this chapter demonstrate that Fort Providence's community gardening initiatives strengthen localize food systems and economies that support land-based food systems, build adaptive capacity to environmental and socio-economic change, and increase self-sufficiency and autonomy. This is echoed by others who suggest that community-derived food strategies are effective ways to address the root causes of northern Indigenous food security and build sustainable northern food systems (Loring & Gerlach, 2015; Skinner et al., 2016; Sumner et al., 2019; Wilson et al., 2020). Climate change continues to stress northern land-based foods and global market food systems. Indigenous communities are implementing a variety of tools, including gardening, to adapt to this change and build greater food and community sustainability and resiliency (Barbeau et al., 2015; Chen & Natcher, 2019). This work must be met with efforts at the policy level that decrease costs of market-based foods, increase access to land, and support Indigenous self-determination. These policy changes are vital for long-term food security and movement towards food sovereignty but are often constrained by slow timelines. Garden projects are relatively quick and cost-effective strategies and do not require great infrastructural investments compared to others that address market-based foods (S. Thompson et al., 2012). The longevity of these projects is greatly improved with sustainable funding and the presence of existing knowledge holders and passionate community champions. Examining the challenges and successes of Fort Providences gardening initiatives can inspire and inform other community-based projects to

improve their sustainability. While only one part, gardening is a relatively accessible and complimentary method to address local food concerns and support local food systems, with short- and long-term benefits that propagate throughout the community.

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CHAPTER 4: INDIGENOUS-LED CONSERVATION AND RECONCILIATION, ENVIRONMENTAL STEWARDSHIP, AND SUSTAINABLE COMMUNITIES

Conservation regimes have been one of the greatest colonial tools that has disrupted Indigenous peoples across the globe, affecting their relationships and access to land, governance, and food systems (Binnema & Niemi, 2006; Green, 2021; Kulchyski & Tester, 2008; Mason, 2014; Sandlos, 2008, 2014). Colonial conservation policies and practices justified the physical removal of Indigenous communities from their territories and restricted their access to, and governance over, these areas. Legacies of these disruptions are still experienced by many communities and Indigenous peoples, especially in education, well-being, governance, stewardship practices, economies, and food security. Indigenous peoples have always resisted these disruptions and continued to access their traditional territories. Beginning in the late 1960s, linked to global human rights movements, Indigenous communities have increasingly organized politically and pushed for more decision-making power over their territories both within, and outside of conservation structures. As a result, government conservation agencies have made fundamental changes, such as creating roles for Indigenous knowledge holders and leaders on advisory panels, shared governance structures of protected areas, and innovative policies that better support and consult Indigenous perspectives (Armitage et al., 2011; Devin & Doberstein, 2004; Johnston & Mason, 2020; Thomlinson & Crouch, 2012; Turner & Bitonti, 2011).

Many Indigenous leaders and scholars critique these changes for keeping decision-making power with the state, not going far enough to support Indigenous self-determination, and for being entrenched in a capitalist economic system which is inherently limiting (Bernauer & Roth, 2021; Carroll, 2014; McGregor, 2021; Nadasdy, 2005, 2007; Sandlos, 2014). International pressure from human-rights and environmental organizations have called for state-governments to better support Indigenous rights, responsibilities, and self-determination (Convention on Biological Diversity [CBD], 2010; Díaz-Reviriego et al., 2019; J. Ford et al., 2016; International Union for Conservation of Nature [IUCN], 2003; UN General Assembly, 2007). Part of this movement is directed at increasing Indigenous involvement in conservation through the incorporation of Indigenous knowledge in existing

protected area regimes and support for Indigenous governance and self-determination across all aspects of land and other sovereignties.

In 2016, the Government of Canada (GC) began responding to this international pressure with policy shifts that better support Indigenous-led conservation and rights while working towards conservation and reconciliation goals (GC, 2016; Indigenous Circle of Experts [ICE], 2018). This has manifested in various ways, but most notably through the support of Indigenous Protected and Conserved Areas (IPCAs) and Indigenous guardian or stewardship programs.[8] These initiatives go beyond existing co-management structures and ensure Indigenous peoples lead the creation, implementation, and management of protected areas and conservation planning. Guardian programs and IPCAs demonstrate encouraging opportunities for Indigenous and Crown agencies to address colonial injustices, build sustainable, resilient rural communities, and work towards conservation and reconciliation goals (Coristine et al., 2018; Mason et al., 2022; M'sit No'kmaq et al., 2021; Zurba et al., 2019).

In 2018, the Dehcho First Nations (DFN) designated a 14,000 km^2 section of their traditional territory, Edéhzhíe, as a Dehcho Protected Area under Dehcho law, then as a National Wildlife Area (NWA) in partnership with the federal government. This area is co-managed by the DFN and the federal government through consensus-based decision making. Known as the "breadbasket" of the Dehcho Region, the lands and waterways of Edéhzhíe are integral to Dehcho Dene culture, language, and life, and include important wildlife and food species habitat. Edéhzhíe was created to protect its cultural and ecological value, support Dehcho rights, responsibilities, and relationships to the land, and contribute to reconciliation (DFN & GC, 2018). In addition to Edéhzhíe's establishment, the Dehcho K'éhodi Stewardship and Guardian Program began receiving annual funding to carry out on the land mentorship, training and educational activities, cultural protection, and monitoring activities.

This chapter overviews Indigenous-led conservation in the Dehcho Region of the Northwest Territories (NT), and explores how these processes contribute to local, regional, national, and international goals. This research is guided by Indigenous methodologies and

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[8] In Canada, communities use a variety of names for these programs, including stewardship, guardian, watchmen, or rangers. The terms "guardian programs" and "stewardship programs" are used interchangeably in this thesis to reflect Indigenous leadership and government policy terminology (GC, 2020; Indigenous Leadership Initiative, n.d.).

uses both policy analysis and conversational, semi-structured interviews with community members and leaders from the Dehcho Region as methods. First, I examine how international and Canadian policies have constrained and facilitated Indigenous-led conservation, and the benefits IPCAs and guardian programs have to Indigenous communities, effective conservation, and reconciliation. I then overview the historical context of Edéhzhíe's establishment and management, and its connection to larger assertions of DFN governance. Next, I turn to community members' perspectives and explore the impacts of Edéhzhíe and the K'éhodi Guardians on environmental stewardship and reconciliation. Finally, I examine how Indigenous-led conservation in the Dehcho builds community resiliency and sustainability by facilitating better access to land-based foods and supporting sustainable, land-based livelihoods. The following three questions emerged from discussions with local community members and guide this chapter: 1) Why is Indigenous-led conservation important to the DFN and community members?; 2) How does Indigenous-led conservation contribute to reconciliation and environmental stewardship in northern Canada?; and 3) How do community members view Indigenous-led conservation as contributing to local priorities?

Shifts in Canadian Conservation Policy

Indigenous Resistance to Colonial Conservation

As previously explored in Chapter 1, protected areas and conservation policy have been employed by colonial governments to dispossess Indigenous peoples of their lands, expose them to assimilatory institutions, and advance Euro-Canadian economies, knowledge, and land-use values. Despite these disruptions, Indigenous peoples across Canada have always resisted some colonial impositions and pushed conservation policy reforms to better include and support Indigenous perspectives. Increasingly over the last century, Indigenous leaders have pursued multiple avenues to challenge colonial values inherent in conservation regimes. These actions include asserting physical presence in protected areas, pursuing legal action through Canadian courts to uphold and better define their rights (see Berger (1977), *Calder et al. v Attorney-General of BC* (1973)*, R v Sparrow* (1990)*, Delgamuukw v BC* (1997)*, Haida Nation v BC* (2004)*, Tsilhqot'in Nation v BC* (2014), to name a few), and through direct action and the assertion of sovereignty and responsibilities to their lands (Carroll, 2014; Goetze, 2005; Johnston & Mason, 2020; Sandlos, 2014; von der Porten,

2014). From these and other interrelated Indigenous-led pressures, Crown conservation agencies have been forced to shift their structures and policies to better represent Indigenous perspectives and rights (Armitage et al., 2011; Devin & Doberstein, 2004; ICE, 2018; Turner & Bitonti, 2011). This includes roles created for Indigenous peoples, cooperative management agreements, and provision in conservation legislation that protect aboriginal or treaty rights (see, for example, *Canada Parks Act* (2000), *Migratory Birds Convention Act* (1994), and *Canada Wildlife Act* (1985)). These shifts are important ways Indigenous people have asserted their rights and communicated their knowledge. However, conservation agencies are still criticized for continuing to undermine Indigenous governance and not going far enough to support Indigenous-led rights and responsibilities to their lands (Bernauer & Roth, 2021; Nadasdy, 2005; Reed, Brunet, & Natcher, 2020; Sandlos, 2014; Youdelis et al., 2021).

International Pressures on Canadian Conservation Policies

Indigenous resistance has gradually been met by international conservation and human rights agencies that have called on state-governments to better support and include Indigenous rights, knowledges, and needs in conservation policy. Across the globe, biodiversity declines, environmental degradation, and ineffective conservation strategies have prompted international agencies to re-examine conservation standards. One prominent example is the 2003 *Durban Accord*, created by the IUCN, the world's largest conservation organization (IUCN, 2003). The *Durban Accord* (2003) puts forth a new paradigm that attempts to challenge existing colonial conservation strategies with new methods of protected area establishment, management, and governance. It recognizes the successful conservation strategies of Indigenous peoples and state-governments' lack of support for these practices, and ultimately calls on state governments to better involve Indigenous communities in protected area regimes. Another initiative from the IUCN to increase participation of Indigenous peoples in protected area governance is the creation of the Indigenous and Community Conserved Areas Consortium, an international organization dedicated to the promotion of Indigenous-led conservation. Zurba et al. (2019) state that this consortium "has been highly influential in advancing frameworks for Indigenous rights with regards to protected areas" (p. 7).

