Sustainability-Enhancing Initiatives in the Ontario Greenbelt: Evaluation of Three Exemplary Cases

by

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Author's Declaration

I hereby declare that I am the sole author of this master's research paper. This is a true copy of the master's research paper, including any required final revisions, as accepted by my readers.

I understand that my master's research paper may be made electronically available to the public.

Abstract

The overwhelmingly complex challenge of intensifying environmental issues and rising social inequities at all scales, community to global, and the lack of impactful policy and action, contributes to the negative narrative of the environmental and sustainability field. The severity of the crisis deserves to be critically analyzed; however, the negative narrative does little to encourage genuine engagement and motivation for progress. Therefore, the objective of this master's research paper (MRP) is to explore stories of positive, creative sustainability initiatives to illuminate examples of sustainability success and how lessons from these stories can inform sustainability practice. This MRP examines three case studies, selected through developed criteria, and explored through a constructed conceptual framework informed by core sustainability concepts in the literature to account for complexity, interconnectivity, and depth. The Ontario Greenbelt, the focal system, provides a specific region that is sustainability-minded due to the protection of land, associated agricultural landscape, and structural support from sustainability organizations, including the Greenbelt Foundation. Three case studies – the Greenbelt Farmers Market Network, the Alderville Black Oak Savanna and the Shared Path Consultation Initiative – were selected through application of explicit sustainability-based criteria and examined through a conceptual framework lens informed by core sustainability concepts in the literature. Each one is centered on a different dimension of sustainability. Together they reflect the complexity of the Greenbelt as a social-ecological system. The reporting uses a storytelling approach, informed through peer reviewed and grey literature, available documentation about initiative activities and interviews with organizers of the initiatives. Each case study provides consistent insights into practices that enhance sustainability, including understanding and appreciating complexity and interconnectivity, supporting community capacity, networking, and forming respectful relationships, and ensuring equity. Unique lessons from each initiative were also observed, providing further insight into sustainability thinking and practices given the social-ecological context of the respective initiative. These stories illustrate the value of focusing on how sustainability is actively being enhanced within communities and the importance of support systems like Greenbelt to encouraging sustainability. Implications on the broader literature includes applications of the framework in examining project in other social-ecological contexts, applying practices in other communities or larger scales, and encouraging research focused on positive pathways to progress towards greater sustainability.

Acknowledgements

Land Acknowledgement

As a student of the University of Waterloo, I acknowledge that the lands for which much of the research process was conducted on, is the traditional territory of the Neutral, Anishinaabeg and Haudenosaunee peoples, with the main campus situated on the Haldimand Tract, the land granted to the Six Nations that includes six miles on each side of the Grand River.

Furthermore, given my research's inclusion of Indigenous knowledge systems, ecological restoration practices and land use decision making, through my exploration of the Alderville Black Oak Savanna and Shared Path Consultation Initiative, I want to acknowledge my role as a scholar of settler decent and how my research aims to uplift Indigenous worldviews and knowledge. This research hopes to demonstrate how pathways towards sustainability are interconnected with local Indigenous knowledge, perspectives, and leadership. Indigenous knowledge systems, ways of knowing and leaders are to be respected, genuinely engaged with and enter into reciprocity with if we are to move forward with enhancing sustainability and supporting reconciliation.

Personal Acknowledgement

I would like to thank my graduate advisor, Bob Gibson, who took a chance on me and my idea of exploring positive stories, understanding the significance of finding the good in enhancing sustainability. Your support throughout this process has been instrumental in making this master's research paper possible and I will always be grateful for your expertise, patience, guidance, and hours of editing. I can only hope to be as wise as you. Thank you also to Jeremy Pittman, for your willingness to be a reader on this exceptionally long paper, I am so grateful for your time.

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Thank you to my family, my parents, Shelley and John Snyder, and siblings, for your unconditional love throughout this journey. I appreciate you for giving me a supportive space where I could explore these ideas, pursue higher education and for providing patience throughout this long process. I can only hope I can give back all you have given to me.

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Time will tell if the many hours spent researching, writing, and submitting my advisor to pages and pages of editing will positively contribute to enhancing sustainability for the future. A future generation who understands the interconnectivity of this complex world we live in, embrace diverse ways of knowing and valuing the ecological lands that do so much for us, who only ask for stewardship in return.

Dedication

I dedicate this MRP to my grandparents, Dr. J. Ormond Stanton, Anne Stanton, and Grandma Clare, may their souls rest among the stars, and Dr. John Snyder & Mary Snyder. All paved the way for two generations of Snyder's and Stanton's to reach beyond what was thought possible. Their scholarly contributions, dedication to knowledge, compassion for others and support of their families have demonstrated what the human mind can accomplish and how to dedicate one's life to continually seeking understanding of the complex world that surrounds us. All of you have been integral to my pursuit of higher education and pushed me to follow my aspirations of making this world one that respects environmental integrity and seeks to achieve social equity. All encourage and inspire me to appreciate life, the larger world in what it has to offer and to seek the goodness in all people. All key lessons needed when pursuing sustainability and environmental work. For this, I am forever grateful.

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ABOS	Alderville Black Oak Savanna
GBFMN	Greenbelt Farmers Market Network
SPCI	Shared Path Consultation Initiative
GGH	Greater Golden Horseshoe
GTA	Greater Toronto Area
FGBF	Friends of the Greenbelt Foundation
NEPDA	Niagara Escarpment Planning and Development Act
OMMHA	Ontario Ministry of Municipal Affairs and Housing
ORMCA	Oak Ridges Moraine Conservation Act

Chapter 1. Introduction

Description of Master's Research Paper (MRP)

1.1 Research Problem

The intensifying implications of complex socio-ecological challenges, climate change, environmental degradation, and social inequalities, entail significant efforts to understand and develop pathways to sustainability. Much of the sustainability literature focuses on positive sustainability trajectories for society and the planet. However, a negative theme and narrative also permeates the sustainability and environmental field, with hopelessness and dystopian scenarios of irreversible environmental degradation and societal collapse (O'Neill & Nicholson-Cole, 2009; Bennett et al., 2016). This negative narrative can be attributed to many factors. Although there has been increasing awareness of humanity's impact on the earth and interconnected issues of social inequity, there has been relatively little visible impactful change in environmental policy and action. Additionally, lack of effective science communication has led to challenges in communicating sustainability, as a concept, its complexities, and potential opportunities (Dahlstrom, 2014). This has led to contested conceptualizations of sustainability and difficulty in engaging the public (Frank, 2016). In many cases, research, and communication of these sustainability challenges apply shocking, sensational, dramatic, and even "fearful" messaging (O'Neill & Nicholson-Cole, 2009).

Negative framing around fear can attract initial attention for environmental and sustainability issues. However, this approach does not often inspire genuine personal engagement that leads to longer term behavioral change and can even be counterproductive to societal or policy change (O'Neill & Nicholson-Cole, 2009; Fischer et al., 2012). Fear around wicked problems is a poor motivator for broad-scale transformational change (O'Neill & Nicholson-Cole, 2009). Therefore, a shift from this narrative is needed, away from fear and doom, and towards engaging with creative and innovative approaches that are actively contributing to sustainability. Exploring these approaches and pathways, what they mean for the field and where we must continue to improve upon, could be a more effective and engaging narrative for sustainability. With the continuing emergence of innovative ways of thinking, embracement of diverse knowledge systems, sustainability-enhancing technologies and growing awareness of complex sustainability challenges, there is promise for a more sustainable future (Bennet et al., 2016).

This is not to say that focusing on the negative consequences of climate change, environmental degradation, socio-economic inequities and "business as usual" scenarios is not warranted. Such concerns are necessary for exploration, as it is important to understand the negative consequences of socio-

ecological challenges and criticize the lack of progress towards systematic change. Additionally, projections for the future, even those that illustrate worst case scenarios, are important tools for developing mitigation and adaptive approaches and understanding the world future generations will inherit. Therefore, critical engagement with this aspect of sustainability continues to be important. However, exploring distinctly positive stories of how our understanding of achieving more sustainable socio-ecological systems is being put into practice can be a valuable contribution to the literature as well.

In this context, the research presented in this MRP explores positive examples of sustainability being effectively enhanced. More positive narratives, about what approaches can or are working, could potentially inspire greater hope in aspirational futures and be a more effective way to encourage genuine engagement. The agenda, focusing on positive stories of initiatives that demonstrate promising or effective sustainability practices, is inspired by the work of Bennett et al. (2016), who present an approach to exploring pathways to the "good Anthropocene". The idea is to establish a positive vision for the future of transformational sustainability that documenting cases of especially effective sustainability initiatives around the world, known as "seeds". These "seeds" are socio-ecological "bright spots' that positively benefit ecological systems and human well-being, integrating the complex dimensions of sustainability and innovative thinking. Seeds can be used to further understand potential scenarios for the future, based on the experiences, values and practices of diverse socio-ecological initiatives to illuminate effective transformational pathways. Creating a "seed database" provides a basis for identifying and analyzing cross-seed patterns to better understand the "good Anthropocene" factors that contribute to an initiative's transformational impact and inspire positive visions of the future (Bennett et al., 2016).

1.2 Research Goals and Question Guiding the MRP

The goals of this research, motivated by the broader goal of Bennett et al. (2016), are to explore the experiences and practices of the selected initiatives to understand how progress towards sustainability is actively being achieved. By illuminating these stories, it could encourage greater engagement with more positive visions of a sustainable future. This MRP will identify and analyze a selection of diverse, socio-ecological initiatives that are demonstrating creative and innovative approaches towards enhancing sustainability. The initiatives explored are community-level in scale, to better account for the direct experiences and perspectives of those engaged with the initiative. The focal setting for this research and the sustainability initiatives explored is the Ontario Greenbelt.

Thus, this MRP aims to contribute in-depth explorations of socio-ecological, community initiatives to explore what factors contribute to effectively enhancing sustainability across diverse sustainability themes, within the context of the Greenbelt region. Exploring each initiative through a consistent storytelling structure will help to illuminate potential patterns across the initiatives' approaches to sustainability. These potential patterns can contribute to further understanding what current practices and approaches are effective in enhancing sustainability and what consistent factors are observed across diverse socio-ecological themes and communities. Additionally, while this approach is not typically taken by academic research, this MRP is meant to be more engaging and applicable to a wider audience. Through storytelling, the paper can draw from the experiences and practices of the initiative and its leaders to help a wide range of readers to understand the factors that contribute towards sustainability and to connect with the stories in ways that encourage broader audiences to seek out and participate in positive stories of sustainability.

To fulfill the goals of exploring positive stories of socio-ecological initiatives to enhance our understanding factors that contribute to community sustainability, the research has been guided by the following central questions:

1. How are community-level sustainability enhancing initiatives in and around the Greenbelt region successfully achieving local social-ecological sustainability goals, with the definition of success being informed by concepts in literature that describe what is considered sustainable?
2. What can these stories tell us about how characteristics of social ecological sustainability can be enhanced in local communities?

Actionable objectives were adopted to assist achieving this research goal and addressing the research questions. The objectives were to establish what "effectiveness" is within the context of this research, why the eventual projects are worthy of being examined, through what framework they will be explored and what is the importance of illuminating positive stories of sustainability research. More specifically the actionable objectives were as follows:

1) to develop criteria for defining what is to be considered an "effective", "creative" or "innovative" sustainability initiative and criteria for selecting the specific case studies within the Greenbelt, informed from a broad review of the sustainability literature and insights from the Greenbelt Foundation;

2) to develop a conceptual framework, based upon insights from the literature and factors in the literature worth exploring further, to account for and appreciate the inherent complexities of sustainability and socio-ecological systems; and
3) to apply a story-telling approach to exploring each initiative subject to case study, detailing the experiences of those involved in their respective initiative to tell a detailed story of the various stages of each project's development to reveal how it is contributing to enhancing sustainability within their community context

1.3 Outline of the MRP's Structure

Chapter 2 will detail the Ontario Greenbelt, to help provide context to the readers about the Greenbelt as a protected area, a planning legislation, a landscape and as a contributor to sustainability goals for the region. The discussion will provide important background information about the application of greenbelt policies, the socio-ecological context for the formation of the Ontario Greenbelt, the sustainability goals it aims to fulfill, the challenges throughout the journey and the current impacts of the Greenbelt. This chapter will provide justification for the region as a focal setting for exploring community initiatives, given its unique socio-ecological factors, and will facilitate greater understanding of the criterion developed for understanding "effective' sustainability initiatives and case selection.

Chapter 3 will be a literature review, providing an in-depth review of sustainability and relevant concepts related to sustainability that will be explored further in the case studies. The chapter will include a brief history of the concept of sustainability, the socio-ecological systems perspective applied for this research, foundational concepts to sustainability such as resilience, transformation, equity, and the generic criteria for sustainability assessment developed by Gibson (2005). This understanding for sustainability will be a foundation for readers and for the conceptual framework. Furthermore, given the focus on community initiatives, the literature review will explore concepts specific to community sustainability, social capital, sense of place, and community engagement, to support and justify the focus on community sustainability for this research. Finally, there will be an exploration of what the literature understands to be "success" or "effective' factors that contribute to enhancing sustainability, which will provide further foundations for the concepts that are included in the conceptual framework.

Chapter 4 will provide a brief overview of the methodological process and the conceptual framework for which the stories will be explored. This section will provide a justification for applying a case study structure, criteria for case study selection, the application of semi-structure interviews and the

storytelling approach that will be used to analysis each initiative. Next, the chapter will detail the development of the conceptual framework, outlining the criteria and conceptsthat will guide and inform the direction of the research for the MRP. The conceptual framework is constructed through the integration of insights from the sustainability literature, community-level sustainability concepts, engagement, and considerations for what the literature considered to be "successful" of "effective' factors towards enhancing sustainability.

Chapter 5, 6, and 7 will detail each case study, Greenbelt Farmers Market Network, Alderville Black Oak Savanna and Shared Path Consultation Initiative, respectively, following a similar storytelling structure. Each story will first introduce the initiative, then provide background information of their respective sustainability challenge, detail their formation, their notable contributions to sustainability, their collaborations and partnerships, and challenges and details about the current or future plans for the initiative. Chapter 5 presents the story of Greenbelt Farmers Market Network, exploring the socio-ecological "theme" of local food systems and examining the impact of the Farmers' market network on the Greenbelt region shortly after its establishment and its growth in capacity since its formation. Chapter 6 details the story of the Alderillve Black Oak Savanna, a tallgrass prairie and oak savanna restoration site on Alderville First Nation land, exploring the unique approach to ecological restoration taken by this initiative. Chapter 7 explores the story of Shared Path Consultation Initiative, which is devoted to strengthening Indigenous engagement in land use decision making, following the initiative's intersectional approach and challenges in supporting their initiative's goals.

Chapter 8 discusses the main insights from each case study and analyzes the consistent factors seen across the stories as well as additional takeaways, with unique lessons exhibited by each story that are highlighted given their impact. These factors were developed through identification of consistent patterns in each story as observed through the lens of the conceptual framework.