Canada's conservation policy is also highly influenced by the CBD. The CBD is an international agreement signed by UN members that outlines biodiversity and sustainable development guidelines and acts as the UN's legal instrument for biodiversity protection (UN, 1993). The 2010 Conference of the Parties to the CBD launched the *Strategic Plan for Biodiversity 2011-2020 and the Aichi Biodiversity Targets*, known as the Aichi Targets (CBD, 2010). These called for new strategies to protect biodiversity that recognize and include Indigenous perspectives and set out goals for signatory countries to achieve by 2020. Despite enthusiastic commitments and action from these countries, biodiversity rates continue to decline (Coristine et al., 2018; Visconti et al., 2019). In response, the CBD and world leaders put together the post-2020 *Kunming-Montreal Global Biodiversity Framework,* which was finalized at the 2022 CBD's Conference of the Parties meeting (CBD, 2022). This framework reflects the Aichi Targets and outlines steps to achieve both sustainable development and conservation goals, while respecting and protecting Indigenous rights, through to 2030.

Furthermore, the 2007 UN Declaration on the Rights of Indigenous Peoples (UNDRIP) put forward a universal framework for human rights standards for the well-being, survival, and dignity specific to Indigenous peoples (UN General Assembly, 2007). The document's vast scope includes 46 articles that outline "a standard of achievement to be pursued in a spirit of partnership and mutual respect" for adoptees (p. 3). While not a legally binding document, these articles are comprehensive and cross multiple state agencies. It recognizes the unique injustices Indigenous peoples have faced and calls for state governments to uphold Indigenous peoples' inherent (and other) rights protected in international and domestic laws. Specific to conservation in Canada, UNDRIP affirms treaty rights, recognizes the value of Indigenous knowledge and practices to environmental management, and affirms Indigenous peoples' rights to protect their lands and resources.

Canada's Response and Conservation Policy Framework

In a delayed response to these international pressures and continued Indigenous resistance, the GC announced *The 2020 Biodiversity Goals and Targets for Canada* in 2016 (GC, 2016). The document echoes the Aichi Targets and specifies that "meaning, full and effective participation" of Indigenous peoples is needed to reach these goals and targets (p.

2). Canada's efforts were largely focused the first target of *The Biodiversity Goals and Targets for Canada* of protecting at least 17% of terrestrial and inland waters and 10% of coastal and marine areas by 2020. To achieve this goal, the GC recognized that it must work collaboratively with Indigenous governments and communities. Indigenous participation and leadership in Canada's Target 1 is, at the very least, a legal requirement. The *Constitution Act* (1982) protects Aboriginal and treaty rights, and requires free, prior, and informed consent for activities occurring on their territories. These rights have been bolstered by a growing number of court cases that affirm their legal protection and demonstrate a legal requirement for Indigenous involvement and consent in protected area establishment (Ruru, 2012).

Canada's new formal commitments to reconciliation processes have further shaped conservation and other policy changes. Canada's Truth and Reconciliation Commission's *Final Report* (Truth and Reconciliation Commission of Canada, 2015) put forward a list of interrelated calls to action that would inform conservation policy in Canada. One of the most notable calls was a strong request for the development of a national response to UNDRIP. This call was equally supported by the work of the National Inquiry into Missing and Murdered Indigenous Women and Girls (2021). This pushed Canada to create new UNDRIP legislation, which cumulated in the *UN Declaration of the Rights of Indigenous Peoples Act* (UNDRIPA) in 2021. UNDRIPA's (2021) main purpose is to guide reconciliation efforts and the implementation of UNDRIP in Canada.

The Rise of State-Supported Indigenous Led Conservation in Canada

Canada's commitments to both reconciliation and biodiversity protection required a new approach to conservation that recognized the vast historic injustices and legacies of protected areas and provided a path to move forward in an equitable way. To guide this work, the federal government initiated of a specific working group made up of Indigenous and non-Indigenous leaders and citizens, called the Indigenous Circle of Experts (ICE). ICE's comprehensive report, *We Rise Together* (2018) quickly became a guiding document for government policy makers *and* Indigenous communities in the creation of Indigenous-led conservation initiatives. The report contains recommendations (aimed largely at Crown agencies) to better support Indigenous-led conservation and a framework for IPCAs that represents the existing variety of Indigenous-led land protection initiatives. While diverse in

name, governance and management structures, and objectives, IPCAs share three key similarities: 1) they are Indigenous led; 2) they represent a long-term commitment to conservation; and 3) they elevate Indigenous rights and responsibilities to their territories (ICE, 2018). In Canada, IPCAs also represent opportunities for reconciliation, are an interpretation of Section 35 of the *Constitution Act* (1982) and an exercise of Indigenous self-determination. Internationally, IPCAs fit under the Indigenous and Community Conserved Areas framework proposed by the IUCN to recognize areas conserved and maintained by Indigenous and local communities.

Another aspect of Indigenous-led conservation are guardian or stewardship programs. Like IPCAs, these programs are assertions of Indigenous responsibilities and governance over their lands and represent the continuation of long-standing stewardship practices guided by complex and responsive Indigenous knowledge, law, and ceremony (ICE, 2018; Indigenous Leadership Initiative, n.d.). Their activities range greatly depending on local contexts, but can include management plan creation, monitoring human activities and environmental indicators, cross-cultural education (such as tourism), enforcement of Canadian and Indigenous law, and work that supports cultural resurgence and intergenerational knowledge sharing (Reed, Brunet, Longboat, et al., 2020). ICE (2018) specifically recommends Crown governments support the development of guardian and other land-based programs because of the important roles they can play in more effectively developing and managing ICPAs. These programs are not necessarily tied to IPCAs and already operate in various areas outside of protected area frameworks in the country (Indigenous Leadership Initiative, n.d.).

Together, IPCAs and guardian programs are the two main ways the Canadian government currently supports Indigenous-led conservation. Since ICE released its guiding framework in 2018, Canada has invested over $100 million CAD in IPCA creation, and a separate $25 million CAD to Indigenous guardian projects (GC, 2020, 2021). As of December 2022, these funds have supported the planning and/or establishment of 20 IPCAs and over 80 guardian programs across the country (GC, 2022b).

The quick adoption and support of Indigenous-led conservation frameworks by the GC provokes some caution. With the rush to achieve area-based biodiversity targets, rapid establishment of IPCAs may risk losing sight of Indigenous priorities or undermine the

processes of relationship-building central to IPCA creation and management (Zurba et al., 2019). Canada's focus on area-based measures may also overshadow other Aichi Targets that relate to Indigenous rights and responsibilities and even effective and valuable conservation objectives (Lemieux et al., 2019). Crown support for Indigenous-led conservation has also elicited caution because of the broader fragmented or insufficient recognition of Indigenous rights and governance, which extends far beyond the borders of IPCAs (Artelle et al., 2019). Other scholars draw attention to the limitations of Crown land-use policies and government entrenchment in extractive capitalist systems which threaten the long-term viability of IPCAs and inhibit the recognition and expression of Indigenous approaches to conservation and land-use ethics (Reed et al., 2022; Youdelis et al., 2021). Despite these critiques, many communities are pursuing Indigenous-led conservation to advance their own local and regional goals.

Contributions of Indigenous-Led Conservation to Local, Regional, and National Goals

Indigenous-led conservation is widely recognized as providing diverse benefits across local, regional, and national scales. The following examines how Indigenous-led conservation in Canada contributes to broader goals of effective conservation, Indigenous governance and decision-making power, and Crown-Indigenous reconciliation in Canada. I then examine how Indigenous-led conservation builds community resiliency and sustainability at the local and regional levels.

Effective Conservation

Indigenous-led conservation emphasizes place-based stewardship of lands that is widely recognized as more effective when compared to strategies from Crown governments. This is primarily due to the nature of Indigenous conservation being established, sustainable stewardship practices grounded in long-standing relationships, laws, knowledges, and ceremony (Armitage et al., 2011; Artelle et al., 2018; Berkes, 2017; DFN et al., 2016; Hessami et al., 2021; Lamb et al., 2022; M'sit No'kmaq et al., 2021; Polfus et al., 2016; Stephenson et al., 2014). These practices are generally more socially, environmentally, and

economically sustainable compared to dominant western practices that are bound in capitalist, industrialized, colonial systems (Whyte, 2020). Additionally, Crown conservation agencies often face great barriers to create, enact, and monitor conservation strategies in many vast and remote protected areas throughout the country, but especially in northern and remote regions (Lemieux et al., 2018). Indigenous communities are often uniquely positioned as the only populations in these areas, allowing them to facilitate and inform more efficient conservation practices (Coastal First Nations Great Bear Initiative, 2022a). Examples from across the globe affirm that Indigenous-managed areas, including those in Canada, match or exceed state-managed areas' achievement on a variety of conservation objectives, specifically biodiversity protection (Nepstad et al., 2006; Schleicher et al., 2017; Schuster et al., 2019).

Indigenous managed lands in Canada also represent some of the highest ecologically valued conservation areas. Most of Canada's newest IPCAs and regions under Indigenous governance or co-management are some of the largest protected areas in Canada and overlap with regions of high biodiversity and unfragmented ecosystems (Garnett et al., 2018; Moola & Roth, 2019). For example, the Qikiqtani Inuit Association and federal and Nunavut governments are establishing the 108,000 km^2 marine IPCA, Tallurutiup Imanga, an important food area in Qikiqtani Inuit territory in the Canada's Arctic Ocean. When combined with other proposed and existing protected areas in the region, it creates an uninterrupted conserved marine expanse of over 500,000 km^2 (Qikiqtani Inuit Association, 2022). This would be Canada's largest continuous protected area. Artelle et al. (2019) suggest that these features of Indigenous-led conservation (long-standing practices grounded in relationships, laws, ceremony, and knowledge, unique positions of Indigenous communities, and the high value and watershed-level protections) make it an important avenue to achieve rapid and effective conservation.