Lastly, Chapter 9 provides a summary of findings of the MRP, including by revisiting the goals and objectives of the research and the main factors identified across each of the stories. This chapter also discusses the limitations of the findings, reviews the implications of this research for the literature and for the Greenbelt as a sustainability tool, and draws conclusions about the significance of telling positive stories for enhancing sustainability.

Chapter 2. Understanding the Ontario Greenbelt and its Contributions to Sustainability

2.1 To Start: What is the Ontario Greenbelt?

2.1.1 The Greenbelt Act

The Greenbelt Act, 2005 is the legislative document that provided the legal authority to enact the Greenbelt Plan (Ministry of Municipal Affairs and Housing (OMMAH), 2022c). Legislatively, the Greenbelt Act 2005, officially consolidated and expanded upon the Niagara Escarpment Plan area and the Oak Ridges Moraine Conservation Plan and is meant to work in tandem with the Places to Grow Act 2005, which provides legislative basis for the Greater Golden Horseshoe Plan. Both the Greenbelt Act and A Place to Grow Act are provisions of the Ontario Planning Act, which sets the rules for land use planning in Ontario (Tomalty & Komorowski, 2011; OMMAH, 2022a).

This structure reflects Ontario's land use planning system, as the province provides the legal framework and centralized system for land use planning objectives, through the *Planning Act* and the Provincial Policy Statement, which is a continually updated and adjusted document that details provincial policy interests (Drake, 2019). Municipalities then follow these policy guidelines, fulfilling provincial goals while accounting for the specific needs of their community through municipal planning processes, including their incorporation into Official Plans (Pond, 2009a; Drake, 2019).

The Greenbelt Act and A Place to Grow Act were proposed in response to the intense urbanization of the Greater Golden Horseshoe (GGH) region, which was increasingly consuming prime agricultural and ecological sensitive lands, threatening the agricultural sector and further land degradation (Tomalty & Komorowski, 2011). Thus, both land use planning acts were part of a larger goal of provincial scaled urban growth management, with the Greenbelt Act meant to protect a large swath of physical land and the A Place to Grow Act 2005 setting policies for urban growth management (Tomalty & Komorowski, 2011). These Acts provide the legal authority and framework for municipalities to then implement Greenbelt objectives into their own planning regimes, through their Official Plan. Municipal Official Plans must contain policies that are equivalent to, or even stricter than Greenbelt Plan policies (Drake, 2019).

2.1.2 Greenbelt Plan

The Greenbelt Plan outlines land use policies, guidelines, and schedules for municipalities to follow to align with the parameters of the Greenbelt Act and guide local decision making. Furthermore, the Greenbelt Plan also includes non-policy information, definitions, goal and mission statements, appendices, etc. to provide further background and context to the purpose of the Greenbelt Act, its purpose, policies and goals. The Greenbelt Plan derives its authority from the Greenbelt Act, 2005 (OMMAH, 2017). The plan outlines the areas in which it encompasses as well as categorizing the Protected Countryside into its geographic specific policies, the Agricultural System, Settlement System and Natural System, and Urban River Valley designations (OMMAH, 2021). The Greenbelt Plan specifically identifies where new urban development cannot take place, establishing permanently protected agricultural and ecological lands around urbanized regions (Tomalty & Komorowski, 2011). Around 800,000 acres of the Greenbelt Plan boundaries are lands previously protected under the Oak Ridge Moraine Conservation Plan (ORMCP) and Niagara Escarpment Plan, with the other ~1 million acres being protected under the Greenbelt Plan, with most of this land being designated under the Protected Countryside, as well as the Parkway Belt West Plan Area and the Urban River Valley Area (Ontario Ministry of Municipal Affairs, 2017; Drake, 2019).

The Protected Countryside designation works to protect the large portions of the landscape within the Greenbelt boundaries and is categorized into three types of geographic specific policies, which are reflective of the types of land found within the region: the Agricultural System, Natural System, and settlement areas (OMMAH, 2017). Protected Countryside policies specifically support the preservation of agricultural and ecological lands, by prohibiting redesignation or expansion of settlement areas onto Agricultural and Natural System lands, which work alongside policies in the Growth Plan (OMMAH, 2017). Largely preservation policies were maintained, with the main changes being: the introduction of policies aiming to encourage land use compatibility between agricultural and non-agricultural uses, enhance connectivity of agricultural lands to avoid land fragmentation and promote economic connections to support the agricultural industry (OMMAH, 2017; Drake, 2019).

2.1.3 Greenbelt Land

The Greenbelt Area, which will be referred to as the Ontario Greenbelt/ Greenbelt region in this report, is the physical land that is protected under Greenbelt Act, 2005. This protected land initially included land previously protected under the Niagara Escarpment Plan area and the Oak Ridges Moraine Plan area,

cultural heritage sites and prime agricultural networks of around 1.8 million acres. In more recent years, it has continued to expand through increased Protected Countryside designations and Urban River Valleys, as shown in Figure 1.

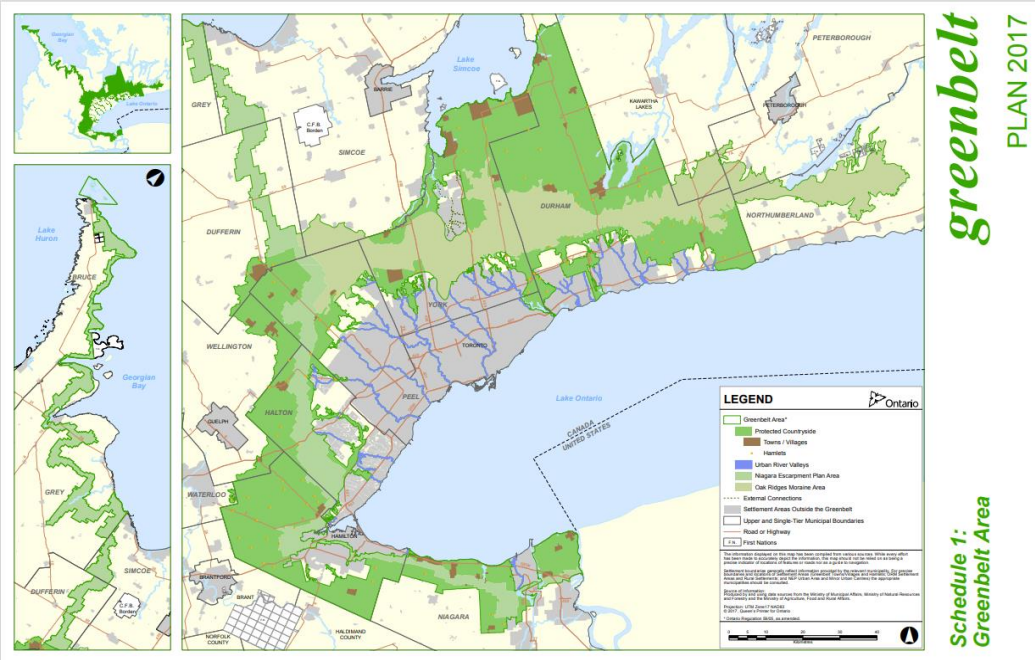

Figure 1: Map of Greenbelt Plan 2017 boundary, displaying the boundaries of other land use plan designations, including the Niagara Escarpment, Oak Ridges Moraine, Protected Countryside and Urban River valleys as well as indicating its proximity to the highly urbanized GTA region

The Ontario Greenbelt contains some of the most fertile lands in all of Canada, providing a region rich in diverse and productive agriculture (Mausberg, 2017; Southern Ontario Nature Coalition, 2021). This unique fertile land and high productivity has resulted in a strong association between the Greenbelt and local agriculture. The conditions that allow for high agricultural productivity, a comparatively more temperate climate and milder winters, also sustain high levels of biodiversity, with a diverse number of ecosystems and species being found in the region (Southern Ontario Nature Coalition, 2021). These diverse ecosystems include terrestrial forests, parts of the Canadian Carolinian Zone, one of the most diverse and unique ecosystems in Canada, grasslands, wetlands, and freshwater, with parts of the Greenbelt being alongside Lake Ontario, Lake Simcoe, and Georgian Bay. All of which feed into the broader watershed system that incorporates the Niagara Escarpment, Oak Ridges Moraine, and urban river valleys (Southern Ontario Nature Coalition, 2021; OMMAH, 2017).

These highly productive and biodiverse lands are also located within and adjacent to Canada's largest and fastest growing urban area (OMMAH, 2022a). Within large sections of the Greenbelt is the Greater Golden Horseshoe (GGH), a region characterized by its rapid growth and urbanization over recent decades. The eastern Greenbelt boundary encompasses the Greater Toronto Area, a part of the GGH, which is Ontario's and even one of Canada's largest sources of economic growth and potential (OMMAH, 2022a). This vast landscape, composed of several different ecosystems, community dynamics, boundaries, municipalities, etc., is collectively protected to fulfill ecological, agricultural, and economic goals for Ontario (OMMAH, 2022a).

The main purpose of this legislation is to be a tool to control urban expansion and preserve the fertile agricultural lands and sensitive environments found in and around the GGH region. This planning framework, incorporating the PPS 2005, Greenbelt and Places to Grow Acts with already established planning and conservation legislation, was part of a broad scale urban management plan for the province. This provincial effort mainly focused on constraining low-density development around the existing urban centers, given the pattern of increasing urbanization in the GHH region. However, this band of protected lands was implemented for supporting goals beyond just preserving land.

The Ontario Greenbelt has several key objectives outlined in the official Greenbelt Act and Greenbelt Plan related to the multitude of opportunities provided by land. By protecting agricultural lands, the Greenbelt aims to support agricultural activity, to sustain rural and farming communities to contribute to the economic viability of local food systems and be a continued source of food and employment for the province. Environmentally, permanent protection of natural heritage and water resource systems work to sustain ecological functioning, allowing for greater resilience to and mitigate the local effects of climate change, protect the ecological services and community health benefits provided by these ecosystems. This large continuous band of protected land also addresses the issue of ecosystem fragmentation and aims to promote connectivity among ecosystems of significance, including the Niagara Escarpment and Oak Ridges Moraine.

The Greenbelt further fosters space for recreation, tourism, and cultural heritage opportunities to support the social and economic needs of its rural and urban populations (Greenbelt Act, 2005; OMMAH, 2017). The Greenbelt is located within and adjacent to Canada's largest and fastest growing urban area, the GGH, with the eastern Greenbelt boundary encompassing the Greater Toronto Area. This proximity to a large population fuels a large economy, which is in large part why the Greenbelt itself can thrive and

make a considerable economic impact. The Greenbelt generates an estimated $9.6 billion annually in economic activity, especially in the agricultural sector and several recreational opportunities, including tourism, the wine and beer industry, cycling and hiking trails, etc. Additionally, the Greenbelt maintains 177,700 full time- equivalent jobs, more jobs that are generated by resource extraction industries in the region (Greenbelt Foundation, 2020; Mausberg, 2017).

Importantly, it should be acknowledged that this region is home to several Indigenous[1] communities, whose historical and cultural ties to the land extend far beyond and deeper than the physical boundaries of the Greenbelt. Large parts of Ontario, including areas protected in the Greenbelt Plan and the A Place to Grow Plan are covered by several Treaties that provide inherent Treaty Rights to the Indigenous communities that were included in those negotiations (Greenbelt Foundation, n.d.). The Greenbelt Plan encompasses the lands of the Mississauga, which includes the lands of the Anishinabewaki (ᐊᓂᔑᓇᐯᒧᐊᐢ), Haudenosaunee, Attiwonderonk, Wendake-Nionwentsïo, Petun, Odawa peoples, etc., with several more Nations, Tribes and communities living within these lands (Native Land, 2023). Due to this, many Indigenous communities hold inherent Aboriginal rights within these lands protected under the Greenbelt Act.

Given their relationship with the land and associated traditional knowledge, Indigenous communities have been integral partners in sustainability growth planning for the Greenbelt region, most especially in recent years. Indigenous collaboration and engagement will be subject to more in-depth analysis in chapters 6 and 7. Due to this, it is important to acknowledge the contributions Indigenous communities have, in the past, presently and will continue to have in the future, to the work of enhancing sustainability throughout the Greenbelt region.

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[1] *For this master's research paper, the term "Indigenous" will be utilized to describe the First Nations, Metis and Inuit communities that live in Ontario and historically stewarded the lands protected and managed under the Greenbelt and A Place to Grow Plans. In this region, the Indigenous community is largely composed of First Nations and Metis communities. However, to not exclude any particular community and attempt to account for the vast diversity of Indigenous identities that exists, the term "Indigenous" will be used, unless a specific community, nation or band is being discussed or a term from literature or policy is included. When discussing a particular Indigenous community in this report, the names the community uses to refer to themselves will be respected and used.*

2.1.4 Greenbelt Concept: Sustainability Thinking on a Provincial Scale

The Ontario Greenbelt, beyond a piece of legislation or land, also represents a foundation for sustainability thinking for Ontario, in how we plan for and protect land (Burkhard Mausberg, personal communication, November 14, 2021). The Greenbelt Act, Greenbelt Plan, and the Greenbelt area are physical indicators of sustainable land planning, however, what this action also created was the concept of the Greenbelt as a tool for sustainability and long-term planning.

Sustainability can only be enhanced when the multiple, complex factors within a system are understood to be closely interconnected, by impacting one aspect of the system, it has implications throughout. This will be explored further in chapter 3. While Greenbelt's main purpose is to ensure sustainable growth management and land conservation, it was understood that the protected land had so much to offer to enhance social, cultural, economic, and environmental aspects of the region. When establishing the Greenbelt, there was a growing recognition that the land was being protected for a multitude of reasons, other than preserving agricultural land for economic benefits. It provides clean drinking water, locally produced food, recreation, and education opportunities, encourages support for local economies, and should be protected for the simple reason that it is such a biodiverse region worth maintaining and so on (B. Mausberg, personal communication, November 14, 2021).

Importantly, it emphasized the importance of investing in local communities on the small scale, that locality can be good, in connecting to your community through the people and that land that sustains us all. Simultaneously, this effort demonstrated that big things could be accomplished in working towards enhancing sustainability (B. Mausberg, personal communication, November 14, 2021). After all, the Ontario Greenbelt was and remains the largest greenbelt in the world. As said by Burkhard Mausberg, former CEO of the Friends of the Greenbelt Foundation, while the Greenbelt has its shortcomings, it demonstrated that in the road to enhancing sustainability, efforts simultaneously invest in local while achieving big things, literally (B. Mausberg, personal communication, November 14, 2021). So perhaps that was the unanticipated vision of the Greenbelt, to demonstrate that working towards sustainability can in fact be an achievable goal, from the community to the provincial scale.

2.2 Greenbelt Policies: Land Use and Environmental Planning Tool

2.2.1 Historical Development and Application of Greenbelts

Greenbelts are defined as a band of protected natural and developed land, both private and public, varying in size, shape, geographic location, that have development restrictions in place for ecological, social, and economic goals for the region. This band of land acts as a "buffer" between ecological and urban land (Searns, 1995; Taylor et al., 1995). Historically, greenbelts evolved from "greenways", smaller and linear green walkways within human dwellings (Searns, 1995). The early usage of these community landscape features aimed to link parts of the city to one another for efficient movement and enhanced adornment of the city. Eventually, closer to 1860, these axes, boulevards and parkways served another important function, re-introducing nature back into cityscapes as they had become increasingly industrialized, a concept we see has carried on into modern applications of greenbelts (Searns, 1995).

As the concept of greenways developed in the 20th century, they took on a more recreational purpose for non-motorized routes of travel, in the form of hiking and cycling trails, railways and footpaths to connect urban areas (Searns, 1995; Fung & Conway, 2007). The most recent inception of greenways was increasingly understood to serve many purposes, largely mitigating the negative impacts of living in urban areas such as noise and air pollution, crowding, etc., and preserving key ecological services. However, the newly evolving concept of developing greenways not just to serve human needs, but to serve multiple, more complex functions. Greenways could be incorporated into urban areas to help maintain ecological and hydrological functioning, land and resource conservation, historical heritage and cultural preservation, and outdoor education. This largely came about through observation of human's impact on near-urban environments, increasing ecological fragmentation and the need to re-establish spatial connectivity (Searns, 1995; Fung & Conway, 2007). This more complex idea of a greenway's complex function gave way to the development of greenbelts in the 20th century, with wide open protected spaces used as barriers between urban areas and the environment (Fung & Conway, 2007).

Over time, the increasing awareness of the impacts of urbanization and the ecological consequences encouraged governments around the world to employ various types of urban sprawl management policies, including the application of greenbelts (Bengston & Youn, 2006; McIntosh, 2021). Earliest greenbelts applications occurred in England in the late 1930s, which then inspired Canada's earliest greenbelt plan in Ottawa in 1950 (Taylor et al., 1995; Bengston & Youn, 2006). These early

applications of greenbelts reflect this increasing awareness of urban sprawl applying more holistic approaches of mega-greenways. Large bands of land around the city meant to act as a buffer between urban sprawl and the environment, while serving other functions, such as preserving land for future government or public use, securing land for conservation and agricultural uses, provide outdoor recreational opportunities, etc. (Taylor et al., 1995; Carter-Whitney, 2008).

2.2.2 Effectiveness of Greenbelt Policies

The effectiveness and success of greenbelts policies and their impacts have been explored for many years, especially given their usage across the globe and the increasing complexity of the policy's application beyond just controlling urban sprawl (Han & Go, 2019). The consensus in the literature, are that greenbelts are relatively effective policies for managing urban growth, preserving agricultural and ecological lands, providing recreational opportunities, and improving quality of life in urban settings (Ali, 2008; Han & Go, 2019). Greenbelts are associated with many benefits, including economic from increased recreational opportunities, ecosystem services, potential reductions in infrastructure costs from reduced urban density and developing rural economies (Bengston & Youn, 2006; Ali, 2008; Han & Go, 2019). However, they are most often associated with their social, cultural, and environmental benefits, contributing to enhanced quality of life for those within and near the Greenbelt and the health of the ecosystems they protect (Fung & Conway, 2007; Ali, 2008; Han & Go, 2019).

As examined in literature, the main factors that contribute to a successful application of a greenbelt include: strong political will to support and implement the policy, strong public support urging the government to pass greenbelt policies and maintain their capacity to preserve land, incorporating designations of where future development can or cannot take place within the greenbelt plan itself and legislation that enforces the greenbelt plan at the local level, with legal frameworks providing guidance for how the plan can be implemented at these local scales (Ali, 2008). In more recent analysis, Han & Go (2019) corroborates these indicators as well as indicates a main overarching factor that determines the success of greenbelt policies. This being the ability of governing bodies to reconcile the two seemingly opposed interests and priorities of land preservation and urban development (Han & Go, 2019).

Strong political will is critical for any greenbelt policy, as it is the politicians, at the local, regional, and provincial/ state level that hold the power to implement and maintain them (Ali, 2008). Beyond implementation, continued willingness to support greenbelt legislation from the government ensures that they continue to enforce its regulations and policies at all levels. This allows the regulation to

follow through with its intended goals of land preservation. Political will, however, is also closely tied with public support, as it is often the support of the public that can ensure a greenbelt is sustained despite shifting political interests or mounting development pressures (Ali, 2008). If the public strongly supports a greenbelt, it can be their collective influence that can encourage governments, even those who may lack the political will, to continue maintaining and enforcing its policies. This is especially the case when there is a paradigm shift among the public, through increased awareness and emphasis on certain goals like land preservation, environmental protection, managing future growth and sustainability (Ali, 2008; Han & Go, 2019).

However, the opposite is also true. If the public's values align more with economic growth and development or there is strong support for individual property rights to sell land for development, the greenbelt can be at greater risk (Han & Go, 2019). This demonstrates the vulnerability of greenbelts, if there is a change in government or if there is a lack of public support, it is more likely that relaxation of greenbelt policy will take place. Thus, the way in which a greenbelt policy is understood and its goals for sustainability at all levels of government, from national to local, and the public can be critical to a greenbelt policy's support and compliance (Han & Go, 2019).

While there may be political will and public support, the actual planning legislation itself must also be efficient in that it does not just focus on land preservation, but also accounts for the inevitable need for development (Han & Go, 2019). While greenbelt policies are meant to preserve land for mainly agricultural and ecological reasons, that does not preclude the inevitable need or pressure for development that will occur in or around the protected area. Research suggests that greenbelts are more successful, in that they remain permanent, by including policies/ plans to balance these objectives, often by incorporating modern long term planning principles into the legislation (Han & Go, 2019). Planning for future growth can help to prevent leapfrog development, accommodate for population growth, and maintain greater consistency among the region's implemented land preservation and urban growth policies (Ali, 2008). This approach is observable with the Ontario Greenbelt, as discussed above, the Greenbelt Act works in tandem with the A Place to Grow Act under the Planning Act and Provincial Planning Statement to simultaneously manage growth while preserving the natural environment. Thus, with both these acts being passed around the same time and meant to work together, it works to balance the main objectives of preserving land, while also working toward sustainable urban growth for the province (Ali, 2008; Tomalty & Komorowski, 2011; Han & Go, 2019).

Finally, existing legislative structures can help to encourage the success of greenbelt, depending on the country/ region they are implemented in. The existing governance structures must include measures that ensure national/ provincial level legislation is carried out at the local level. Without proper legislative language and support, local governments may not have the capacity to adhere to greenbelt policy guidelines (Ali, 2008). For Ontario, the passing of the Strong Communities Act in 2004, or Bill 26, an amendment to the Planning Act, was significant as it specifically addressed the responsibilities of municipalities due to the key language change. Municipal land use decisions of decisions made by the Ontario Municipal Board, had to be "consistent with" the Provincial Planning Statement, indicating that planning would have to enforce that proper natural heritage features were protected, as opposed to "having regard" (MacDonald & Keil, 2012).

Greenbelts are largely understood to be effective in preserving valuable agricultural land, however they themselves cannot be the only solution. Often additional programs and policies meant to work with the greenbelt plan are required to support the agricultural industry and ecological functioning of protected lands (Carter-Whitney, 2008; Macdonald & Keil, 2012).

2.3 Road to Implementing the Ontario Greenbelt

2.3.1 Increasing Urbanization in Ontario and the Consequences of Urban Sprawl

The story of the Ontario Greenbelt begins the way most greenbelt plans around the world often do; the realization that unless something is put in place, development will likely continue to swallow up all it can. There were concerns over the consumption of farmland in Ontario due to residential development occurring as early as the 1950s, when Southern Ontario was experiencing significant rises in its population, as seen in the contemporary Kruegar (1959) report (Drake, 2019). During this time, the actual loss of farmland was not well documented and despite some attempts to restrict expansion, residential development continued throughout the 1960s (Drake, 2019). In the late 1970s, there were increasing concerns over the loss of environmental lands, which encouraged some of the earliest land use planning initiatives to protect environmentally sensitive areas (Whitelaw et al., 2008). However, despite increasing awareness and concerns, there was a considerable lack of farmland preservation measures taken (Greenbelt Foundation, 2020b; McIntosh, 2021).

Closer to the time of the Greenbelt's initial proposal, in 2004, the GGH population was 7.5 million and before the Greenbelt, projections at the time estimated there would be an additional 3.7 million people in the GGH region (OMMAH, 2022a). This rising population at the time put tremendous

pressure on municipalities to expand into the surrounding lands, which was largely rural countryside (Fung & Conway, 2007). This pressure was apparent at the time, with over 11% of Ontario's best agricultural land being used for urban purposes in 2001, a trend that had been increasing consistently for decades (Macdonald & Keil, 2012). This loss of agricultural land can have numerous consequences. Such as the ability to sustain local Ontario food systems and rural economies, inefficiencies of cultivating less fertile land, impacting food production for the province, reducing ability to grow specialty crops, and increasing negative impacts of urban land use decisions on adjacent agricultural land (Tomalty & Komorowski, 2011; Macdonald & Keil, 2012).

2.3.2 Consequences of Urban Sprawl

This intense urbanization in Southern Ontario was of significant concern, not just for how much land it was taking up, but also due to the type of development that was taking place. Urban sprawl in the GGH region was following a suburban, single-use area, low density pattern, a design that was oriented around the use of cars (Neptis Foundation, 2002; Eidelman, 2010). As a result, transportation, rather than human needs, became the dominant way in which cities and urban areas were built and the GGH region was no different (Gurin, 2003; Brody, 2013). Urban sprawl may have been beneficial to serve the increasing population, however, this pattern was increasingly being understood as an unsustainable and inefficient form of urban growth and design.

Economically, this pattern is associated with higher infrastructure rates, due to having to build roads, water and gas pipes, sewers, electric grids etc. over longer distances (Neptis Foundation, 2002; Gurin, 2003; Eidelman, 2010). This model also encourages, or rather is highly dependent on, the use of automobiles as the main source of transportation, which contributes to negative externalities such as higher transportation costs, longer travel times, congestion on roads and highways and greenhouse gas emissions (Neptis Foundation, 2002; Gurin, 2003; Brody, 2013). This pattern is also understood to be inefficient due to the increased difficulty of sustaining services, whether they be social, transportation, such as public transit, community development, etc. which can increase economic, but also social costs for citizens and municipalities.

Factors such as the lack of efficient public transit systems and limited accessibility to social services can result in significant challenges to quality of life, due to reduced ability to connect with nature, noise and air pollution, lack of community gathering spaces and inaccessible alternative modes of transportation, etc. (Gurin, 2003; Brody, 2013). This urban design inherently builds in a lack of diversity

and inclusivity to the community. High costs, lack of services, longer distances and so on often most negatively impacts those of lower incomes, the elderly, young people and those of other races, reducing the equity of these spaces now and for the future (Gurin, 2003).

Urban sprawl is further associated with negative environmental impacts. Pollution in many forms, noise, air, and water, from the use of automobiles, sewage, toxic chemicals, etc. which impacts the health of people, wildlife, and adjacent ecosystems (Neptis Foundation, 2002; Gurin, 2003). Permanent loss of land can reduce habitat size and functioning, which is especially important for rare and vulnerable species found in Ontario. For many species at risk in Ontario, habitat loss through land development is among the main reasons they are categorized as "at risk" (Cowie, 2011). Development cuts through viable ecosystems and increases land fragmentation. This fragmentation interferes with wildlife and natural cycles, and often diminishes cycle functioning, reduces ecosystem biodiversity, and reduces ecosystem viability. If an ecosystem becomes too small or disconnected, it may be unable to sustain itself as effectively as before (Gurin, 2003; Cowie, 2011).

The loss of ecological land is significant as the consequences of climate change continue to intensify. Loss of land means less capacity of ecosystems like forests, wetlands, and grasslands to absorb the excess carbon that is accelerating climate change (Cowie, 2011). Furthermore, these ecosystems provide other critical ecological services, including water absorption and filtration, land stabilization, and other element cycling, which are known to be important functions to help mitigate the effects of climate change, such as increases in precipitation, temperatures, and extreme weather events (Southern Ontario Nature Coalition, 2021).

2.3.3 Niagara Escarpment Planning and Development Act and the Oak Ridge Moraine Protection Act: Setting the Stage for the Greenbelt Act

For over half a century in Southern Ontario, a general lack of effective land-use planning, along with landowners, developers and politicians largely allowed for urban sprawl to take place and continue expanding into the countryside (Drake, 2019). This is even evident in key planning frameworks put in place before the Greenbelt. Early iterations of the Ontario Planning Act promoted low-density urban sprawl at both the local and regional levels and early Provincial Policy Statements, while aiming to preserve agricultural land, only advised municipalities to "have regard to" this goal, rather than enforcing it (McLeod et al. 2015). However, all the negative externalities discussed above were increasingly apparent to the public, academics, and those in government. There was a clear need to shift away from

this model of land use and urban planning as well as to protect ecological systems of significance in the province as development soon threatened key natural areas.

First came the Niagara Escarpment Planning and Development Act (NEPDA) in 1973 and the associated Niagara Escarpment Plan. Aggregate mining operations had been taking place on the Niagara Escarpment since 1962, which led to increased concerns and campaigns from the public over protecting this unique environmental feature (Whitelaw et al., 2008). The initial boundaries for protection of the Niagara Escarpment were proposed by University of Waterloo Professor Len Gertler, as a result of a comprehensive Niagara Escarpment Study completed in 1968 (Mausberg, 2017). In response to Gertler's research, the provincial government formed the Niagara Escarpment Inter-Ministerial Task Force which carried out public consultation and developed recommendations for a provincial planning system (Whitelaw et al., 2008). Gertler's research and growing support from the public about the importance of the Niagara Escarpment is understood to be the driving forces behind pushing forward governmental processes to protect the geological landmark and marked a shift in planning regimes (Whitelaw et al., 2008).

The overarching goal of the NEPDA was to maintain the continuous natural environment of the Niagara Escarpment system, its surrounding lands and ensure the development that takes place is compatible with the environment (Whitelaw et al., 2008). However, as described by Bill Davis, former Priemer of Ontario, in Mausberg (2017), the extent of the land protected had to be reduced for this legislation to move forward. Opposition largely came from those in rural communities, whose land was being encroached upon by the proposed boundaries and the fear of reduced property values. Despite this pushback, the NEPDA was established and is considered to be the foundational legislation that would later enable greater land protection in the decades to come (Mausberg, 2017).