It must be noted that climate change and environmental degradation are directly linked to patriarchal, capitalist, colonial systems that have appropriated Indigenous lands and continue to disproportionately affect Indigenous communities (J. D. Ford et al., 2020; Whyte, 2020). Discussions of the contributions of Indigenous-led conservation to addressing environmental issues must not be disconnected from Crown actions that repair Crown-Indigenous relationships and respect Indigenous rights, governance, and knowledges, and

systemic changes to move away from extractive and capitalist land use (McGregor, 2021; Whyte, 2020).

Indigenous Governance

Indigenous-led conservation acts as an assertion of governance that shifts decision-making power towards Indigenous communities. Land jurisdiction in Canada is complicated, with multiple layers of territorial claims, governance systems, and Indigenous and Crown legal jurisdictions (Borrows, 2002, 2005). This complexity underlies much of the tension between Indigenous and Crown relations both within and outside of conservation realms. Due to this complexity, Indigenous-led conservation initiatives often involve working within or alongside Crown policy or framework limitations in cooperative management agreements. As previously stated, these types of agreements have elicited critique for a variety of reasons, including upholding colonial sovereignty over land, and reifying power-dynamics instead of building nation-to-nation relationships that would respect Indigenous governance and self-determination (McGregor, 2021; Nadasdy, 2005, 2007; Sandlos, 2014). Indigenous-led conservation helps address these tensions. ICE (2018) maintains that ICPAs must be Indigenous led and that Indigenous governments have "the primary role in determining the objectives, boundaries, management plans and governance structures for IPCAs as part of their exercise of self-determination" (p. 36). In best practice, this would mean Indigenous governance and self-determination are at the forefront of IPCA establishment and management.

Existing examples of Indigenous-led conservation show promising power shifts towards Indigenous governance. Many newly established IPCAs (and some older ones) have cooperative governance structures with consensus-based decision-making (DFN & GC, 2018; Hawkes, 1996; McGregor, 2021). These challenge Crown conservation structures which are held to reduce Indigenous people to "advisory" roles in token consultation processes or those that extract Indigenous knowledge (Reed, Brunet, & Natcher, 2020; Sandlos, 2014; Youdelis, 2016). Cooperative agreements can provide financial support to strengthen broader Indigenous governance structures (Artelle et al., 2019). This is especially important in communities that face significant challenges restoring their territorial governance that has been forcibly repressed by settler-colonial processes (Kotaska, 2013).

Consequently, Kotaska (2013) stresses that decision-making structures and the level of power-sharing should be determined by each Indigenous nation. Some IPCAs under sole Indigenous governance (without formal cooperative agreements with Crown governments) have also demonstrated meaningful decision-making power over regional actors (Murray & King, 2012; Tran, Neasloss, et al., 2020).

Indigenous guardian programs also offer meaningful shifts in power and are widely viewed as embodiments of Indigenous governance (Artelle et al., 2019; Reed, Brunet, Longboat, et al., 2020). From their work with Indigenous community-based monitoring (CBM) in the Yukon, N. J. Wilson et al. (2018) propose that "stewardship is not separate from governance, but rather CBM is itself the practice of Indigenous governance" (p. 294). Some scholars remain critical of the extent to which state derived CBM contributes to Indigenous self-determination but recognize that these actions provide Indigenous governments with real decision-making power (Clark & Joe-Strack, 2017; Lam et al., 2019). CBM has also been criticized for attempting to integrate Indigenous knowledge into Western systems, often in ways that can disempower Indigenous communities (Latulippe & Klenk, 2020; Nadasdy, 2005). Indigenous-led guardian programs allow communities to exercise their jurisdiction and self-determination by centring Indigenous knowledge, values, practices, ceremony, and laws in their structures and activities. This work and their presence on the land embodies Indigenous governance that influences both local and national actors (Kotaska, 2013; Reed, Brunet, Longboat, et al., 2020).

The limitations of Crown policy with respect to Indigenous rights, knowledges, and self-determination, impositions of capitalism, and the legal vagueness of some ICPAs may still restrict Indigenous governments in their dealings and relationships with larger agencies, such as Crown governments or industrial companies with resource tenures (Murray & Burrows, 2017; Youdelis et al., 2021). Despite these issues, Indigenous communities are using an array of avenues to affirm Indigenous governance in conservation, both alongside and by challenging colonial frameworks (Tran, Ban, et al., 2020). This work demonstrates their adaptive capacity and resiliency to imposed changes as they assert their self-determination and enact relationships to their territories through protected area governance and guardian work.

Reconciliation and Indigenous-Led Conservation

Canada's historic and ongoing colonial conservation practices, combined with the GC's inclusion of reconciliation in conservation and policy initiatives offer an important context to examine Indigenous-led conservation and reconciliation. Reconciliation holds different meanings for different individuals, nations, organizations, and contexts. In Canadian conservation, reconciliation is broadly characterized by on-going processes of nation-to-nation relationship building, the recognition and support of Indigenous peoples' inherent rights and sovereignty, and reparation and justice (Finegan, 2018; Truth and Reconciliation Commission of Canada, 2015). Respectful relationships are foundational to IPCA establishment, management, and governance (ICE, 2018). Tran, Neasloss, et al. (2020) highlight this from their work with the ongoing establishment of an IPCA by the Kitasoo/Xai'xais Nation in BC. The Kitasoo/Xai'xais Nation advocate that "provincial/federal IPCA support and recognition can help all parities work together on promises for improved relationships and reconciliation" (2020, p. 928). New IPCA agreements often include specific reconciliation and relationships building clauses (DFN & GC, 2018; Łutsël K'é Dene First Nation & Government of Northwest Territories [GNWT], 2020). This inclusion demonstrates the importance of relationships between Indigenous and Crown governments in IPCAs and their roles in advancing reconciliation.

Grounding these relationships is the Crown's recognition and support of Indigenous peoples' inherent, constitutionally protected (Aboriginal, and treaty), and internationally enshrined rights and responsibilities to their lands. Zurba et al. (2019) state that reconciliation processes through conservation "cannot be fully actualized until nation-to-nation relationships grounded in the treaties and important documents like UNDRIP are fully implemented and affirmed" (p. 14). Indigenous-led conservation offers Crown governments opportunities to redress broken treaty promises, uphold Indigenous peoples' territorial rights, and enact UNDRIP principles (Finegan, 2018; ICE, 2018; Youdelis et al., 2021). The GC's endorsement of ICE's IPCA framework and creation of the UNDRIPA (2021) show clear steps towards recognizing these rights and, through these processes, establishing a strong foundation to build relationships.

Reparation and justice are two related aspects of reconciliation that have particular significance for Indigenous-led conservation. Kotaska (2013) and Finegan (2018) suggest

financial compensation and ongoing support are part of both justice and reparation. They emphasize that these are just a small part, though, and when done in isolation, greatly limit and undermine Crown reconciliation efforts. Other scholars stress that this compensation (while important) does not address the roots of dispossession and trauma (Alfred, 2005; Corntassel et al., 2009). For ICE (2018), government funding and capacity building must improve to overcome existing systems that are "rigid, overly bureaucratic, [and] unreliable" (p. 51). Canada's funding commitments to IPCA establishment and guardian programs show meaningful support for Indigenous-led conservation and the advancement of reconciliation (GC, 2022b). This funding has been criticized for being short-sighted and insufficient for the long-term financial sustainability of guardian programs (Reed, Brunet, Longboat, et al., 2020). While an important part of reconciliatory processes, compensation for past harms and justice must include comprehensive land-repatriation and on-going support for intergenerational trauma (Alfred, 2005; Corntassel et al., 2009).

Sustainable and Resilient Communities

As overviewed in Chapter 1, Canadian colonial impositions continue to dispossess Indigenous peoples from their lands, effecting all aspects of life for individuals and communities. In northern Indigenous communities, this broadly manifests in high rates of food insecurity, low economic opportunities, and challenges to access the land (Council of Canadian Academies, 2014). Northern Indigenous peoples are using IPCAs to address these issues and improve community and environmental conditions by supporting relationships to land and local food systems, and building capacity through sustainable, land-based livelihoods (Council of Canadian Academies, 2014; DFN et al., 2016; ICE, 2018; Qikiqtani Inuit Association, 2019).

In northern regions, natural resource extraction threatens areas that Indigenous communities actively depend on for food, cultural practices, and spiritual connection. Many newly established IPCAs in these regions have been in direct response to looming natural resource extraction (Bernauer & Roth, 2021). Protecting large spaces of cultural value and vital food species habitat ensures these areas remain there to support cultural continuity and land-based practices. As a result, environments and communities can build resiliency to climate change (J. D. Ford et al., 2020). Many IPCA structures specify that part of their

purpose is to increase Indigenous presence and activities on the land (Bhattacharyya & Dasiqox Tribal Park, 2018; Edéhzhíe, n.d.-b; Łutsël K'é Dene First Nation, 2023; Tran, Ban, et al., 2020). This includes stewardship and food procurement practices, intergenerational knowledge transfer, and activities to improve the health and well-being of individuals and communities. In an international review of Indigenous guardian programs, Reed, Brunet, Longboat, et al. (2020) found that these programs addressed intergenerational trauma, language and cultural loss, improved health outcomes, and facilitated better access to land. Each of these aspects build-on, and mutually benefit, each other, contributing to greater individual, community, and environmental resiliency.

IPCAs have also built economic capacity in Indigenous communities. Protecting large areas of ancestral territory from boom-bust industries (which is often the dominate economic cycle in rural and northern regions) offers opportunities for rural Indigenous communities to diversify and build conservation economies (Nuttall, 2010). ICE (2018) defines conservation economies as the "pursuit of social and economic benefits through the conservation of ecosystems" with actions that "restore, rather than deplete, natural and social capital" (p. 39). They are complementary to traditional economies, build sustainable local economies (whose benefits extend to regional and national levels), and provide long-term employment opportunities (Mason et al., 2022; Plotkin & David Suzuki Foundation, 2018). Examples include Łutsël K'é Dene owned tour outfitters in Thaidene Nëné, NT (Łutsël K'é Dene First Nation, 2023); sustainable harvests of non-timber forest products in the Great Bear Rainforest, BC (Coastal First Nations Great Bear Initiative, 2022b); and a clean energy run-of-the-river hydro project in the Tla-o-qui-aht Tribal Parks, BC (Barkley Project Group, 2023).