Decades later, came the Oak Ridges Moraine Protection Act of 2001. This legislation was similar to the NEPDA in that it protected an ecological system of great significance to Ontario, the Oak Ridges Moraine and its associated watershed system. Although implemented in 2001, the protection of the Oak Ridges Moraine had been years in the making, in large part due to several local grassroot initiatives fighting against suburban development in the 1980s (Whitelaw et al., 2008; Leffers, 2018). This collection of grassroot initiatives eventually came together to form Save the Oak Ridges Moraine Coalition, whose actions were critical in establishing the Oak Ridges Moraine as an ecological system of

significance, its need for protection and influencing government studies that enhanced its recognition and mapping of its domain (Whitelaw et al., 2008).

Critically, this movement towards protecting the Oak Ridges Moraine came to a head when a group of development companies proposed a 12,000-unit subdivision in the Town of Richmond Hill on an important natural area in the Oak Ridges Moraine (Whitelaw et al., 2008; Mausberg, 2017; Leffers, 2018). This land development proposal received significant backlash from the public. Despite the participation from the public, academics and environmental organizations in many public hearings, there was a threat that the developer's proposal would pass (Mausberg, 2017; Leffers, 2018). This widespread backlash led the provincial government to impose a six-month development freeze on the Oak Ridges Moraine, which allowed for the government to form a multi-stakeholder Advisory Panel (Whitelaw et al., 2008). The panel included representatives across various involved sectors, environmental, development, agricultural and mineral resources extraction, to collectively recommend protection policies and planning strategies for the Oak Ridges Moraine (Whitelaw et al., 2008).

Ultimately, after a year of contentious hearings and increasing public pressure, the hearings were stopped and, based on the multi-stakeholder developed recommendations made by the Advisory Panel, the then provincial government introduced the Oak Ridges Moraine Conservation Act (ORMCA), which then was unanimously passed in 2001 (Whitelaw et al., 2008; Mausberg, 2017). Shortly after, the Oak Ridge Moraine Foundation was established to serve as a funding body for the Oak Ridge Moraine and the many grassroot initiatives that continued to support stewardship activities within the protected area (Whitelaw et al., 2008).

With this, the foundation for the Greenbelt Act was established.

Lack of Indigenous engagement in Ontario Land Use Planning Legislation

It must be acknowledged that key land use planning legislation, from NEPDA 1973, to the Planning Act of 1990, ORMCA 2001, the Greenbelt Act of 2005, and municipal land use policies, included little to no mention of First Nations or Metis communities. The process of developing these policies often did little to or largely excluded consultation or collaboration with local Indigenous communities, despite the designated protected lands are located within or adjacent to currently held and/or traditional territories. Establishment of each land policy or legislation setting the precedent for the next that their inclusion was, essentially, "not necessary" (McLeod et al., 2015).

While these pieces of legislation are reflections of their time, that does not exclude the impact not being involved in decision making processes had on Indigenous communities, then and now. Indigenous peoples of Ontario hold a unique connection to the land, given their cultural, archeological, and historical ties to their traditional land and hold unique and inherent rights due to these connections as well as their marginalization since Canada's colonization (Brideau, 2019). The inherent right of duty to consult, indicates that the Crown has a duty to consult with and when appropriate accommodate impacted Indigenous communities, in certain circumstances, including land use decision making (ASI, n.d.; Brideau, 2019). While policy at the time was vague regarding the responsibility of municipalities, the provincial government did clearly have a responsibility to adhere to Indigenous rights in the case of forming provincial scaled planning and land use legislation (ASI, n.d.; Brideau, 2019). In terms of engagement, although there was not an explicit obligation to engage, it is in the interest of governments and developers to engage to enhance positive relations with interested Indigenous communities. These benefits can mean avoiding litigation, developing better relationships at all governance levels and even enhancing best practice (ASI, n.d).

Indigenous communities also possess their own self-governance and knowledge systems that today are increasingly recognized for their unique contributions to land use planning, sustainability, environmental restoration, and conservation. However, such contributions were either not known, understood, or acknowledged as credible by the dominant governance and academic systems of these decades. Therefore, it is unsurprising that Indigenous contributions were not included in the early iterations of these policies and plans (Morgan Peters, personal communication, November 25 2021). Today, each of these provincial land use planning policies do acknowledge Indigenous communities, largely through land acknowledgments or mention of their unique connections to the land. While this is a step forward, as will be explored in chapter 7, there is still much work needed to be done for proper Indigenous inclusion in land use decision making and enhancing sustainability in the region.

2.4 Establishing of the Greenbelt Act

Even though progress had been made regarding enhancing land protection in Ontario, especially with the successful implementation of the ORMCA in 2001, many highway expansion projects continued to move forward (Winfield, 2021). In the minds of those who had fought for the ORMCA, including the former heads of Environmental Defense David Donnelly and Rick Smith, there was more that could be done. When asked about what could be done next to further land protection, David Donnelly and Rick

Smith consulted with Reed Noss, a renowned conservation biologist, about the next steps and Noss proposed the idea of implementing a greenbelt. After consulting with a Liberal MPP, the promise of a greenbelt would explicitly be committed to in the Liberal provincial platform, who were elected as the new provincial government in 2003 (Mausberg, 2017; Winfield, 2021).

However, just before the change in provincial government, developers from the same Richmond Hill project in 2000 were moving forward with building (Mausberg, 2017). Despite the aggressive approach to addressing the development threat, the project went forward. Perhaps though, as reflected upon by David Donnelly and Rick Smith, this early public attention and momentum for the Greenbelt likely propelled the new government to act quicker than they may initially have planned. In the face of this initial defeat, there was an added sense of urgency to kick off greenbelt related legislation (Mausberg, 2017). It was this initial challenge that would define the debate over the Greenbelt in the years leading up its establishment in 2005, as it helped to frame the argument of the need and purpose of implementing this landscape protection policy (Mausberg, 2017). The Greenbelt could provide a way to address the broader land use planning challenge and could be a way for the numerous organizations and citizens groups to help with their own local causes while contributing to the larger goal for the province (Mausberg, 2017).

The concept of the Greenbelt and its campaign grew increasing momentum through several important contributors in these crucial years. This included the formation of the Greenbelt Alliance and the backing of key individuals at the McLean, Neptis, Ivey, Metcalf and Salamander Foundation, who's early contributions provided funding, research, resources and enhanced credibility. Additionally, the campaign gathered political support from the then Municipal Affairs Minister and several local mayors and city councils, who provided the political perspective and credibility needed to move forward with turning this concept into legislation (Mausberg, 2017).

2.4.1 Facing Fierce Opposition

This growing momentum and support for the campaign and for the Greenbelt concept itself did not come without several roadblocks. Politically, the opposition party, the Conservatives, regardless of the party's history of land protection policy, strongly opposed the proposed Greenbelt legislation (CBC News, 2006, April 20; Mausberg, 2017; B. Mausberg, personal communication, November 5, 2021; McIntosh, 2021). Additionally, the top-down framework for governing the Greenbelt and A Place to Grow Plans, while having its strengths, was not received well by some municipalities. In developing the legislation, many observed a lack of formalization of frameworks for the local and regional scale to

address governance issues, which for many municipalities felt as though the provincial government were imposing on municipal affairs. As a result, there were some municipalities who were not supportive of the Greenbelt Plan, viewing it as a plan that would limit potential for future urban expansion in their communities (MacDonald & Kiel, 2012).

Unsurprisingly, developers were also not in support of the Greenbelt, as they argued this landscape wide effort would undermine economic growth and development for the region (Deaton & Vyn, 2010; McIntosh, 2021). This stance was not completely unreasonable, as this legislation would reduce the opportunity to develop lands for urban use, which was a concern for the GGH region that would consistently have to fit the growing population and associated economic needs. At the time there was also a lack of consensus about the impacts of agricultural zoning, with debates over the negative or minimal impacts these policies had on land prices of agricultural and vacant lands (Deaton & Vyn, 2010; Liu & lynch, 2011). The Urban Development Institute at the time was highly critical of the Greenbelt Plan, calling it "fundamentally flawed", addressing the potential threat of rising housing prices that would negatively impact the economic prosperity of Ontario (MacDonald & Keil, 2012).

However, some of the strongest opposition came from the farming community. While the purpose of the Greenbelt was to preserve remaining agricultural land, that did not mean farmers were on board with the legislation. Many farmers viewed the policy as preventing individual landowners from deciding the future of their farmland, which for many was a significant threat to their future (Pond, 2009b; McIntosh, 2021; B. Mausberg, personal communication, November 5, 2021). Within the proposed Greenbelt policy, the right for development to take place on most designated agricultural land was to be removed, with no compensation. With such an action taking place at a broad scale, it left many farmers who collectively owned thousands of acres of farmland without the ability to sell it to developers at the end of their career (Pond, 2009b). This was particularly significant for farmers whose lands would be incorporated into the Greenbelt, being that they were so close to a growing urban area that could easily be sold for future developments, an option was essentially being taken away (Pond, 2009b). The farming community criticized the Greenbelt Act as they understood that they would not receive compensation for their lost property value (Drake, 2019).

The concerns over the inability to sell their lands was compounded by criticism that the Greenbelt legislation lacked consideration for the economic viability of the agricultural sector at the time for smaller, local scaled productions (MacDonald & Keil, 2012; Drake, 2019). Leading up the Greenbelt, the

agricultural industry had been undergoing considerable challenges, with rising costs, increasing competition with global markets as well as the negative impacts on the beef industry, due to the instance of mad cow disease in 2002 (Caldwell & Procter, 2013; Macdonald & Keil, 2012). All these factors had impacted many local farmers' ability to make sustained livelihoods and resulted in Farmers' increased concerns over finances (CIELP & Carter-Whitney, 2008; MacDonald & Keil, 2012; B. Mausberg, personal communication, November 5, 2021). With the Greenbelt Plan at the time focusing on land protections, it left many farmers frustrated over the lack of protections for farm businesses and the economic vitality of local agriculture (Macdonald & Keil, 2012).

2.4.2 Announcement of the Greenbelt

While there remained fierce opposition, the campaign to implement the Greenbelt forged ahead. The provincial government, stakeholder organizations, regional and local scale initiatives, and dedicated individuals all worked for several years to ensure that a permanent Greenbelt would be implemented in the province. Although the arguments against the Greenbelt were valid and acknowledge, the approach to the decision to implement this initiative was that it would not only serve Ontarians today, but future generations. On October 24, 2004, Ontario Premier Dalton McGuinty made the announcement of the drafted Greenbelt Plan and its purpose to "balance the growth of our communities with the need to preserve farmland and greenspace" (Mausberg, 2017; Greenbelt Foundation, 2020). On February 24, 2005, the Greenbelt Act, 2005 was passed and its associated Greenbelt Plan would come into effect, starting a new phase for sustainability in Ontario.

"We Just Kept on Clapping and Cheering"

What stands out to Burkhard Mausberg about that day was the response to the Premier's speech. This announcement marked the culmination of years of work that was finally being acknowledged, being heard and actually being implemented. After the speech, those in attendance rose up and clapped, as people are to do after a speech. However, this clapping continued, on and on for what Burkhard Mausberg says must have been several minutes (B. Mausberg, personal communication, November 5, 2021). Minutes may not seem like a lot, but as B. Mausberg (personal communication, November 5, 2021) remarked, when it is constant clapping for several minutes your palms tend to hurt, but the audience continued anyway, clapping, and cheering after the announcement. Burkhard Mausberg, in his time working with initiatives like these and being part of this long campaign, had never been to an event like that, where everyone just continued to clap and cheer. Perhaps it could be attributed to the thrill that this

ambitious idea had made it through such political strife and powerful opposition. Or the audience really liked to celebrate, who is to say (B. Mausberg, personal communication, November 5, 2021). When reflecting on the moment now, both Burkhard Mausberg and the then Priemer did not quite grasp the significance then, but as the years pass by, it becomes clearer the impact this public policy had and continues to have as a permanent land protection initiative (Mausberg, 2017).

2.5 The Ontario Greenbelt: The First Steps

With the establishment of the Ontario Greenbelt, for many it had been the end of a long-fought journey for land preservation, but for most it was just a beginning. The greenbelt legislation did pass, but that did not mean the opposition to it had gone with it, as the Conservative Party, developers and farmers were still strongly against the greenbelt. As explored in Ali (2008) and Han & Go (2019), strong political will and public support are key contributors to a greenbelt's success, not just in being implemented but to be sustained long term. For the time being there was political will under the current provincial government and reasonable public support. However, it was clear that there remained a significant threat to the greenbelt, if there were to be a change in government, and continued vocal pushback, the greenbelt could be canceled before it had the chance to have an impact (Mausberg, 2017; B. Mausberg, personal communication, November 5, 2021).

To serve the need for increased public awareness of the purpose of the Greenbelt and reach out to impacted communities, particularly farmers, and to build greater public support, the Friends of the Greenbelt Foundation was established in 2005. Now the "Greenbelt Foundation", it is an independent organization specifically dedicated to engaging in activities that would help support the Greenbelt. These activities included advertising, access funding opportunities for farming, environmental protection, and tourism projects, conduct research and coordinate outreach campaigns, to enhance the public's perception of the greenbelt (Greenbelt Foundation, n.d.). The Greenbelt Foundation is a unique feature among other greenbelts, as it is a non-profit that directly and specifically supports the Ontario Greenbelt, rather than other greenbelts that rely on the support of non-profit organizations that serve multiple needs and interests (Han & Go, 2019).

The first step for Greenbelt Foundation would be to engage in a huge public awareness campaign for Greenbelt which included a diverse number of activities. In the early years of the Ontario Greenbelt, the Greenbelt Foundation undertook many engagement events, to encourage people living within or near the Greenbelt to understand the multitude of benefits beyond land preservation. An early initiative was

installing “Welcome to the Greenbelt” signs across the province, reaching out to initiatives engaging in similar work to create a growing network support within the region and commissioning research for gaining greater contexts to the challenges and opportunities in the region (Mauberg, 2017). Events such as the hikes around along Rattlesnake Point along the Niagara Escarpment, Tour de Greenbelt event, which brought together local chefs, educators, vineyard owners, cyclists, entertainers, etc. and the Queen’s Park Plate Event, which brought together MPPs and mayors along with farming and environmental advocates, were some of the many events organized by FBGF that worked to highlight social connectivity opportunities the Greenbelt could offer (B. Mausberg, personal communication, November 5, 2021; Greenbelt Foundation, 2009, 2010).

The purpose of these public awareness events and campaigns, each diverse in their partners, attendees, themes, etc., were all to deepen the public’s connection with the Greenbelt, sharing stories and providing unique experiences (Greenbelt Foundation, 2008, 2009). The Greenbelt was not just a land preservation initiative, it could also be a place to hike, cycle, engage in local food and wine, connect to rural communities, interact with nature, and so much more (Greenbelt Foundation, 2008, 2009, 2010).

While there was increasing success with public awareness, arguably the most significant aspect of the public awareness campaign was reaching out to the most vocal opponents and who were also the most impacted, farmers (B. Mausberg, personal communication, November 5, 2021). In reflecting upon the early days of the Greenbelt Foundation, Mausberg explained how the approach to engaging with farmers was relatively simple, to go out and listen to farmers and landowner’s perspectives and gain a greater understanding of what they wanted/ needed (B. Mausberg, personal communication, November 5, 2021). By talking with farmers one on one, they could understand the concerns farmers had, the fear of land prices, the loss of retirement and financial security, the economic viability of local farming operations and the urban-rural divide that existed between the communities. In Mausberg’s observations, many of the challenges that Greenbelt Foundation would have to address were rooted in this culturally imposed division of the urban-rural community divide. With rural communities and farmers feeling disconnected from those who developed the Greenbelt legislation, “urban” people operating in the GTA.

Therefore, when engaging with farmers, Mausberg understood that there needed to be a more grounded approach to bridging the divide, to establish a genuine “heart to heart connection” and find common ground outside of what divided them (B. Mausberg, personal communication, November 5, 2021). When focusing on what united these communities, there was a clear answer, food. As Mausberg

said, “Everybody eats”. It brings people together socially, despite diverse cultural and religious practices all people are connected by food, something farmers could uniquely provide. This understanding, of taking a grounded approach to outreach and focusing on connecting at a human level, rather than taking a more traditional academic, economic, or even environmental approach was shared throughout the Greenbelt Foundation (B. Mausberg, personal communication, November 5, 2021). Speaking with farmers directly, listening to their concerns and understanding their perspectives helped to illuminate key takeaways that would help guide the work of Greenbelt Foundation. Generally, those in the rural communities and farmers were supportive of land protection initiatives and understood the problem the Greenbelt was attempting to address. However, they needed to be ensured that they could make a sustained livelihood, a fact made clear then and continues to be true today (B. Mausberg, personal communication, November 5, 2021; Caldwell & Procter, 2013).

Given these farmers’ proximity to a large and diverse market, there was a clear link that could be made between rural and urban communities, socially and economically (Mausberg, 2017; B. Mausberg, personal communication, November 5, 2021). It became a distinct focus of the Greenbelt Foundation that their work, whether it be in growing a network of support, accessing resources, funding, and coordinating engagement events and campaigns that local producers and farmers should be involved (Greenbelt Foundation, 2009, 2010). If farmers were the most directly impacted by its implementation and the unique role they had in providing such experiences, then it stands to reason that they should benefit from the increased awareness of the opportunities provided by the Greenbelt.

Ultimately, the cumulative work in the early years of the Greenbelt helped to cultivate deeper connections between the Greenbelt and Ontarians. Even as early as 2008/2009, surveys mandated as part of legislative review of the Greenbelt Plan in 2015 demonstrated increasing support for the Greenbelt from the public. Early public opinion survey data showed that support for Ontario Greenbelt was at 93%, with 91% of those surveyed agreeing with the statement, “The Greenbelt is one of the most important contributions of our generation to the future of Ontario” (Greenbelt Foundation, 2009). This is not to say that there were no challenges along the way.

But despite them, Mausberg (personal communication, November 5, 2021), explained how from this massive campaign effort for public awareness, there was a consistent lesson learned; “local is good”, in fact, local is great. The Greenbelt is a piece of legislation and a physical area, but it also exists as a sustainability effort that enhances the idea of investing in local, small, scaled communities, in terms of

local food, drinking water, and recreational opportunities. The Greenbelt also simultaneously demonstrated that, due to its sheer size being the world's largest Greenbelt, large-scale sustainability action could be achieved. Many of these lessons learned early in the Greenbelt establishment continue to carry through and shape current efforts related to the Greenbelt. In the end, Mausberg put it best, Greenbelt illustrated then and continues to do so now, that when working towards sustainability, "we can invest in small, but we can also get the big stuff done."

2.6 Where the Greenbelt Falls Short

The Greenbelt, as a land preservation and urban growth management effort, like any legislation at this scale, is not perfectly structured, has not avoided unintended consequences and continues to have persisting difficulties that continue to make the Greenbelt vulnerable. Such limitations should not preclude the positive impacts the Greenbelt has had on the region from the local to provincial scale. However, it is important to understand the contexts for which the Greenbelt as a growth management and land protection plan should be viewed. Identifying such limitations can also provide the opportunity for understanding where and how to continue moving forward.

2.6.1 Main Legislative and Planning Policy Shortcomings

When developing legislation, especially when it was as politically and publicly divided as the Greenbelt Act, compromises needed to be made to ensure it passes (Mausberg, 2017; B. Mausberg, personal communication, November 5, 2021). The Greenbelt Plan, while limiting development does allow for the creation and expansion of infrastructure, which includes highways, water treatment and waste management facilities, sewage systems and aggregate operations, in protected areas (MacDonald & Kiel, 2012). This expansion or creation must align with specific designations under the plan:

- "It supports agriculture, recreation and tourism, Towns/Villages and Hamlets, resource use or the rural economic activity that exists and is permitted within the Greenbelt;"
- "It serves the significant growth and economic development expected in southern Ontario beyond the Greenbelt by providing for the appropriate infrastructure connections among urban centers and between these centers and Ontario's borders."

(OMMAH, 2017)

Therefore, although there are heavier restrictions, it does not mean that development has been stopped altogether within the Greenbelt. If the need for the proposed creation or expansion of

infrastructure's uses can be demonstrated, then such projects can be approved, even if they propose developing through protected ecological sites (MacDonald & Kiel, 2012). Such a compromise is what might be considered the most significant legislative limitations of the Greenbelt Act and Plan, as it allows for continuing development within the boundaries of the Greenbelt. While this consideration was unpopular, it was understood as necessary, as municipalities have to develop in one way or another, given local changes in population needs (MacDonald & Kiel, 2012). However, the implication of this language in the legislation is that development that contributes to issues such as land fragmentation, leap-frog development[2], pollution such as highways and waste treatment operations can be implemented if it is demonstrated it "supports" economic development goals.

Infrastructure projects can be necessary, there were several examples such as the expansions to the Mid-Peninsula Corridor, Highway 404, 427 and 407 East, that, at the time, were not considered compatible with the goals of the Greenbelt (MacDonald & Kiel, 2012; Environmental Defense, 2015). Yet, they were proposed, with some, such as Highway 404, even moving forward with expansions into newly protected lands (CTV News, 2007; MacDonald & Kiel, 2012).

The lack of clarity in what can be considered infrastructure that "supports" economic and development goals or municipalities' willingness to continue ahead with outdated plans or push forward plans to shrink local Greenbelt boundaries, can lead to increased approval of infrastructure projects and associated development (Environmental Defense, 2015). As a result, there is a potential for too many infrastructure projects to be approved, many of which could be considered unnecessary and not truly aligning with the guidelines of the Greenbelt Plan. The consequence of this being that increased development of lands designated for protection could result in land fragmentation, reducing land connectivity and capacity to manage urban sprawl, some of the main purposes of the legislation's implementation (MacDonald & Kiel, 2012; Environmental Defense, 2015).

Additionally, the Greenbelt Plan has been described as having inconsistent boundaries, with considerable debate occurring over their placement and effectiveness (Fung & Conway, 2007;

[2] Leap-frog development refers to a characteristic of urban sprawl in which development "jumps" sections of land adjacent to urban areas, often seeking to develop on cheaper land, further away from already developed areas leading to further sprawl and inefficient development patterns (Brody, 2013). For the Greenbelt, leapfrogging referred to development 'jumping" to the outer edge of the Greenbelt with fewer restrictions, resulting in agricultural land and land meant to be a "buffer" that are not protected under the Greenbelt being consumed at greater rates (Pond, 2009a).

MacDonald & Kiel, 2012). Largely, developers and the farming community criticized the placement of boundaries as not scientifically based (MacDonald & Kiel, 2012). The outer boundaries for the Greenbelt were developed using more complex planning approach, incorporating existing property boundaries, roads, or rail lines, water systems, as well as growth projection data, land supply estimates, existing specialty crop areas, key natural heritage features and desirable areas for development (Fung & Conway, 2007; MacDonald & Kiel, 2012). However, when utilizing multiple different systems to develop boundaries, it made it more difficult to clearly justify and support the case for why the placement of certain boundaries were most effective (Fung & Conway, 2007). For some groups, this made the process for boundary placement less transparent to the public which was concerning as the placement of boundaries could have a profound impact on Farmers' financial stability and developers' prospects (Fung & Conway, 2007; MacDonald & Kiel, 2012).

However, some environmental groups at the time of its implementation had concerns that the Greenbelt was not expansive enough. Some environmentally sensitive areas and viable agricultural land just outside the Greenbelt boundaries were without legislative protection, particularly for space that surrounded the GTA region (Pond, 2009a; MacDonald & Kiel, 2012). There were concerns that it could lead to leapfrog development, increase pressure to develop on areas that were unprotected and leave adjacent municipalities vulnerable to the negative effects of proximity to development (MacDonald & Kiel, 2012). The 10-year plan review system was put in place to examine the impacts of the Greenbelt, as well as address concerns such as boundary placement (Fung & Conway, 2007). When the 2015 Land Use Plan Review took place, it echoed the concerns over the need to expand the Greenbelt, especially for water systems, to protect at risk land vulnerable to intensive development along the boundaries (OMMAH, 2015).

2.6.2 Unintended Consequences of the Greenbelt

The legislative and policy gaps described above are largely what gave way to the unintended consequences of Greenbelt's implementation, these mainly being intensifying development in unprotected areas and the impacts to agricultural viability. To start, while the policies are meant to preserve farmland, there is evidence that the Greenbelt legislation has intensified development pressure for land outside the Greenbelt's boundaries, leading to a loss of prime agricultural land in the unprotected countryside (Drake, 2019). Estimates have indicated that since the Greenbelt's implementation, prime agricultural land within its boundaries has not decreased and has successfully remained protected (Drake, 2019). Unfortunately,

more than 13,240 hectares of prime agricultural land that was not protected by the Greenbelt was converted through official plan amendments between 2005-2017 (Drake, 2019). This loss of unprotected agricultural land occurred in the north of the Greenbelt boundaries, but more significantly in the buffer zone, known as the Whitebelt[3], between urbanized areas and the Greenbelt, with 70% of total agricultural land lost in the unprotected countryside being attributed to this area, with this loss occurring at higher rates post Greenbelt (Drake, 2019).

Although it should be noted that these buffer lands having been made available for development is likely what reduced the potential for traditional leapfrog development, reducing the needs for counties such as Durham, York, Halton, and Peel to develop outside the northern borders of the Greenbelt (Drake, 2019). However, as this land is used up, the threat of leapfrog development will become a more significant risk, with increased pressure to develop land likely shifting to outside the northern borders of the Greenbelt. Ultimately, the loss in unprotected agricultural land suggests that the boundaries may have either not been effectively placed, or need expansion (Drake, 2019). Expansion of Greenbelt boundaries due to the greater need to preserve the remaining unprotected farmland was included in the Land Use Planning Review recommendations to enhance the effectiveness of the Greenbelt as a land planning policy (OMMAH, 2015).

Additionally, as detailed in Caldwell & Procter (2013), for many farmers, the Greenbelt plan still leads to many challenges for their community. Farmers' perspectives on the Greenbelt Plan across all municipalities consistently indicate that the policies place additional burdens onto farmers. The Greenbelt Plan adds another layer of regulation to the already existing provincial plans, environmental regulations and municipal bylaws. Additionally, many farmers report the inconsistency in how provincial policies and regulations are interpreted across municipalities and conservation authorities as well as inherent inconsistencies of the objectives or language used in these policies and regulations (Caldwell & Procter, 2013). Farmers are frustrated having to navigate through all the layers of regulations, many of which are inconsistent across jurisdictions, with a lack of legislative support. This increasingly complex system makes the process of operating and engaging in agricultural activity much longer, more difficult, and costly, sometimes outweighing the potential economic benefits from land protection or proximity to urban areas (Caldwell & Procter, 2013; Akimowicz et al., 2016). Many of these perspectives, over the observed

[3] "Whitebelt" refers parcels of disconnected unprotected lands located north of municipal urban area borders and south of Greenbelt boundaries throughout the Greater Golden Horseshoe region, meant to act as a buffer zone to accommodate for future development (Tomalty & Komorowski, 2011; Allen & Campsie, 2013).

lack of protection for agricultural viability in the many layers of regulations, echo the farming community's initial concerns with the legislation when it first was proposed. This left many farmers frustrated engaging in the consultation process with the perspective that their input was and will not be incorporated as policies and regulations evolve (Caldwell & Procter, 2013).

This is not to say that such challenges to the agricultural industry are universal throughout the Greenbelt or are not being actively addressed. Many farmers in Caldwell & Procter (2013) were not frustrated specifically with the agricultural protection objectives of the Greenbelt Plan. In fact, many wanted prime agricultural land to be protected from development, especially to make long term investment decisions for their business. From many farmers' perspectives, operations would likely be smoother if they were aware that adjacent land would not be developed for urban uses (Caldwell & Procter, 2013). Shortly (2020), indicated that land use policy is increasingly aiming to address rural-urban conflicts by containing non-agricultural development to settlement areas to protect the agricultural land base. Furthermore, to address the lack of understanding of agricultural practices in many rural-urban interface areas, many rural communities are investing in educating residents about farming practices and work to consult farmers about upcoming development projects (Shortly, 2020).

2.7 The Ontario Greenbelt Today

The Greenbelt has now been in place for almost 20 years, having surpassed what may have been initially believed to be possible at the time of its passing in 2005, given the uncertainty of the public and political will in the years following its establishment. However, in large part due to early public engagement and awareness efforts, the Greenbelt has both physically and conceptually grown. In terms of public support and perception of the Greenbelt, this has only continued to grow, with increasingly widespread support from the public about the Greenbelt and protecting greenspace in Southern Ontario observed as early as 2010 (Greenbelt Foundation 2009, 2010). Most recent surveys conducted by the Greenbelt Foundation have demonstrated support for the Greenbelt is over 90%, with 84% considering it a great source of pride to the province and 86% agreeing that it is one of the most important contributions to future generations of Ontario (Greenbelt Foundation, 2021d). In these public awareness efforts, an important aspect was not just the "aided awareness", in which people are asked specifically about the Greenbelt, but the "unaided awareness", in which people would bring up the Greenbelt themselves. In this case, asking questions to the public about what land protection policies they were aware of in the

province, with 10-15% of respondents bringing up the Greenbelt themselves, generally indicating a greater awareness of the Greenbelt (B. Mausberg, personal communication, November 5, 2021).