Guardian programs are another example of a conservation economy that provides local employment opportunities. A 2016 study on the Dehcho and Łutsël K'é First Nations' guardian programs found that for every $1 invested, the programs created $2.50 of socio-economic, cultural, and environmental value and have "generated significant benefits in a short amount of time" (DFN et al., 2016, p. 6). This study adds that these programs "provide opportunities for Dene people to deepen their connection with their culture, land, and water while engaging in meaningful employment that values traditional knowledge" (2016, p. 6). In northern and remote regions where land-based employment opportunities are limited,

guardian programs are key avenues to support these lifestyles (Lam et al., 2019; Low & Shaw, 2009). For example, in the marine IPCA Tallurutiup Imanga, Nunavut, the Qikiqtani Inuit Association's stewardship program explicitly includes harvesting wildlife, the bones, tusks and other body parts of which are shared with their communities to support local craft economies (Qikiqtani Inuit Association, 2022). Many guardian programs also include a specific focus on youth employment which builds local, technical skills (research, environmental monitoring, education, etc.) and supports intergenerational learning (Edéhzhíe, n.d.-b; Kotaska, 2013; Łutsël K'é Dene First Nation, 2023). This capacity building, as Kotaska (2013) reports from the Coastal Guardian Watchman Network in BC, "spills out into many other aspects of their nation" and "can lead to stronger nations" (p. 269).

Guardian programs further support resilient communities by strengthening land-based food systems. As explored in Chapter 2, some of the main barriers to land-based food procurement for youth and adults were a lack of knowledge, skills, and resources to access the land. Guardian programs can help community members overcome these hurdles. Activities that monitor territory and actively manage food systems facilitate intergenerational knowledge transfer, capacity building, and land-based skills (Coastal First Nations Great Bear Initiative, 2022a; Kuhnlein, 2015; Lam et al., 2019; Spring et al., 2019). These programs can also increase the amount of land-based food available in the community (DFN et al., 2016; Thomlinson & Crouch, 2012). As previously mentioned, the Qikiqtani Inuit stewards' work in Tallurutiup Imanga includes harvesting wildlife. This financially supports land-based procurement and reduces the overall cost of land-based foods that are brought back and shared in the community (Qikiqtani Inuit Association, 2022). The Qikiqtani Inuit Association hope to expand their guardian program as these stewards play "a critical role as harvesters [work] towards establishing food sovereignty in their communities" (2019, p. 55). Furthermore, guardian programs' assertion and enactment of governance shifts decision-making power over lands and food systems towards local communities. This allows communities steps towards greater food sovereignty and helps address the roots of northern food insecurity as being entrenched in continued settler-colonial power dynamics (Cruickshank et al., 2019; Loring & Gerlach, 2015; A. Wilson et al., 2020).

Indigenous-Led Conservation in the Dehcho Region

Northern Canada offers a unique context to examine Indigenous-led conservation. The prevalence of large, unfragmented tracts of boreal forest and tundra, ongoing land-claim and self-governance agreements, and continuing Indigenous land use provide favourable circumstances for an IPCA (Coristine et al., 2018; Moola & Roth, 2019). Indigenous communities in the North face extensive difficulties to access the land. As explored in chapters 1 and 2, this underlies many of the cultural, political, economic, and food system challenges, with the effects of climate change increasingly exacerbating these issues (J. D. Ford et al., 2020; Mbow et al., 2019; Romero-Lankao et al., 2014). Immediate action is needed to increase access to land and improve food insecurity and broader community and environmental well-being. Indigenous-led conservation is one strategy northern communities are pursuing to address these interrelated issues. In the following section I highlight community members perspectives on the Edéhzhíe Protected Area and the K'éhodi Guardian Program's contributions to environmental stewardship, Indigenous governance, reconciliation, and community resiliency and sustainability in the Dehcho Region.

The Formation of Edéhzhíe as a Protected Area

Edéhzhíe was officially established as a Dehcho Protected Area in 2018, but this work began decades earlier with the DFN's assertion of self-governance and land rights. Throughout the late 19th and 20th centuries, Crown governments have repeatedly sought to extract natural resources from the Dehcho Region (Berger, 1977; Fumoleau, 2004; Nuttall, 2010). Dehcho concerns over extensive development have spurred action across the DFN, GC, and GNWT to affirm land and resource rights (including negotiating and signing Treaty 11 with the understanding that it was a peace and friendship agreement with no intent of ceding their lands (Asch, 2013)). But the issue of rights intensified in the 1970s with the announcement of a proposed pipeline across the Dehcho Region (Nuttall, 2010). Dene Elders and leaders began politically organizing to clarify land rights outlined in Treaty 11. This began with the court case, *Paulette* (1976), that confirmed Elders' oral testimonies that the Dene had signed peace treaties instead of ceding their lands in Treaty 11. This halted all pipeline development (Erasmus et al., 2003). Building off this success and other cases in southern Canada (e.g., *Calder* [1973]), the Berger Inquiry further defined Dene rights to

participate in development and rights to their decision-making of their lands (Erasmus et al., 2003). The Berger Inquiry's final report articulated community members' concerns about the effects of the pipeline on their livelihoods and governance. It recommended a 10-year halt on pipeline development to finalize land-claim agreements between Dene and Crown governments (Nuttall, 2010; Watkins, 1977). Most nations of Treaty 11 have concluded these agreements; however, the DFN remain in negotiations with the territorial and federal governments.

Since the Berger Inquiry, the DFN have been engaged in numerous processes to assert and affirm sovereignty over their territory. This has included land claim and self-governance negotiations with the territorial and federal governments that began in the 1990s (DFN, 2022). Part of this negotiation included working with the federal, territorial, and Tłı̨chǫ (a neighbouring Dene nation) governments to protect Edéhzhíe under the territorial government's NWT Protected Area Strategy (DFN & GC, 2001). At this time, Edéhzhíe was protected under an interim agreement with the GC, with ongoing collaboration between the DFN and GC to establish the area as an NWA. Despite a court case the DFN filed against Crown governments in 2010 over sub-surface rights and mining (2012), Edéhzhíe was finally established as a Dehcho Protected Area (an IPCA) in 2018 and an NWA with the federal government in 2022.

The Cultural and Ecological Significance of Edéhzhíe

Edéhzhíe is an important hunting and spiritual gathering place for the Dehcho and other Dene peoples. Its unique geological features support great ecological diversity and important habitat in the sub-Arctic region (GC, 2022a). The rivers, wetlands, and plateau that encompass Edéhzhíe are home to a rich diversity of waterfowl, fish, and other wildlife species, including significant habitat for boreal caribou. It is referred to by Elders as the "breadbasket" of the Dehcho Region (Edéhzhíe, n.d.-a). Many Dene and Métis from the surrounding communities still regularly visit the area for camping and food procurement (Canadien, 2018). Boris Sanguez (2018), Dene harvester, situates the plateau in relation to the various communities that access it:

> The plateau is used by everybody. If this was the plateau, [Fort] Simpson comes from this side, Jean Marie [River] used to come straight across, and [Fort] Providence used to come up this way, on the river by the Horn River, and Whati would come up the

back, along this side. It is used by a lot of people. There are a lot of people from [Fort] Simpson that have cabins up there.

The area also attracts many visitors who come to the rivers to fish. This has not always been a positive experience for community members who rely on these fish stocks for sustenance. In the past, some visitors have been caught overfishing and leaving large messes behind (Philipp, 2021; Bradley Thom, 2021). It is vital for long-term community resiliency and for the Edéhzhíe's cultural, ecological, and local food systems that the area is protected from industrial development. In this regard local communities need more decision-making power (Cruickshank et al., 2019; Lam et al., 2019; Mason, 2018).

Edéhzhíe's Management Structures

After the DFN established Edéhzhíe as a Dehcho Protected Area under Dehcho law and authority in 2018, they signed the *Edéhzhíe Establishment Agreement* (2018) with the GC to guide their processes to permanently protect and cooperatively manage the area. It was officially designated as an NWA under the *Canada Wildlife Act* (1985) in 2022. Edéhzhíe's management is directed by the jointly appointed Edéhzhíe Management Board which uses consensus-based decision making (DFN & GC, 2018). Management is primarily the responsibility of the Dehcho K'éhodi Guardian Program with support from the Canadian Wildlife Service. The K'éhodi Guardians engage in ecological monitoring and provide youth mentorship, land-based camps, and cultural protection. Dehcho guardians have been operating in the region since 2014, with two different original programs that came together to build Edéhzhíe's Dehcho K'éhodi Guardian Program.

The Management Board and K'éhodi Guardians work is guided by the three overarching purposes outlined in the *Edéhzhíe Establishment Agreement*: 1) to respect and protect Edéhzhíe's lands and waters; 2) to support Dehcho Dene Ahthít'e, which is "the ongoing relationships between Dene and the land as expressed through the Dene way of life, including language, customs, traditions, historical experiences, spiritual practices, and laws" (p. 2); and 3) to contribute to reconciliation between the DFN and the GC (DFN & GC, 2018). The *Edéhzhíe Establishment Agreement*'s first and third guiding purposes correspond to the previously outlined contributions of Indigenous-led conservation to effective conservation and Crown-Indigenous reconciliation, respectively (DFN & GC, 2018). The

second guiding purpose more closely aligns with Indigenous-led conservation's contribution to building sustainable and resilient communities.