Physically, the Greenbelt has continued to steadily grow, with the most significant expansion occurring in 2017 with the inclusion of 21 urban river valley systems and 7 coastal wetlands (Greenbelt Foundation, n.d.). This addition was of great significance as these urban river valley systems and coastal wetlands were specifically included in the "Shaping Land Use in the Greater Golden Horseshoe" report recommendations for expanding the Greenbelt (OMMAH, 2016). Recommendations for expanding the Greenbelt also included four parcels of land identified by the City of Hamilton and Niagara Region to be added to the Protected Countryside (OMMAH, 2016). A key takeaway from the OMMAH (2016) report was also the need to prioritize and enhance natural heritage and water protection policies throughout the GGH. These policies would be consistent with the Greenbelt policies to enhance, not just greater protections for lands but, most significantly, water resources.

The Greenbelt has expanded beyond a protection policy and into a framework for enhancing sustainability throughout the province. Although the Greenbelt is a land use preservation effort, it can also be viewed as an economic "powerhouse" for the region, contributing billions annually to the economy from the local to provincial level, providing thousands of jobs and being the primary driver for several unique industries in the region (Mausberg, 2017). Additionally, due to the protection of terrestrial and watershed lands, the Greenbelt is a major source of natural infrastructure for the region. The Greenbelt region provides an estimated $3.2 billion annually in ecosystem services from processes that help to provide clean drinking water, flood mitigation, nutrient and waste regulation, carbon sequestration, recreation, and biodiversity (Anielski, 2019; Greenbelt Foundation, 2021a). This natural infrastructure has allowed for 71 million tons of carbon to be stored and averted 485,000 tons of pollutants away from the GTA since 2005 (Mausberg, 2017).

With the continued persistence of the Greenbelt, the Greenbelt Foundation have been able to pursue a number of projects throughout the region, that span across the many sectors involved in the Greenbelt, such as rural economic growth, local food economies, climate resilience and natural infrastructure, recreation, tourism and meaningful engagement (Greenbelt Foundation, 2020; Greenbelt Foundation, 2021a). The Greenbelt Foundation Annual 2020/2021 report indicates that the Foundation has: contributed over $100 million in strategic projects and partnerships, awarded grants to 300 organizations, published 13 reports stemming from strategic research projects, and enhanced public

awareness through social media, public service announcements, and new releases, allowing the foundation to reach more throughout the province than ever before (Greenbelt Foundation, 2021a). Between the years of 2018-2020, the Greenbelt Foundation estimated that their impact on Ontario communities included: awarding 72 grants to local organizations, communities, and leaders, publishing a total of 37 research papers, and engaging 2000 youth and volunteers in nature baked programming (Greenbelt Foundation, 2020a).

Many of these efforts are not just concentrated on land preservation, but focus on climate resilience, economic development, community development, local food systems, aspects that the Greenbelt Plan initially laid out as part of its vision. Along with protecting agricultural and ecological land, the plan aims to additionally support "diverse range of economic and social activities associated with rural communities, agriculture, tourism, recreation and resource uses" and build resilience and enhance mitigation efforts against climate change (Greenbelt Plan, 2017). Thus, with the help of the Greenbelt Foundation and a network of numerous initiatives, the Greenbelt provides a centralized site where people can pursue sustainability through multiple avenues. With increased support and awareness to the Greenbelt has come an increase in resources, willingness, and capacity to explore diverse ecological, agricultural, economic, and social opportunities available in the region.

2.7.1 Recent Greenbelt Projects

There continues to be impactful work being conducted in the region. Many of which demonstrate the new direction being taken by the Greenbelt, the Greenbelt Foundation, and the broader network of initiatives. Increasingly incorporating collaborative, diverse, and efficient strategies for more effective socio-ecological sustainability efforts, to reflect the enhanced knowledge of today and the needs of the future.

To start, the Near Urban Nature Network project undertaken by the Southern Ontario Nature Coalition, which aims to study the impact of ecological features located near or within urban areas. The Southern Ontario Nature Coalition is a diverse collective of provincial, regional, and community-based conservation organizations, including the Greenbelt Foundation, land-based policy experts, and Indigenous consultants, all with collective interests in contributing to national conservation goals and ecological restoration (Southern Ontario Nature Coalition, 2021). This transdisciplinary research project provides an in-depth explanation of near urban nature, their contributions and why they are important,

such as their climate resilience capacity in GGH communities, while also providing recommendations on how to protect near-urban nature (Greenbelt Foundation, 2021d).

What can be considered the most notable aspect of this project, is the focus on the integration of multiple intersecting perspectives and disciplines when conducting research, particularly Indigenous collaboration. The Near Urban Nature Network project aims to deliver on some of the Truth and Reconciliation Calls to Action, specifically in working to re-shape human's relationship with nature (Southern Ontario Nature Coalition, 2021). As part of this process, important Indigenous ways of knowing were included as part of the research, including the principles of Seven Grandfather teachings, the Medicine Wheel, and creating Ethical Space to allow Indigenous individuals and communities to share their knowledge (Southern Ontario Nature Coalition, 2021). Thus, while this project has clear ecological applications, it also serves as an example of how intersectional research can actively work to incorporate Indigenous communities' knowledge and perspectives. This project marks an important path being put forward for sustainability work in the Greenbelt region of incorporating, rather than ignoring Indigenous voices on collectively shared land.

Next, several projects across the different sectors of the Greenbelt work within, namely environment, agriculture, and economics, are focusing on enhancing climate resilience at the communities and provincial level within the Greenbelt. In addition to the Near Urban Nature Network project, is the Greenbelt Foundation supporting the Municipal Natural Assets Initiative, in which 10 municipalities are gathering inventories of their natural assets to help develop fully realized natural asset management plans (Greenbelt Foundation, 2021a). Natural assets are critical as the impacts of climate begin to intensify, as their natural infrastructure capabilities can help to enhance resilience against anticipated challenges for Southern Ontario, including flooding, water quality issues and rising temperatures (Alenski et al., 2019).

Additionally in recent years, the Greenbelt Foundation has partnered with experts across several fields, health, biodiversity, gardening, pollinators, etc., supporting research into the Greenbelt's contribution to climate resilience in their "In a Changing Climate" series. This effort aims to highlight the interconnections people share with the Greenbelt and how the lands being stewarded will help local communities and the region collectively to adapt to climate change (Greenbelt Foundation, 2019b).

Agriculturally, research projects such as "The Power of Soil" and "Farming in Climate Change Reports" are aiming to better understand how arguably the most significant Greenbelt sectors will be impacted by climate change (Luymes, 2015; Equiterre & Greenbelt Foundation, 2021). Providing not

only a more informed idea of how the region will change ecologically as the climate changes, but recommendation of best practices and policies that should be pursued to accommodate farmers and ensure their operations are sustained. Results from each report consistently indicate the importance maintaining healthy soil will play as the climate changes, the needs for greater accessibility to new emerging technologies and resources and increased support for local farming operations (Luymes, 2015; Equiterre & Greenbelt Foundation, 2021).

2.8 Threats to the Greenbelt and What Lies Ahead

"That's one thing we, genuinely, have to always keep in mind. Time and growth are the biggest threats to the Greenbelt." (Mausberg, 2017, p. 11).

The Greenbelt has continually grown in its impact and influence since its implementation, undergoing legislative revision, gaining greater support and political will. The power of this public support was evident in the campaign against Bill 66, and the continuing opposition to the proposed 400 highway projects. Several environmental groups, including Ontario Nature and Environmental Defense, who conducted campaigns or provided resources to contact local MPs to voice opposition to Bill 66, in large part due to the negative implications the bill would have on the Greenbelt (Ontario Nature, n.d.; Gray, 2018). Furthermore, large urban municipalities, including the Waterloo region, City of Toronto Council and Vaughn city council officially opposed the plans for the new 400 series highway and supported the letter signed by scientists asking for a federal rather than provincial environmental assessment. There was strong indication of public and local scaled political opposition proposed project, which is anticipated to have negative implications agriculturally and environmentally, with protecting the Greenbelt specifically being cited as a concern (McGillvary, 2021; CBC News, 2021).

However, despite its continual growth and consistent efforts by the public and environmental organizations to oppose larger highways projects, the Greenbelt remains vulnerable, particularly to its legislative gaps and shifting political will that threatens its long-term viability and ability to fulfill its objectives. This could not have been more evident than the most recent controversy surrounding the Greenbelt. Unlike the proposal of large but individual development projects mentioned above, this controversy threatened the Greenbelt Act itself and its very purpose, undermining the legislation and its long-term goals of protecting lands for current and future Ontarians.

On November 2, 2022, it was announced that 7,400 acres of land from 15 different areas of the Greenbelt would be used for development to build 50,000 homes, while adding 9,400 acres Paris Galt Moraine in Wellington County, an amendment known as the Greenbelt "land swap" (Government of Ontario, 2022; The Canadian Press, 2023). This proposal aligned with previous actions of the provincial government, which had engaged in measures to expand housing construction to address Ontario's housing crisis, while limiting environmental and planning regulations, causing many to worry about the clear environmental risks (Syed & McIntosh, 2022). However, this announcement contradicted several public statements made by Priemer Doug Ford, such as in 2018, "Unequivocally, we won't touch the Greenbelt. I've heard it loud and clear; people don't want me touching the Greenbelt, we won't touch the Greenbelt," and in 2021, stating the Greenbelt would not be open "to any kind of development." (Callan & D'Mello, 2023; The Canadian Press, 2023).

This decision drew immediate criticism from those within planning, environmental organizations, and the public for its implications on the Greenbelt legislation itself, its environmental impact and legitimacy as a land use planning decision. Despite this initial proposal planning to add new lands, the idea of a "land swap" threatened the strength of the Greenbelt legislation, undermining its goals to protect lands in perpetuity. By allowing this proposal to move forward, it would open the potential for further development proposals on Greenbelt lands (McIntosh, 2022). These concerns we later realized when several requests to build on further Greenbelt lands took place in the following months, many of whom were made by developers (McIntosh, 2023a). Ultimately, this action would de-legitimize the strength of the Greenbelt legislation and significantly impact its ability to adhere to its long-term sustainability goals.

Ecologically, the cutting up of different lands further threatens the Greenbelt's goal of habitat connectivity, as the design of the land boundaries intends to protect critical ecosystems. While the legislation itself does permit land swaps, they were not intended as the swapping of land could lead to the shifting of Greenbelt boundaries and fragmenting the lands intended to be protected (McIntosh, 2022). Additionally, as explored earlier in section 2.1.3, the Greenbelt protects some of the most fertile agricultural land in the country and many ecologically significant habitats that are home to rare and at-risk species. Much of which would be further threatened if the precedent of land swapping were allowed. In the face of the climate change, the region will face extreme heat and

flooding, which can be mitigated by the ecological services provided by the Greenbelt, which could be reduced if the functioning of key ecosystems is significantly impacted (McIntosh, 2021).

Additionally, there were further criticisms about the necessity of using Greenbelt lands for housing development to address the housing crisis. First, while there is a need to build more homes, the shortage of land is understood to not be a credible factor contributing to the housing crisis (OMMAH, 2022d; McIntosh, 2022). There is land, approximately 88,000 acres, designated under urban boundaries available for development that are estimated to accommodate for population projection (Crombie & Golden, 2022). Several housing development projects are being approved but not yet build in some of Ontario's largest municipalities (Bell, 2022). Rather, land has historically been developed inefficiently through urban sprawl, which spurred the creation of the Greenbelt in the first place (McIntosh, 2022). To address housing affordability effectively, development should follow more efficient patterns of greater density in urban areas, to promote walkable neighbourhoods and make use of existing infrastructure and services (OMMAH, 2022d; Bell, 2022). Furthermore, policy changes are needed to actively address housing prices and availability that includes limiting profit-driven development, investor purchasing, zoning that only permits single or semi-detached homes and inefficiencies in the planning process (Crombie & Golden, 2022; OMMAH, 2022d; Bell, 2022). The provincial government's justification for developing Greenbelt lands were understood to not be an effective strategy for actively addressing the root of the housing crisis and the proposed developments would continue that pattern of inefficient land use.

However, beyond these criticisms, it was the process leading up to the decision and the lands that would be developed, that led to further controversy. In the following weeks, it was reported that the Greenbelt lands that were set to be developed belonged to prominent Ontario developers (Syed et al., 2023). Later, a joint investigating by The Narwhal and the Toronto Star revealed that parcels of these very lands were bought soon after Ford's election in 2018, land that would be economically unviable given they could not be developed. The developers who bought these lands were directly tied to the Ford government through personal ties, lobbying efforts, and donations to the party (McIntosh et al., 2022). However, the Ford government, including Ford and the Minister of Housing at the time, Steven Clark claimed that no one tipped off developers about which parcels of Greenbelt land would be sold off (Syed, 2023). In response increasing skepticism by the public and opposition parties, multiple investigations were initiated, including one by the Auditor General, integrity

commission and the OPP, who would later give the investigation to the RCMP (Syed et al., 2023; The Canadian Press, 2023).

The Auditor General's report concluded that there had been involvement with a Ford government staffer in directing the process of which lands would be removed and "preferential treatment" was given to a group of developers. Furthermore, the Ford government has rushed the comprehensive process of adjusting Greenbelt land boundaries, with a clear lack of transparency in the decision-making (Syed, 2023). This rushed process was further criticized by Ontario First Nation chiefs, who unanimously voted to oppose the land removal, indicating that they were not consulted on land removal involving lands on their territory. Several chiefs, including chiefs of Alderville First Nation and Hiawatha First Nation indicated that treaty holder's rights had not been respected and that without proper consultation and informed consent, the proposal to swap the lands had violated the Williams Treaties[4] (Casey, 2023).

Despite the Auditor General's report, disapproval from the Ontario First Nation chiefs, and public backlash, the Ford government would not re-evaluate the decision on the Greenbelt lands. Thus, a series of continuing work to reverse the decision took place, including further investigation into the developers who would most benefit from the land swap, potential involvement by the Federal government, prominent environment organizations voicing their opposition, further revelations about Ford's direct connection to the decision, resignations from the Greenbelt Council in protest and public demonstrations (Syed et al., 2023). In response to the backlash came prominent government resignations, including Clark's chief of staff and later Clark himself (The Canadian Press, 2023). Finally, after almost a year, Ford announced a reversal of the controversial decision to remove

[4] William Treaties refers to a collection of treaties, signed in 1923 by the Federal and Government of Ontario and First Nations of the Chippewa of Lake Simcoe, including Beausoleil, Georgina Island and Rama, and the Mississauga of the north shore of Lake Ontario, including Alderville, Curve Lake, Hiawatha and Scugog Island. Historical treaties prior to the Williams Treaties in Ontario provided hunting and fishing rights to local first Nations, however much of the land in Ontario was not surrendered and the signing of the Williams Treaties aimed to address the disputes over land claims. However, the William Treaties transferred large tracts of land from the First Nations to the Ontario and Canadian governments and terminated their hunting and fishing rights. Fist Nations would not relinquish their rights and were faced with harassment and prosecution when engaging in their traditional practices. In 1992, impacted First Nations filed a lawsuit to fight for their lands, indicating that Canada had failed to uphold its obligations. The Government of Canada and Ontario reached a settlement in 2018, which included financial compensation, additional reserve lands and the recognition of the First Nations to hunt, fish and trap on their lands (Wallace, 2020; Manners, 2022).