Edéhzhíe's Contributions to Regional, National, and Community Objectives

Dehcho First Nations Governance

Edéhzhíe's role in the DFN's assertion governance and shifts in colonial power-relations is most clearly demonstrated through the DFN's successful creation of the IPCA and its cooperative governance structure. After decades of struggling to protect governance of their lands, the DFN established Edéhzhíe as a Dehcho Protected Area through political and ceremonial means at the DFN National Assembly. This action embodied an assertion of sovereignty and represented the DFN's ongoing political commitment and continuation of ancestral responsibilities, as outlined on their website:

> We were put here by the Creator as keepers of our waters and lands… Our laws from the Creator do not allow us to cede, release, surrender or extinguish our inherent rights… Today we reaffirm, assert and exercise our inherent rights and power to govern ourselves as a nation. (2023)

Bradley Thom (2021), Dene youth and DFN Negotiations Team member, emphasizes the role Edéhzhíe played in asserting DFN sovereignty:

> [Edéhzhíe is] just a whole other area where the federal government can transfer the responsibility to the GNWT about land ownership, protection, and development before negotiating and we're like, hey, that doesn't really make sense. You can't give away responsibilities to take care of lands that you've never really owned.

Edéhzhíe's nation-to-nation agreement and cooperative management structure further safeguard DFN's decision-making power over their territory in ways that are representative of Indigenous governance at the national level. However, not all community members are confident about entering into a cooperative agreement with the federal government, such as Danny Beaulieu (2021), Dene Mayor of Fort Providence:

> I think we have to be careful not to just jump into that [co-management process] either because you might close the door on yourself. (…) You have to be really careful… there was nothing wrong with the way we used to live before all these governments started to take over with their laws—because before, when you lived somewhere, you were part of the land.

While the *Edéhzhíe Establishment Agreement* (2018) sets forth a thorough contract for power sharing and centring Dehcho knowledge and practices, Beaulieu's hesitancy reflects a long

history of government impositions and broken treaty promises in the region (Fumoleau, 2004; Sandlos, 2007). Scholars examining IPCA creation in Canada echo this caution and question the long-term ability of Edéhzhíe's management to redress colonial power imbalances (Zurba, 2019). Yet these authors remain optimistic based on the DFN's leadership in the process thus far.

The K'éhodi Guardians' role in asserting Dehcho presence on the land and centring Indigenous knowledge further demonstrate DFN governance and shifting power-relations. The K'éhodi Guardians' ability to enforce territorial or federal regulations remains restricted, but as Laura (2018), Dene Elder, describes, their monitoring activities have already had an influence at the local level on non-resident fishing activities: "we had to monitor the river and I think they did a pretty good job because I haven't seen [visitors] down there once… it's just our people down there." A 2016 study from the Dehcho and Łutsël K'é First Nations observed that these programs provided their respective communities with knowledge to better govern their territories, such as monitoring activities that inform land-use plans (DFN et al., 2016). They state that this "represents a shift from simply asserting their rights to actively taking charge of the responsibilities that come with those rights" (2016, p. 18). From their work with local food systems in the nearby Dehcho community of Kakisa, NT, Spring et al. (2019) suggest that local guardians embody food sovereignty and provide "rights to lands, decision-making, management, and protection of ecosystems for future generations" (p. 53). These researchers demonstrate how guardians work expands DFN governance from the local area to regional and national levels.

Edéhzhíe, the K'éhodi Guardians, and Dehcho Environmental Stewardship

While contributions to large-scale and effective conservation depend on long-term commitments, immediate responses from participants suggest that Edéhzhíe and the K'éhodi Guardian Program are facilitating Dehcho environmental stewardship. For example, community members reported that GNWT officials have difficultly monitoring and enforcing fishing regulations in the region (Philipp, 2021; Bradley Thom, 2021). Bradley Thom (2021) reports that the K'éhodi Guardians are "getting out there [on the water] more often than even the Canadian Wildlife Officers" to monitor fishing. As Sabourin mentions above, this increased presence is making a marked effect on visitors' impact. The DFN website

emphasizes that the K'éhodi Guardians provide "tangible" protection of Edéhzhíe instead of "an abstraction facilitated by politics or policy" that may be representative of some protected area designations (DFN, n.d.).

These findings are echoed in the DFN et al. (2016) guardian programs report which found that the most prominent material outcome of guardians for their communities was a greater awareness of activities occurring in their lands. For the communities and DFN government, this awareness is key because the community "draws significantly from land and water for their material and spiritual needs and is committed to ensuring the health of land and water for future generations to come" (2016, p. 19). The monitoring informs more effective conservation planning to achieve these goals in ways that combine Indigenous and western ways of knowing. The report also suggests that this comprehensive information allows the DFN and Crown governments to leverage funding to improve local programming (2016).

Community members expressed mixed reactions to the long-term sustainability of the *Edéhzhíe Establishment Agreement* (2018) and the K'éhodi Guardian Program. Bradley Thom is optimistic and proposes that Edéhzhíe's overlapping Dehcho IPCA and NWA designations and the associated laws provide the area with robust protection:

> Once we finish up this management planning process, then we can turn it into a National Wildlife Area on top of an Indigenous Protected Area. So, there's just different layers, like there's the Dehcho conservation laws for protections, and then there's the GNWT subsurface, and then after that, you're going to slap the National Wildlife Area on top as well. So, it's going to be super protected and always be there to just be, in terms of doing its job that nature does for free. (2021)

In addition to this layered conservation afforded by Edéhzhíe's IPCA status, the DFN et al. (2016) study suggested that the K'éhodi Guardians provide "significant" and "long-term" protection of threatened habitats and endangered species (p. 21). Not all participants were as convinced of the long-term ramifications of the Crown's conservation policies. Beaulieu (2021) explains: "you could a make protected area, you could make policies, and then… of course they [Crown governments] make regulations that can be changed." Beaulieu's lack of confidence in the strength of Crown policies is shared by some scholars who question the long-term viability of some IPCAs (Lamb et al., 2022; Youdelis et al., 2021; Zurba et al., 2019). These authors suggest the Crown's fragmented conservation systems, pressures of

industrial development, and a lack of specific IPCA legislation limit the security of Indigenous-led conservation.

Edéhzhíe's Role in Crown-Dehcho First Nations Reconciliation

Like conservation projects, processes of reconciliation rely on long-term, ongoing commitments and, therefore, a thorough examination of Edéhzhíe's contributions to reconciliation is largely outside the scope of this thesis. Immediate participant responses and actions taken by the Crown and DFN reveal some forward steps in the processes of relationship-building, recognizing Indigenous rights, and providing preparations and justice. The *Edéhzhíe Establishment Agreement* (2018) specifies three key aspects of Edéhzhíe's role in reconciliation: 1) recognition of the inherent rights of the DFN are foundational to the DFN and Crown relationship; 2) meaningful incorporation of Dene Ahthít'e, knowledge, and Dehcho Dene Zhatie (language) in management and decision-making; and 3) commitment to work collaboratively and constructively to achieve consensus in all decisions (DFN & GC, 2018). This agreement is a legally binding contract, and its inclusion of clear reconciliation steps demonstrates the importance of this process in IPCA creation and management in Canada (ICE, 2018).

Representatives from the Canadian government stress that Edéhzhíe's dual establishment as an IPCA and NWA demonstrates that Canada and the DFN are working together to advance reconciliation and strengthen relationships (GC, 2018). Bradley Thom (2021) has a hopeful outlook on Edéhzhíe's management structure, and reports that the DFN and GC are building positive working relationships:

> We [GC and the DFN] have a very unique management board, where we both have senior representatives, and it's like negotiating every time, but they're usually pretty reasonable. Like if the Dehcho is saying, "I think we should do things this way," [the GC responds], "okay, for sure." And then the Canadian Wildlife Service just makes sure that they have the power to do it within their limitations, and just try to find a way that works for both parties, because I guess the [federal] government's a bit more structured. But they've never had to deal with Indigenous Protected Areas before. This is all very new to them as well. So, they are a little bit worried to set new precedence. (…) no matter what they're doing, they're setting precedents.

Furthermore, the evaluation report of the GC's funding of Indigenous-led conservation examines Edéhzhíe and suggests that the "establishment of co-management/co-governance

mechanisms and First Nations oversight" is "making positive contributions to reconciliation" (GC, 2022b, p. 23).

The importance of the recognition and protection of Indigenous rights in the establishment of Edéhzhíe was made explicitly clear at both the community and governance levels. As previously discussed, the establishment of Edéhzhíe has been part of the DFN's larger processes of reaffirming and asserting their treaty and inherent rights. At the community level, participants were clear that the protection of their constitutional Aboriginal and treaty rights in Edéhzhíe's establishment were important for maintaining Dehcho presence access to the area:

> As the Dehcho Dene, we can still use it [Edéhzhíe]for traditional land use. (…) But for other people that are not Section 35 rights holders, they have a bit more of a permitting process if they want to go up there. (Bradley Thom, 2021)

The inclusion of these rights in the *Edéhzhíe Establishment Agreement* (2018) and under the *Canada Wildlife Act* (1985) demonstrates clear steps towards ensuring these rights, and the DFN's inherent rights, are protected.

The federal government's financial support of Edéhzhíe's management board and the K'éhodi Guardian Program could be considered as actions toward reparations and justice (Finegan, 2018). It also demonstrates some level of support from the GC towards the DFN's governance of Edéhzhíe. The GC's funding evaluation report adds that additional work is still needed to better support the participation of Indigenous communities in these opportunities (2022b). This emphasizes that financial support is only one part of reconciling (Corntassel et al., 2009). Reparations can also mean improving Indigenous peoples' access to land (Finegan, 2018), and the K'éhodi Guardians' success in increasing opportunities for community members to access the land supports progress towards this goal (Philipp, 2021; Brandon Thom, 2021).

In this section I have provided an overview of the steps the Crown and DFN have taken towards relationship building, and the Crown's actions for respecting DFN rights and providing reparations. Outside of Edéhzhíe, the DFN is still engaged in negotiations on a self-governance and land-claims agreement with the GNWT and the GC to rectify unfulfilled treaty agreements and other injustices imposed on the Dehcho by Crown governments (DFN, 2022). These negotiations pertain to the larger extent of the DFN's territory, rather than the relatively small area of Edéhzhíe, and are vital for all processes of Crown-DFN

reconciliation. How this process contributes to Indigenous governance and self-determination and is a key consideration in broader Crown-DFN reconciliation.

Conservation, Land-Based Livelihoods, and Local Food Systems

As explored in Chapter 2, land-based relationships and food systems are imperative to support sustainable and resilient communities. The *Edéhzhíe Establishment Agreement* (2018) protects and encourages land-based relationships and food systems through its second guiding purpose, to "respect and promote Dene Ahthít'e" (p. 4). The agreement specifically includes support for harvesting activities and on-the-land practices for community members in K'éhodi Guardian programming (2018, p. 4). Participants confirmed that these protections are already supporting local food systems and that the K'éhodi Guardian Program provides sustainable, land-based livelihoods. As community members encounter mounting barriers to access the land and land-based foods, protecting and facilitating this access is a vital part of bolstering community sustainability and resiliency. The following explores community perspectives in more detail.

While pandemic restrictions limited some of the management activities of the K'éhodi Guardian Program at the time of interviewing, participants still expressed enthusiasm for its contributions to local food security. Bradley Thom (2021) describes how the K'éhodi Guardians have directly increased land-based foods in the community:

> They [the K'éhodi Guardians] are going up there, they are able to get some fish every once in a while, and they give it to the Elders. And they even harvest spruce gum and some of the more traditional medicines and give it to people in the community that they think can benefit from it, and so that's pretty great.

This food harvesting and sharing was one of the main ways the Guardians were interacting with broader community during pandemic restrictions (Philipp, 2021). As previously discussed, the K'éhodi Guardians were recognized for their role in limiting non-resident overfishing, which Bradley Thom (2021) viewed as improving land-based food systems and "a net positive in terms of food security." Outside of these direct and immediate benefits, guardian programs monitor and manage local food systems, which informs DFN decision-making and land-use planning. More informed and community-driven governance of local food systems strengthens these systems and improves community adaptive capacity to environmental and social change (Cruickshank et al., 2019; Spring et al., 2019).

Edéhzhíe's protected area status also elicited interest from participants in the potential to build sustainable economies in the region, such as sustainable Indigenous tourism ventures. Brandon Thom (2021), Dene youth and Deh Gáh Got'įę First Nation Councillor, is of the view that tourism is:

> where most of our economies are going to come from in the future, so we're not going towards mining, or logging. I feel like tourism—it's like how else are we going to make money on a protected area? Edéhzhíe, for example, that's the perfect place for tourism. (…) Tourism should be a big part of the economic growth.

Community members in Fort Providence face limited economic opportunities, with most employment found in government or natural resource industries (Philipp, 2021). While natural resource industries, especially mining, are important avenues many northern Indigenous communities pursue to secure employment and revenue (Keeling & Sandlos, 2015), tourism offers a way to diversify northern economies and support land-based lifestyles. Bradley Thom (2018) explains this potential through his business idea:

> If they treat the entire river as a campground where you have designated camping spots where tourist have to stay, families who have established camps could become outfitters and lodge owners in a more traditional sense. This would maintain their income all year around. In the summertime, fishing, the fall, hunting, and in the winter, we could do northern lights viewings, like going out on skidoos.

Nimisha Bastido (2018), a non-Indigenous teacher in Fort Providence, highlights how Bradley Thom's idea would offer a long-term and regenerative way to facilitate land-based livelihoods:

> He [Bradley Thom] is looking at trying to bring more tourism and really have it as a sustainable form of business. So… training people to be young guides on the land so that those traditional skills can have a monetary value as well… set it up so that more people are able to stay out there, and then actually have it so that people have jobs out there and they can permanently stay out there and maintain the camps.

Both Bradley Thom and Bastido describe this example as benefitting male youth in the community who, as many community members describe, often face barriers to accessing the land (Canadien, 2018; Sabourin, 2018). While Bradley Thom and Bastido do not explicitly mention women, they stress that getting whole families out on the land should be part of this type of tourism to reflect and revitalize traditional practices.

These types of opportunities created by Indigenous communities that facilitate land-based livelihoods are key for community sustainability and cultural resurgence. Lois Philipp

(2021), Dene woman and founder of Northern Loco, a local organization dedicated to building sustainable, northern communities, reflects:

> We're not going to get anywhere in our communities in terms of that sustainability piece. We need to create opportunities that create an economic base. You know, I've often wondered, struggled with, the viability of Indigenous communities in this [western economic] model. So how do we empower our communities to become the best versions of who we are, in a way that is a hybrid between what is traditional and what is western?

As these participants illustrate, the potential for Edéhzhíe to offer local, land-based employment is an exciting and important part of cultural resurgence and community sustainability.

Participants also saw these tourism opportunities as a way to overcome barriers to access the land and strengthen local food systems. Philipp (2021) proposes that impact of increased land-based tourism on food security "might secure it [food security] a little more." She clarifies, discussing a potential cultural fishing and hunting tourism business in Edéhzhíe: "when you're taking clients out onto the land to harvest, you're not going to eat it all, so it'll go to the community members" (2021). As demonstrated by numerous researchers who work on conservation hunting tourism programs in rural and northern Indigenous communities, bringing high-value tourists to the community can be coupled with food sovereignty initiatives that increase access to considerable amounts of local, land-based foods (Boulé & Mason, 2019; Foote & Wenzel, 2007; Wenzel, 2011). Bradley Thom (2018) believes that increasing Dehcho presence on the land and water through tourism outfitters could provide opportunities to monitor visitors' activities and educate them about Dene culture. This, he suggests, could discourage unsustainable fishing practices, and protect local food availability:

> If you are in a party of four or more you have to hire a local guide from one of the local communities so that they can go out with you, show you what to do regarding cultural procedures, but also to make sure that you are not taking more than you're legally supposed to.

Participants recognized the K'éhodi Guardians as an exciting local employment opportunity that supports land-based lifestyles and cultural practices, especially for youth. Brandon Thom (2021) shares his enthusiasm: "I've seen what they do around town. I think it's amazing, it's about time! With the guardians of the land, that's great. And how they're hiring Indigenous people to be the guardians, I think that's perfect." Each of the four largest

Dehcho communities (Fort Providence, Wrigley, Jean Marie River, Fort Simpson) employs one community coordinator and two guardians who are funded by the federal government (DFN & GC, 2018). In total, the program provides 14.5 full-time positions and contributes to job-related capacity building by fostering ecological monitoring and cultural skills (GC, 2022b). It also has specific positions for youth that facilitate youth mentoring (Heidi R. Wiebe Consulting Ltd., 2017). The DFN et al. (2016) report found that these positions provided locals and youth with "meaningful employment that values Dene knowledge" and created "positive, engaged role models in both a cultural and socio-economic sense" (p. 18). Michael McLeod (2018), Dene man and Member of Parliament representing the NT, illustrates the value of this type of opportunity for northern Indigenous youth:

> Many of the different tribes of the Northwest Territories are saying that our youth have a huge responsibility now, because not only are they expected to live in the world of the Indigenous ancestors where they know the language and all the practices, because they are going to be the stewards of the land. But now, they are expected also to survive in the modern society. So, they have to get an education. The Elders are saying that an education is our way forward, but you've got to know both. The Tłįchǫ say you've got to be strong like two people. (…) They say if you are not out there on the land... touching, holding, feeling it, you're not going to know what it's like and you're not going to be able to communicate it well.

As McLeod suggests, the K'éhodi Guardian provides imperative opportunities for cultural resurgence, youth empowerment, and ensuring Indigenous language, practices, and land-based relationships continue to be enacted and valued.

Conclusion

Canada's conservation policies and systems have greatly disrupted Indigenous peoples' lives. Indigenous communities have always resisted these impositions and forced Crown policies to better reflect, protect, and uphold Indigenous rights and responsibilities to their lands. Ongoing failings of western conservation strategies and a growing recognition of the effectiveness of Indigenous-led conservation have resulted in the rise of IPCAs and guardian programs across the country, with many new examples occurring in northern Canada. Current federal reconciliation legislation and endorsement of Indigenous-led conservation demonstrates promising shifts from the Crown. These efforts have begun to recognize the harms of colonial conservation and assimilation practices to Indigenous

communities, and address disparities within Indigenous rights and conservation policies. While Indigenous-led conservation contributions to reconciliation and biodiversity protection and environmental degradation depend on long-term commitments, and thus, are difficult to assess in the early stages, its most immediate benefits are to Indigenous communities. In rural regions, high rates of food insecurity, low economic opportunities, and cumulative barriers to access the land affect many Indigenous communities. Examples of Indigenous-led conservation from these areas demonstrate how communities are using IPCAs and guardian programs to overcome these challenges and improve access to, and decision-making power towards, their lands.

The results of this chapter indicate that Indigenous-led conservation in the Dehcho Region offers robust and sustainable avenues for Indigenous communities to support land-based relationships and address colonial legacies in ways that promote both community and environmental resiliency. At local and regional levels, participants emphasized the value of the K'éhodi Guardians and the importance of their presence on the land for cultural continuity, improving local food systems, and asserting Indigenous governance. The results also suggest that the establishment and management of Edéhzhíe are examples of meaningful nation-to-nation relationship building between the Crown and DFN and show promising steps towards reconciliation. These contributions have been critiqued by community members, other Indigenous leaders, and scholars (Corntassel, 2012; McGregor, 2021; M'sit No'kmaq et al., 2021; Reed et al., 2022; Ruru, 2012; Whyte, 2020; Youdelis et al., 2021; Zurba et al., 2019). These critics suggest that if Canada's commitments to conservation and reconciliation are to proceed, great structural changes to the Crown's legal, socio-economic, and political systems are necessary to better support Indigenous knowledges, governance, and self-determination. This includes but is not limited to: 1) wide-scale land repatriation; 2) support of Indigenous knowledges, worldviews, and practices in existing conservation structures; and 3) acknowledgement and respect for Indigenous governance, rights, and responsibilities to their territories outside of protected areas. The immediate need for these transformations is evident in northern Indigenous communities that are disproportionately affected by climate change and experience significant socio-economic and political disparities, due in large part to land access challenges (J. D. Ford, Pearce, et al., 2010; Romero-Lankao et al., 2014; Ross & Mason, 2020b). Supporting Indigenous-led

conservation increases land access and cultural activities that address these issues and enhance individual, community, and environmental well-being. This support must be provided separately from Crown objectives and alongside other processes that advance Indigenous self-determination.