Greenbelt lands and weeks later, the new Minister of Housing introduced a bill that would return all 7400 acres of Greenbelt land. While the bill intends to make it more difficult for a government to repeat such actions in the future, it also shields potential legal actions against the government and does not further protect the Greenbelt from future land swaps. The bill and current actions from the Ford government do not demonstrate actions to strengthen Greenbelt legislation, with worries surround the Greenbelt's 10-year review and continuing push for project like HWY 413 and the Bradford Bypass (McIntosh, 2023b).

Ultimately, this most recent controversy exemplifies the risk still faced by the Greenbelt, through legislative loopholes and lack of political will. However, it further demonstrates the support and care the public hold for the Greenbelt, understanding its socio-ecological contributions to the province. While the attempts to diminish the Greenbelt have been taking place since its establishment, this latest attempt reflects the impact of governments who lack political will to support greenbelt policies, while misunderstanding public will. Potentially believing that people would allow the land swap to occur, and that people would not look further and accept the justification that Greenbelts lands were worth sacrificing for development. However, this was clearly not the case. It is from the dedicated efforts of environmental organizations, including the Greenbelt Foundation, Environmental Defense, Ontario Nature, journalists, particularly at The Narwhal and Toronto Star, and the public that led to the reversal of this decision. This organizing, investigating and demands for transparency still took several months and there has been little effort to further ensure that the Ontario Greenbelt cannot be subject to a similar process in the future.

While the Greenbelt may currently be intact, there will continue to be important work that takes place to uphold and ensure all people, the public and those who hold political influence. To understand the significant role the Greenbelt plays in contributions to current and long-term sustainability goals. This MRP will be part of contributing to this understanding, with the exploration of the community initiatives that are active within the region demonstrating the pathways to sustainability that are taking place and what can be learned from them.

Chapter 3. Literature Review: Foundations of Sustainability, Parameters of a Good Community and Meaningful Engagement

This master's research paper applies a sustainability lens to identifying and examining especially successful community and regional scale initiatives in Ontario's Greenbelt. To provide a conceptual foundation, this chapter surveys the core requirements for progress towards sustainability in socio-ecological systems, for contributing to sustainability at the regional/scale communities, and for sustainability-oriented initiatives that engage effectively with the relevant people and organizations. The findings will be used to inform development of criteria for selecting three exemplary initiatives and construction of a framework for describing, assessing, and comparing the three initiatives, to be presented in chapter 4.

3.1 Literature Research Process

Searching the literature requires important considerations of where and how the literature is found, as the quality and relevancy of an article is dependent upon where it has been published and what it is categorized as. Suggestions from the graduate supervisor and other SERS faculty were also used to provide identify what will be relevant and should be included, such as the work of Gibson et al. (2005, 2017) as a foundation for the criteria for selecting and evaluating the case initiatives.

Searching the literature begins with applying the proper research search engines and electronic databases, these included Google Scholar, EBSCO, ProQuest, ScienceDirect, JSTOR, and the University of Waterloo electronic library database. Electronic databases are applicable for this literature review as most relevant research will likely have occurred in recent decades with an increased likelihood of the relevant literature being digitalized. Keywords/ key phrases derived from the research question were developed to find relevant literature. For this MRP these keywords/ phrases included: "socio-ecological sustainability", "resilience AND sustainability", resilience AND transformation", "socio-ecological equity", "community sustainability", "community engagement", "social capital", "sense of place AND community", "sustainability success", and "effective factors of sustainability".

Furthermore, back and forward searching, which involves searching articles cited by relevant articles and have cited the article since its publication respectively, was applied to find relevant articles to explore topics of interest (Xiao & Watson, 2019). Prominent or reoccurring articles mentioned and

cited during the research process were noted and often included as part of the literature review given the foundational knowledge or specific gap in research they address in the literature.

3.2 Foundational Concepts of Sustainability

Sustainability can be and has been defined and used in a diversity of ways. That is not surprising since the concept itself is a broad, holistic, and systematic view of a system's capacity to maintain its processes and functions (Fath, 2014). Over the past four decades and more of deliberations and applications, however, the literature on sustainability has come to some rough consensus on the fundamentals.

3.2.1 A Brief History of Sustainability

Attention to sustainability and sustainable development at a global scale, arose largely in response to the historic Brundtland Commission report, *Our Common Future* (World Commission on Environment and Development, 1987). The Commission and its report addressed the conjunction of two themes: environment and development. The Brundtland Commission report proposed sustainable development as a response to evidence that established approaches to economic growth were failing to provide even the basic for healthy lives for all while also compromising the integrity of ecological systems and exceeding the biosphere's capacity to supply ever-more resources, (Brundtland, 1987; Gibson et al., 2017). In the Brundtland Commission report, sustainable development is defined as "meeting the needs and aspirations of the present generation without compromising the ability of future generations to meet their needs" (Brundtland, 1987, p. 292). Critically, the Brundtland Commission recognized the inherent relationships among social, environmental, and economic issues – with recognition that changes in each area could be positive and mutually reinforcing contributions to sustainability, as opposed to being seen as necessarily in opposition. Consequently, sustainable development could be pursued by respecting environmental conditions and limits, while making economic and social advances for the welfare of future generations (Brundtland, 1987).

Since the Brundtland Commission report, there has been much debate in literature, economic forums, and policymaking over the proper definition of sustainability, sustainable development and what this definition exactly entails (Hansmann et al., 2012; Gibson et al., 2017; Purvis et al., 2018). The terms are often defined differently depending on the key interests of the authors and/or the contexts in which the term is being applied. For this research paper, the focus will be on "sustainability" to minimize confusion with the diverse positions on the meaning of sustainable development. Ultimately, sustainability and sustainable development are generally understood to be socially just and ethically responsible for society

as they are beneficial and necessary to achieve lasting well-being (Hansmann et al., 2012; Gibson et al., 2017).

3.2.2 "Three Pillar" Sustainability Conceptualization

A still prevalent conceptual understanding of sustainability in the literature employs the "three pillars" metaphor, describing the sustainability objective as achieving balance in the trade-offs between the environmental, social, and economic aspects of the system (Purvis et al., 2018). The three pillars description for sustainability has been especially popular in mainstream policy and business literature, Various depictions of the concept are seen in Fig 2., additional pillars included in some analysis of sustainability include technical (Hill and Bowen 1997), institutional (Spangenberg et al. 2002; Turcu 2012), and cultural (Soini and Birkeland 2014).

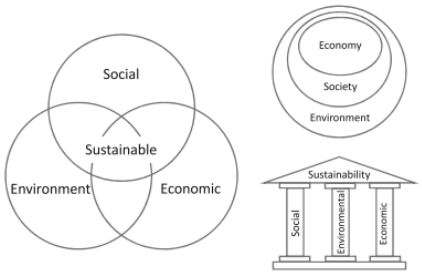

Figure 2: Representations of the "three pillars of sustainability" concept, depicting the social, economic and environmental aspects of a system as intersecting circles, concentric circles and literal pillars to demonstrate how each interact with one another to support sustainability (Purvis et al., 2018)

The three-pillars of sustainability conceptualization provides an effective starting point for understanding sustainability insofar as it demonstrates how sustainability often lies at the intersection of social, economic, and ecological systems, where they should complement one another. However, this conception of sustainability has been criticized for presented the social, economic, and ecological pillars as three separate systems of competing interests, as opposed to a holistic approach that recognizes the linkages and interdependencies between them and seeks alignment and mutual support (Pope et al., 200). From the separate and competing systems perspective, particular interests may favour one pillar over another or aim only for a balancing of conflicting priorities and assume trade-offs are inevitable (Pope et al., 2004; Hansmann et al., 2012; Purvis et al., 2019).

Gibson et al. (2005) and later Gibson (2016) argue that approaches to understanding sustainability should look beyond conventional systems and practice, with an approach based on core requirements for progress towards sustainability that emphasize interconnectivity, appreciate complexity, and uncertainty.

3.2.3 Appreciation of Complexity

Sustainability scholars and practitioners have increasingly recognized the interconnections between human and ecological systems driving continuing unsustainability. At the same time, however, the understanding of complexity has also evolved. Historically, attention to the complexity of human and natural systems was discouraged by the traditional separation of ecological, science and social science research. These fields often worked independently of one another to address similar or the same societal challenges (Liu et al., 2007). Increasingly, sustainability research and thinking developed more interdisciplinary approaches, integrating ecological, science and social science impacts into frameworks, assessments, and research to account for the complex interactions among these systems (Liu et al., 2007).

Notable in complexity understanding was the work of C.S. Holling, who built upon emerging ideas concerning the sustainability of social-ecological systems. Holling (2001), *Understanding the Complexity of Economic, Ecological, and Social Systems,* outlined key concepts to understanding the evolving, dynamic nature of adaptive systems, including ecological, governance and social-ecological systems. Systems are composed of hierarchies, not in the "top down, authoritative" sense, but as self-regulating levels of interactions that transfer information within and across each level to maintain systems' integrity. The organization and functioning of these systems fall within adaptive cycles, which describe a system's responses to changes, through exploitation, conservation, collapse/ release, and potential re-organization into a new system (Holling, 2001).

Systems are to be understood as dynamic and non-linear across spatial and temporal scales, but there are thresholds, transition points between alternative states that must be considered whether the intention is to spur transition to a new and preferred state or to mitigate impacts to avoid reaching thresholds (Holling, 2001; Liu et al., 2007). Inherently, complexity leads to surprises and uncertainty, which should be expected and embraced when engaging with a system to develop alternative and adaptable approaches (Liu et al., 2007; Gibson et al., 2017).

3.2.4 Social-Ecological Systems Perspective

The concept of social-ecological systems focuses on the interdependent linkages between social and environmental change. This interconnectivity impacts achieving sustainability across different systems and scales. The concept was brought to the sustainability research mainstream by Berkes & Folke (1998). Social-ecological systems thinking provides a framework for understanding the complexities and feedbacks between ecosystems and human institutions and how that can contribute to or undermine system resilience. The complex dynamics within and among systems often lead to surprise and uncertainty (Berkes & Folke, 1998; Fischer et al., 2015; Colding & Barthel, 2019).

Building on the understanding of social-ecological systems research, Anderies et al. (2004) developed a model for examining the "robustness" of social-ecological systems, highlighting the key interactions that contributed to system resilience (Colding & Barthel, 2019). Anderies et al. (2004) would also develop a more comprehensive definition of social-ecological systems, "an ecological system intricately linked with and affected by one or more social systems. An ecological system can loosely be defined as an interdependent system of organisms or biological units. 'Social' simply means "tending to form cooperative and interdependent relationships with others of one's kinds."

The evolving social-ecological system and complexity literature would later contribute to the work of Elinor Ostrom. Ostrom (2007) challenged the idea in sustainability science that threats to social-ecological systems, largely the over-exploitation of resources, could be solved through "panaceas", or universal solutions. Particularly interested in the challenges of managing broadly shared common property resources, Ostrom advocated study of the complexities of multivariable, nonlinear, cross-scale, and dynamic social-ecological systems and their multiple interacting subsystems as an interdisciplinary approach to understanding these challenges and potentially effective solutions Ostrom (2009). Figure 3 presents Ostrom's (2009) social-ecological systems framework for understanding the key external and internal components and interactions that drive sustainability-related change in social-ecological systems.

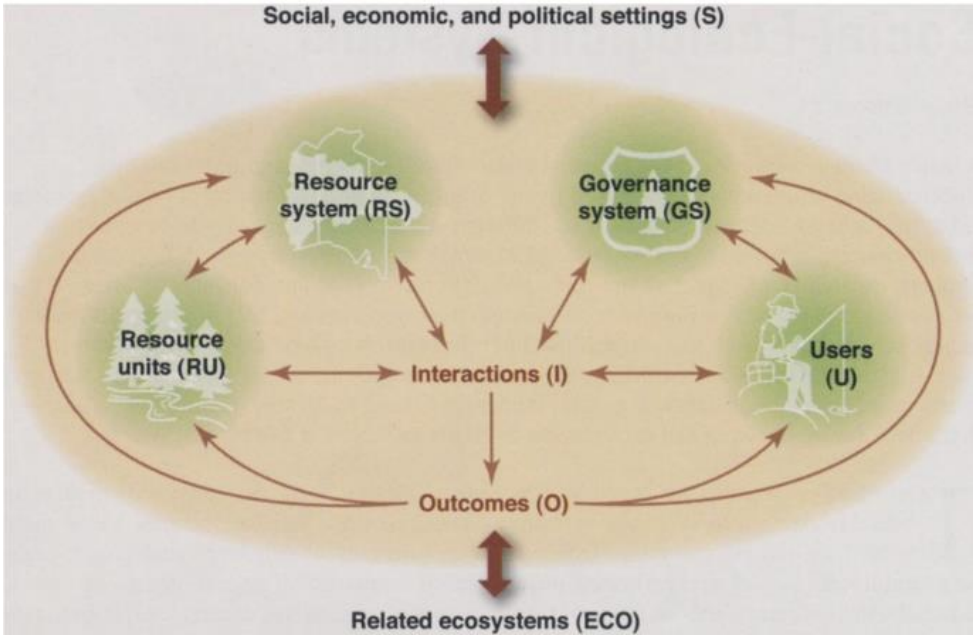

Figure 3: Ostrom (2009) proposed framework for analyzing social-ecological systems, outlining the core subsystems and relationships among them affect each one another, as well as linked social, economic, and political settings that engage with the system. Each core subsystem depicted is made up of their own multiple levels and variables

Social-ecological systems research is interdisciplinary. It explores the complex, interconnecting dimensions of a system that is linked to other systems and is meant to be flexible and applied broadly in different contexts (Scholz & Binder, 2011; Partelow, 2018). Fischer et al. (2015) argue that understanding the interconnected dynamics of social and environmental change in complex social-ecological systems helped sustainability science to recognize human connections to nature, improve research collaboration, expand interdisciplinarity and openness to applying multiple concepts and methodologies, and include social-ecological systems thinking into policy frameworks (Fischer et al., 2015). Echoing Ostrom (2007), Gibson et al. (2016) discusses how recognition of complexity facilitates exploration of alternatives to previously accepted, simplistic ideas, over confidence and "one size fits all" solutions that were not effective to addressing sustainability challenges.

While sustainability science continues to advance, in part due to the increased application of social–ecological systems thinking, the impact of this research remains in question (Fischer et al., 2015; Partelow, 2016). However, it has at least provided a foundation for understanding that systems are

dynamic, multi-scaled, and characterized by interconnected relationships among their social, ecological, economic, cultural and institutional aspects (Fischer et al., 2015; Colding & Barthel, 2019).