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CHAPTER 5: GROWING COMMUNITY AND ENVIRONMENTAL RESILIENCY THROUGH LAND, SOVEREIGNTY, AND FOOD

I come to this work with my own constellation of experiences, knowledge, and positionality that have informed and shaped this research. I am a white, heterosexual, settler-Canadian, cisgender woman. I exist in, reinforce, and challenge layers of patriarchal, settler-colonial systems that largely privilege my appearance and perspectives. I am also an outsider to the North and the many experiences of the community members this thesis is based on. Where a researcher from the North or one who is Indigenous might understand the nuances and experiences of Fort Providence community members in more detail or quicker, I came from a place of difference with motivation to learn. While a limitation in some ways, I viewed my position as demanding that I ask questions, participate, and remain humble and open throughout all aspect of this research. In Chapter 1, I discussed how looking to Indigenous methodologies (IM) ensured I practiced ongoing reflexivity, with critical attention to settler-colonial power dynamics. As part of these processes, the following explores an impactful moment I had in Fort Providence to offer a reflection on the ways my positionality and IM invites and insists on humility and openness, and how this informed my approach to this thesis.

I have lived all my life on BC's western coast and have never truly experienced horse flies (or "bulldogs" as they are known locally) or any insects being more than a mere annoyance. I was surprised to arrive in Fort Providence during bulldog season and was bitten frequently on my legs. Most days I wore a pair of black leggings around town, convinced I was protecting myself from the insects. It was not until about halfway through my trip that a very kind Dene man told me with a chuckle, that black clothing, in fact, attract bulldogs. This was a humbling moment that revealed how much was occurring around me that I was unaware of. It hinted at the webs of knowledge and lived experience that I did not (and may never) know. This interaction also put into perspective just how little time I would spend in Fort Providence and emphasized the importance of remaining open and humble to having my assumptions (in this case, that black pants offered protection) challenged. It also drove home

the practical and ethical necessity of centring the perspectives and knowledge of local community members in research, policy creation, and funding opportunities.

This black pants and bulldogs short narrative is a relatively light-hearted moment that illuminates other ways my actions, inactions, assumptions, and privilege carried meaning and impacted my experiences during this research and continue to do both today. As I reread critical reflections in my research journal, these moments of discomfort were often directly related to patriarchal, settler-colonial power dynamics and my privilege and worldview within them. Examples include having my ideas of productivity challenged or white saviourism brought to my awareness. Another tension I wrote about was different impacts of climate change (be it heat domes, atmospheric rivers, forest fires, or unpredictable hydrological and weather patterns) that affected me during this time, or that community members brought up in conversation. I also reflected on experiences of pain and frustration at patriarchal systems of power that silence and devalue women and LGBTQIA2S+ people and their knowledge and experience, and what is lost because of these systems.

As I write today, I am also reminded of other moments of learning that impacted how I approached this research. One example is sitting in the Squamish Estuary while Leigh Joseph, Sḵwx̱wú7mesh ethnobotanist and a significant teacher during my undergrad, described her graduate research about revitalizing a traditional plant food in her home community. She also shared how approaching research with Indigenous communities calls for coming to the work with a good heart, in a good way. What stands out the most from my research journal, is the kindness and generosity of Fort Providence community members who taught me their history, included me in cultural events and practices, shared their stories of hurt and elation, and invited me to share what I learned about the strength of the Dehcho people. These lessons and interactions brought the personal into the research and ensured I upheld ethical and relational ways of doing research within and from my own constellation of privilege and positionality.

Wearing black pants around bulldogs grounded the many dynamics of being an outsider and exposed assumptions I had during this research process. It also invited moments of humor, connection, reflection, humility, and learning. To me, coming to this project with a good heart was a fundamental and encompassing starting place in an ongoing process that demands critical reflection, but also ongoing, critical action. This research is just one part of

my own personal/academic journey to nurture learning and connection (with much more to happen still) and am grateful for how it has disrupted my worldview in transformative ways. I hope this thesis has also challenged settler-colonial assumptions and histories and illuminated the strength and resiliency of the Dehcho people.

Addressing the complex issues of food security, climate change, and other settler-colonial injustices in northern Indigenous communities requires multi-faceted approaches that tackle unequal power-relations at the roots of these concerns. Current state-led approaches to food insecurity and conservation policy are widely criticized for being ineffective and perpetuating settler-colonial systems of power (Artelle et al., 2019; Garnett et al., 2018; Loring & Gerlach, 2015; Power, 2008; Townsend et al., 2020). Recent research collaborations, policy changes, and funding commitments from institutions across Canada, including the federal government, show promising steps towards shifting colonial power dynamics, advancing reconciliation processes, and supporting Indigenous-led initiatives (Indigenous Circle of Experts [ICE], 2018; Wilson et al., 2020). These efforts are in the early stages, though, and northern Indigenous communities' high rates of food insecurity and access to land are only intensified by growing environmental change that stress Indigenous food systems, economies, and governance. In response, many communities are implementing their own strategies to support land-based relationships, transform colonial power dynamics, and build adaptive capacity to pressing levels of political, socio-economic, and environmental change.

Widespread Crown support for Indigenous-led conservation is relatively new, and literature centring Indigenous perspectives on food security in the sub-Arctic is severely limited (Council of Canadian Academies, 2014; Spring et al., 2018; Zurba et al., 2019). This thesis responds to these gaps in scholarship by exploring local food and conservation strategies that one northern Indigenous community is using to address settler-colonial legacies and climate change in support of community resiliency. The results of this project provide a holistic view of both northern Indigenous food security and Indigenous-led conservation that expose the ways these processes are directly linked to broader issues of governance, land access, and cultural resurgence. The findings align with existing literature that highlights the importance of community-based approaches (Reed et al., 2020; Ross, 2019; Spring et al., 2019; Sumner et al., 2019; Tran, et al., 2020; Wesche et al., 2016; Wilson

et al., 2020). These scholars stress that localized approaches to conservation and food insecurity issues are effective short-and long-term strategies that address the root causes of issues and whose benefits extend past the community to regional and national levels. They also emphasize that policy, funding, government, and research institutions must do more to support these efforts to improve their long-term sustainability and impact.

Applications of Research Findings

The examination of local experiences of the challenges and successes of community-based strategies is critical for informing other localized initiatives, funding opportunities, and policy reforms. This thesis can be used by communities and their partners to plan or refine other community-based food and conservation projects. For example, many local food initiatives in Indigenous communities across the North experience similar challenges to establish sustainable projects, such as limited human and financial resources and structural confines that restrict Indigenous-led initiatives (Barbeau et al., 2015; Ferreira et al., 2021; Skinner et al., 2014; Thompson et al., 2018). Understanding the challenges and successes of Fort Providence's gardens can ensure future initiatives in the community and in other communities are better prepared to improve the impact and longevity of these projects. Similarly, highlighting the connections between Indigenous-led conservation and local food systems can bolster both conservation and food initiatives to maximize resources, impact, and governance as communities respond to their own localized needs (Cruickshank et al., 2019; Lam et al., 2019; Lamb et al., 2022).

Participants in this project also indicated that local initiatives alone are not enough to overcome the systemic and overwhelming social and environmental issues affecting their communities. This reflects the calls of diverse scholars who assert that governments, policymakers, researchers, and communities need to work together and centre local perspectives in policy creation to generate meaningful change (ICE, 2018; Loring & Gerlach, 2015; Robidoux & Mason, 2017; Ruru, 2012; Tran et al., 2020; Wilson et al., 2020). The results of this research can be used to advocate for, and better support, funding opportunities and policy change at the local, provincial/ territorial, and federal levels to overcome these issues and build more sustainable and resilient Indigenous communities.

Strengths, Limitations, and Future Research

This thesis was strengthened by looking to Indigenous methodologies (IM) to guide all aspects of the research process and by centring community perspectives. IM encourages methods and processes that align with community protocols and critical demands from scholars to centre Indigenous perspectives and challenge Western worldviews and colonial power structures inherent in research (Gaudet, 2019; Held, 2019; Kovach, 2021; Smith, 2012). This research would not have been possible without being situated within, and building on, the existing long-term relationships and research partnerships between the community and Courtney Mason's research group. Semi-structured interviews reflected local cultural protocols and co-developed questions ensured the research was guided by participants, which helped bring specific meaning and purpose to the project. The total number of participants was limited by the timeframe and interview method, but conversational semi-structured interviews provided rich, narrative accounts that strengthened the depth of information to draw on from this thesis. Participant observation guided all interactions I had with the community and research participants in ways that pushed me to bring my heart to the research work. This challenged and enriched my own experiences. More importantly, as a non-Indigenous researcher from southern Canada, these processes were vital to ground this thesis in the lived experiences of community members and to present the complexities of these topics more holistically.

COVID-19 guidelines, such as strict travel restrictions to enter the NT and limitations on public gatherings, reduced participation in this research and community programming during the study period. However, these constraints offered unique experiences and provided opportunities to explore a diversity of topics related to adaptive capacity and community resiliency. Despite wide concern (and real potential) of COVID-19's devastation, Fort Providence and other rural Indigenous communities enacted proactive, collaborative, culturally informed, and community-led health, and food security responses that successfully managed pandemic concerns (Levkoe et al., 2021; Loukes et al., 2022). The response of Fort Providence and many other northern Indigenous communities to vast supply-chain disruptions was vastly different from that of southern and more urban areas. This is primarily because many rural, northern Indigenous communities regularly face supply-chain issues and have extensive experience of adaptively managing their land- and market-based food

resources (Levkoe et al., 2021; Loukes et al., 2022). Many of these communities also drew on traditional teachings that encourage collaborative community action.

The focus of this research was primarily on local food systems, but communities across the North are pursuing a variety of avenues to increase sustainability and resiliency. Future research would benefit from taking a more in-depth look at community sustainability and resiliency to diversify perspectives across policy and scholarly divisions. Due to the relatively new federal support for Indigenous-led conservation and the colonial context of federal conservation practices, more research is needed to better understand the impacts of Indigenous-led conservation on community and Crown interests. Crown enthusiasm for Indigenous-led conservation elicits apprehension about the risk of this support limiting Indigenous self-determination, perpetuating colonial power-dynamics, decentring Indigenous priorities, and undermining processes of reconciliation. Current gaps in food systems literature in northern Indigenous communities would benefit from more research profiling an array of projects to offer cross-community learning and improve local food initiatives. Studies that profile food and conservation initiatives and constraints from international examples that have similar settler-colonial contexts would enrich and inform innovative strategies and policy reforms within Canada (Artelle et al., 2018; Mason et al., 2022; Turner et al., 2013).

Indigenous self-determination and its connection to food and other sovereignties deserves more attention. Many scholars have examined the complexities of Indigenous self-determination and argue that it is vital to address legacies of settler-colonialism and to support decolonization, cultural resurgence, land sovereignty, and health and well-being (Alfred & Corntassel, 2005; Corntassel, 2012; Coulthard, 2014; Simpson, 2016, 2017; Tuck & Yang, 2012). These processes are intimately woven with each other and inform broader community and environmental resiliency. A significant delimitation of this thesis was a comprehensive examination of these intricacies. I instead focused on aspects of resiliency and sustainability that I, as an outsider to many of these experiences, had some familiarity and interaction with, such as local food systems, land-based livelihoods, and Indigenous-led conservation.

Processes of reconciliation was another multifaceted topic that was not fully addressed in this thesis. The gravity of territorial sovereignty in settler-colonial legitimacy

and protected area establishment continues to complicate Indigenous-led conservation and reconciliation. Indigenous scholars remain highly critical of state-derived reconciliation when it lacks large-scale returns of lands and other restitutions (Alfred, 2005; Borrows & Coyle, 2017; Corntassel et al., 2009). Other scholars specifically criticize Crown efforts of reconciliation through conservation for not going far enough to recognize Indigenous sovereignty (McGregor, 2021; Nadasdy, 2007; Ruru, 2012; Youdelis et al., 2021; Zurba et al., 2019). These issues include the limitations of cooperative management and inadequate restitutions even under IPCA frameworks. Instead, researchers suggest Crown agencies enact a variety of structural changes to address the roots of climate and other colonial injustices, including but not limited to: 1) a reconfiguration of colonial legal systems and conservation regimes to better centre and support Indigenous governance, worldviews, knowledge, and self-determination; 2) acknowledge and meaningfully address unequal power relationships and past injustices in conservation regimes; and 3) improve their recognition and support of Indigenous rights and responsibilities to their lands outside of protected areas (Finegan, 2018; ICE, 2018; Kotaska, 2013; Mason et al., 2022; M'sit No'kmaq et al., 2021; Reed et al., 2022; Youdelis et al., 2021).

Conclusion

Canada is at a precipice of great environmental and social change. Transformations in policy, funding, and governance must be guided by, and supportive of, Indigenous knowledges and resurgent ways of being to ensure any future initiatives do not reify or ignore colonial injustices. Indigenous resurgence, governance, and self-determination are intimately connected to resilient and sustainable communities, which include both human and non-human kin. Therefore, supporting Indigenous-led initiatives is imperative to advance effective and sustainable strategies to combat climate change, food insecurity, and other colonial injustices at local, regional, and national levels. Support for Indigenous-led initiatives must centre their intrinsic value for Indigenous communities and not be appropriated or misaligned to advance Crown priorities. The Crown must not opportunistically extract or rely on Indigenous leadership and knowledge in their race to achieve international biodiversity targets or hit reconciliatory "checkmarks." It is patriarchal western colonial, capitalist systems that have created the great inequalities that Indigenous

communities encounter, and the environmental ills all people increasingly experience. To address these issues and other instances of ongoing settler-colonial violence, Crown agencies need to reform policy, funding, legal, research, and socio-economic structures. These changes must centre Indigenous perspectives, elevate, and honour Indigenous peoples' inherent, constitutional, and international rights, and be based on large-scale returns of land. Addressing these issues also demands that all people work within restorative frameworks to (re)build and nurture relationships with each other and our environments.

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APPENDICES

Appendix A: Interview Guide 1- 2018

1. Can you tell me your name, age and number of years you've lived in Fort Providence?
2. Can you tell me the number of people in your household?
3. In general, can you tell me about the types of food that are usually found in your household?
4. Prompt: Is it mainly land-based or grocery store foods?
5. What is your favorite type of food?
6. Can you tell me about land-based foods in your household? What types of land-based foods do you mainly eat, and how often do you eat them?
   a. Prompt: Has there been changes in the availability of land-based food sources?
   b. Prompt: What types of land-based foods do you mainly eat?
   c. Prompt: On average, how often do you eat land-based foods?
   d. Prompt: Do you eat more or less land-based foods now than in the past?
7. applicable) How often do you get out on the land?
   Prompt: Has there been any changes in availability of land-based food sources? Prompt: Have you seen climate change affecting land-based foods? In which way? What have you seen? Can you give an example?
   Who do you usually go out on the land with?
   Have the opportunities for going out on the land changed? Why or why not?
8. Has climate change affected the community's consumption of land-based foods relative to store bought foods? Have there been an increase in store-bought food because of climate change?
9. (If applicable) What are the biggest environmental challenges that you're experiencing when going out on the land?
10. Do you think unmitigated climate change will have a negative impact in the future in terms of land-based foods? How big of an impact and what behavioral changes would you make to adapt to climate change?
11. (If applicable) Can you tell me about local programs that support you to go out on the land?
    a. Prompt: What specific programs do you find effective?
    b. Prompt: In your opinion, in the past, what programs were unsuccessful?
    c. Prompt: What type of program do you think would be successful and effective in helping community members get out on the land?
12. What type of support would you like to see in order to help more people go out on the land?
13. What is the significance for you, your family, and your community to continue to eat land-based wild foods?
14. Have you taken adaptation measures to protect land-based foods? What type of measures? How costly are these measures?
15. Can you tell me about store-bought foods, and where you usually shop?
    a. Prompt: Do you ever grocery shop in Yellowknife, Hay River or elsewhere?
16. Based on your years in the community, have prices of grocery store foods changed?

17. What are some of the programs or strategies in Fort Providence that support local food harvesting, growing or distributing?
    a. Prompt: In your opinion, are these programs successful? How so?
    b. Prompt: Can you tell me about what types of programs you are specifically involved with?
    c. Prompt: Tell me more about your role within this program?
    d. Prompt: How did you initially become involved with this program?
18. From your experience, what are some of the main barriers to local food programs?
19. In your opinion, what are some of the ways to address these barriers?
20. What types of programs or strategies do you think would be effective in helping support community members' needs for accessing culturally relevant foods?

Appendix B: Interview Guide 2- 2021 and 2022

1. Intro: name, where are you from, years lived in Fort Providence
   a. Could you tell me a bit about yourself and your experience with food?
2. What are the biggest issues around food in your experience (environment, policy related, life commitments, community, cost, quality, access, etc.)?
3. How has COVID-19 impacted your experience with food (ability to get food, quality of that food, cost, availability, relationship)?
4. Do you garden or grow any of your own food?
   a. If yes, can you tell me about the types of foods you grow and your experience? What values it has, problems you face?
5. What value does gardening have for you, your family, your community?
6. Have you been in the community garden at all?
   a. What has been your experience in there?
   b. What barriers/ facilitators exist for you accessing and using the community garden?
7. What value do you think the community garden has for yourself, your family, the community?
8. How do you see gardening playing a role in food security (providing food in the community) in the future in Fort Providence? Commercial plots? Larger outdoor area?
9. How are food activities divided in your family? Children, partner, grandparents?
10. Do you think any support is lacking in how you access, produce, harvest food? Community programs, land access, knowledge, government policy?
    a. If yes, what is lacking?
    b. If no, what types of things best support your experience with food?
11. Are you involved with the Edéhzhíe area (Mills Lake, Horne River, Horne Plateau)?
    a. Visiting the area? Harvesting food? Part of establishment/ stewardship?
12. Have any food related changes occurred for you since the establishment of the Edéhzhíe PA?
    a. If yes, how?
13. How do you think food fits into (impacts, is impacted by) protected areas and parks?
14. What about tourism? How does tourism impact food systems here in Fort Providence?
    a. After a reopening from COVID, how do you foresee it impacting food procurement?
15. How do you think food fits into (impacts, is impacted by) protected areas and parks?
16. How are you, or have you been, involved in guardian/ stewardship programs?
17. What values, if any, do you think guardian/ stewardship programs have for yourself, your family, the community?
    a. What about across Canada or internationally?
18. How do you think guardian/ stewardship programs affect food security? Accessing food? Stewardship/ monitoring of food species and habitats?
    a. Do you think it could be one strategy for addressing food issues in Fort Providence and other northern communities?

19. How do you see Indigenous rights and responsibilities fitting into protected areas? Now, in the future?
    a. Do communities have more power in making decisions and accessing these areas?
20. What do you think is missing from current protected area management and establishment in NT? Canada? Internationally?