3.2.5 Resilience and Transformation

Embedded in the concept and understanding of system complexity and functioning social-ecological systems are the phenomena of resilience and transformation (Holling, 2001; Walker and Salt, 2012). Resilience is understood as the ability of a system to absorb disturbances while maintaining its functioning and structure, with special attention to desirable systems in which we hope to maintain the self-organizing processes in place (Walker et al., 2004; Walker, 2015). The notion of resilience in social-ecological systems specifically emphasizes the networks of interconnectivity between human and natural systems (Walker et al., 2004; Reyers et al., 2022). Resilience emerges due to mutually supporting interactions among the different scales and levels of a social-ecological system and represents the ability of people, communities, and societies as well as their surrounding ecosystems to adapt to change or transform within the dynamic systems they engage in (Cote & Nightingale, 2012; Reyers et al., 2022).

Transformation describes the capacity to create a fundamentally new system when current conditions are no longer sustainable, establishing a new stability landscape with new variables and adaptive cycles (Walker et al., 2004). Within a social-ecological system, greater resilience reflects the greater capacity to adapt to disturbance and surprises, and sustain its current regimes (Walker & Salt, 2006). Transformation and adaptation are often considered concepts within sustainability and resilience thinking, as the ability to transform all or parts of the systems is indicative of a system's overall resiliency (Walker et al., 2004: Walker & Salt, 2012). However, transformation is also being studied as its own distinct concept, with increasing research opportunities in exploring how transformation can take place and what transformed systems will look like (Pelling 2011; Wilson et al. 2013). Because attention to the transformation and adaptability of complex systems in resilience thinking is relatively new (Bennett et al., 2019; Zanotti et al., 2020), this paper will consider transformation simply as a requirement for progress towards sustainability and complex systems that are resilient and desirable.

Walker & Salt (2006, 2012) highlight effective practices of resilience thinking that are apparent in resilience and sustainability literature and that merit consideration when assessing the "success" of a sustainability-enhancing initiative, such as those examined in the case studies here. Resilience thinking in practice involves thinking in multiple scales to appreciate complexity, focusing on thresholds, embracing uncertainty and change, fostering innovative and unconventional new ideas and finally, incorporating

governance and public engagement in practice (Walker & Salt, 2012). Resilience, as emphasized by Walker & Salt (2012), is a key to sustainability. When developing solutions that aim to enhance sustainability, resilience thinking practices should be applied to ensure that all aspects of a system are being addressed and moving beyond conventional, narrow scoped practices. A resilient world is one that promotes diversity, variability, modularity, different components of a systems working interdependently, redundancy, inclusion of alternatives or "fail safes" for use when subsystems fail, social networks and a culture of valuing all those within the biosphere (Walker & Salt, 2012; Cote & Nightingale, 2012).

3.2.6 Role of Equity in Achieving Sustainability

The growing recognition of environmental impacts exceeding the biosphere's capacity has been accompanied by the recognition of social inequities due to the inequitable sharing of resources and conventional economic approaches (Steffan & Smith, 2013; Leach et al., 2018). The Brundtland Commission saw the two problems as inherently linked and proposed sustainable development as a response to both (Brundtland, 1987). Nonetheless, equity has been a concept largely explored separately in social science.

Equity is the concept that all people should have what they need to ensure their wellbeing, as opposed to equality, which refers more to people being treated the same way (Leach et al., 2018). Equity takes into consideration justice, fairness, socio-economic and cultural contexts for people's material as well as their mental wellbeing, which includes being treated with fairness, respect, and appreciation (Sen, 2009). With the growing recognition of complexity and interconnectivity within systems, societal challenges of environmental degradation, social injustice, economic inequality, sustaining livelihoods are increasingly understood to be inherently linked. Equity is thus critical aspect of sustainability, involving the equitable distribution of resources, democratic empowerment reflected in equitable ability to participate in decision making processes, and the moral treatment all people and ecosystems with respect (Fleurbaey et al., 2014; Leach et al., 2018). As emphasized by Bennett et al. (2019), is the pursuit of transformations toward sustainability, when developing pathways towards a more sustainable future, justice, in terms of distributional, recognitional and procedural, must be considered in decision making and meaningful engagement. Furthermore, equity's role in sustainability is featured prominently across Intergovernmental Panel on Climate Change reports and the United Nations 17 Sustainability Goals, specifically goal 5, achieving gender equality and 10, reducing inequality between countries (Fleurbaey et al., 2014; United Nations, 2022).

Underlying sustainability is the concept of intergenerational equity. Included even as early as the Brundtland Commission report, the concept recognized the need to achieve lasting wellbeing for future generations. When working towards sustainability, the benefits created for the current generation should not infringe on the needs of future generations and therefore, long-term thinking and respect for biophysical limits is obligatory (Leach et al., 2018). At the same time, action to improve intragenerational equity is crucial. That involves ensuring that benefits from sustainable systems, whether they be economic opportunities, ecological integrity, connections to community etc., are equitably shared by all in a social-ecological system. Systematic racial, social and economic injustice often means that conventional ways of working to enhance benefits in a system create benefits for some and the costs often fall on those who are already disadvantaged (Okereke, 2011). For a system to be truly sustainable, solutions must ensure that current unequitable systems are not perpetuated, but instead, benefits are shared with all, particularly for those who are marginalized or who bear the costs.

3.2.7 Criteria based on the Core Requirements for Progress Towards Sustainability in Social-Ecological Systems

Considering the evolving literature of sustainability and the key components needed to understand what drives sustainability in social-ecological systems, Gibson et al. (2005, 2016) propose a principle-based approach, which rests on the core interacting requirements for progress towards sustainability. To move toward sustainability requires understanding human and biological limits, redistributing the benefits of resources and technology to benefit all, facilitating active public participation, appreciating complexities, and integrating both long- and short-term considerations. In considering these requirements, Gibson et al. (2016) developed a comprehensive list of the generic criteria for the foundations of sustainability assessment and evaluations, based on what is needed for achieving sustainability. The current set of eight generic criteria for progress towards sustainability, with an updated and simplified language for broadscale understanding from Gibson (2021), is as follows:

1. **Life support**: Establish and maintain the long-term integrity and irreplaceable functions of ecological and socio-biophysical systems
2. **Livelihoods**: Ensure that everyone and every community has enough for a decent life and opportunities to seek improvements
3. **Intragenerational equity**: Reduce inequities in sufficiency and opportunity between advantaged and disadvantaged.

4. **Intergenerational equity**: Preserve or enhance the opportunities and capabilities of future generations to live sustainably.
5. **Resource maintenance and efficiency**: Reduce extractive damage, avoid waste and cut overall material and energy use per unit of benefit.
6. **Understanding, commitment and engagement**: Build the capacity, motivation and habitual inclination of individuals, communities and other bodies to pursue lasting wellbeing.
7. **Precaution and adaptation**: Respect uncertainty, plan to learn, design for surprise, and manage for adaptation.
8. **Immediate and long-term integration**: Act on all requirements for sustainability at once, seeking mutually supportive benefits and multiple gains.

These requirements for sustainability are all interdependent. They are meant to be understood as mutually reinforcing considerations, integrated with one another, and pursued together to achieve sustainability. It is important to acknowledge that these requirements for sustainability merely reflect a broad synthesis from the large and expanding global sustainability literature. The requirements are presumed to apply generally – in different regions, sectors, cultures, and cases. But in all applications the specifics of the context and the issues and initiatives involved are also crucial. While these generic requirements always merit attention and inclusion, they should always be specified, complemented, elaborated, and expressed considering what is required for progress towards sustainability in the particular case and place (Gibson et al., 2016). As such, these criteria are meant to provide a general foundational idea for reaching sustainability and given that they are generic, they are meant to be a starting point that can be applied broadly. These requirements are the basis for the expectations of the case studies that will be examined; however, the socio-ecological context will be an important consideration when examining each case.

Additionally, Gibson et al. (2005, 2016) note that progress towards sustainability also depends on careful attention to avoiding trade-offs that would compromise meeting some requirements in the interest of advancing others. Trade-offs are often inevitable, and complex given that they are tied to the various interactions between the system. The best options are ones that deliver multiple, mutually reinforcing gains to meet all the interdependent requirements. Where that seems impossible, alternative options need to be considered and creative approaches found to mitigate negative impacts and enhance positive ones. The basic rules for trade-offs emphasize working to achieve maximize net gains and avoid significant adverse effects, ensuring open decision making, requiring transparent justification of trade-offs, and never

allowing displacement of negative effects to future generations, except where all other options are even worse for the future (Gibson et al., 2005, 2016).

3.3 Indigenous Worldviews and Sustainability

While this research is not expressly discussing Indigenous sustainability perspectives, two of the three case studies explored are led by and work towards supporting Indigenous communities in the pursuit of enhancing sustainability. As such, it is my responsibility as a sustainability scholar to acknowledge that understanding social-ecological system complexity and "holistic", systems thinking approaches in western knowledge systems have been long incorporated in Indigenous worldviews. It must also be acknowledged that Indigenous knowledge systems and worldviews are highly diverse, depending on the cultural and geographic context of the Indigenous community.

However, there are commonalities among many Indigenous knowledge systems and worldviews, within Canada, and Indigenous communities around the world (Jojola, 2008, Natcher et al., 2013; Matunga, 2013; Ruwhiu et al., 2021). Indigenous knowledge systems are often rooted in the land and the interconnected relationships with their community and nature, dynamically adapting over time through generational oral knowledge sharing (Matunga, 2013). Indigenous knowledge systems are often detailed, holistic and based on intergenerational observations of interactions with social communities and the natural world, valuing reciprocity, interdependence, and stewardship (Whyte et al., 2016). Indigenous decision-making processes and stewardship practices across many cultures and nations have long appreciated complexity, adaptivity, interconnectivity, the valuing of biological limits and intergenerational needs. In contrast to western systems that evolved with emphasis on domination, exploitation, economic gain and separating the human and natural world (Matunga, 2013).

More specific examples of these concepts will be explored in greater detail, particularly for Chapters 6 and 7, as they apply to more specific social-ecological contexts, communities, and Indigenous Nations. However, as a researcher of settler descent who is aware of the long record of Indigenous knowledge being discredited and misrepresented in academia, it is not my right or intention to define what Indigenous knowledge systems are. I cannot accurately convey the opinions or perspectives of all Indigenous nations and peoples, nor do I claim to hold any expertise. Rather, my goals for including discussions of Indigenous knowledge in this research is to emphasize how Indigenous knowledge systems play a critical role in enhancing sustainability, as will be explored in the case studies. As part of my

contribution to the literature, I aim to highlight that when Indigenous nations hold agency and can apply their own local knowledge to community challenges, sustainability can actively be enhanced.

3.4 Achieving Sustainability at a Community Scale

For the purposes of the MRP, sustainability will be explored at the community scale as the initiatives subject to the case study are mainly working at a community or regional level, within the Greenbelt. While moving towards sustainability is often presented as a global issue, community level sustainability efforts are worth exploring due to their promising effectiveness and their direct benefits for communities as well as their cumulative contributions to sustainability globally (Dale et al., 2010; Celata et al., 2019). The criteria for evaluating sustainability-enhancing initiatives will be designed for and applied at the community level. While the generic requirements for progress towards sustainability listed above will inform the criteria, community level considerations will be incorporated as well. This section of the literature review will explore the role of community in sustainability, what makes a good community, and how best to engage communities as contributors to effective sustainability initiatives. When assessing community sustainability initiatives, it is important to develop an understanding of how community itself is defined in the literature and what criteria are considered significant in community-level sustainability initiatives.

3.4.1 Defining "Community Sustainability"

A "community" is not necessarily confined to the geographical location where a group of individuals live, rather community can also refer to social relations, in which groups of people are interconnected through shared characteristics (Bradshaw, 2008). Community can more broadly refer to the complex networks of social interactions and connection to a sense of "place", influenced by the cultural and geographical characteristics that form unique socio-ecological/ economic conditions (Dale & Newman, 2006). Dale et al. (2010) describe how the community as a stage in which environmental, socio-economic, and other interventions can take place, because communities are made up of supporting networks that can empower agents within the networks to address complex issues. Communities can include overlapping social networks brought together by profession or shared interests and values, indicating how community can be virtual and social as much as it is geographical (Dale et al., 2010). Communities are complex networks of social interactions that reflect a sense of "place", influenced by the cultural and geographical characteristics that form unique socio-ecological/economic conditions (Dale et al., 2010).

Therefore, to account for the complexity of a sustainable community, the definition of a sustainable community will be based upon the definition provided by Mischen et al. (2019), which builds upon the Brundtland Commission definition:

"A sustainable community is the aggregate of functionally and socially connected individuals and organizations that share collective resources in such a way that engages members in self-determination governance processes resulting in the equitable provisioning of the health, educational, and material well-being among its residents while not negatively affecting future generations or other communities' uses of these resources."

3.4.2 Impact of Community Sustainability Development

The justification for focusing on the community scale is the impact community sustainability has on the broader goals of enhancing sustainability. Moving towards sustainability is often presented as a global issue, however community level sustainability efforts are worth exploring due to their promising effectiveness, as efforts to enhance sustainability can be more directly impactful on a community as opposed to nationally or globally (Roseland, 2000; Dale et al., 2010; Mischen et al., 2019).

Communities, while small in scale individually, can have significant collective impact enhancing sustainability, while still directly impacting and addressing the needs and interests of local ecosystems and people (Roseland, 2000; Forest & Wiek, 2014; Mischen et al., 2019). Decisions related to sustainability, local food systems, transportation, energy, protected ecological systems, play out most specifically and observably at the community scale. Furthermore, the most direct impact of sustainability challenges can be felt at the community scale, particularly impacts of climate change (Shaw et al., 2014) Community sustainability development also tends to be more flexible, given that community-scale initiatives and projects are less structured in nature and are often led by local concerned stakeholders responding localized, complex issues (Newman & Dale, 2005). Dale et al. (2010) describes communities as particularly good venues for environmental, socio-economic, and other interventions, because communities are made up of supporting networks that can empower agents within the networks to address complex issues. As Forest & Wiek (2014) observed, community initiatives or "grassroot" approaches can foster innovative practices that have the potential to translate at larger scales, regional, provincial, etc. Therefore, communities play a significant role in the effort to enhance sustainability at all scales, most directly at the local scale, but collectively at the global scale.

A common theme throughout community literature emphasizes the importance of understanding communities' specific and localized complexities given their specific socio-ecologic/economic conditions (Newman & Dale, 2005; Ling et al., 2009). Underlying any actions to enhance sustainability in a community is understanding the complexities of the community. The interconnectivity among social communities, accessibility to services for quality of life, local ecological systems, sufficient support for livelihood opportunities, etc. all contribute to a community's sustainability and resiliency.

The criteria for enhancing sustainability listed above will be applied at the community level, as well as additional concepts to consider when exploring community sustainability. The "community" each initiative is serving for each case study will shift depending on the goals and the dimension of sustainability the initiative is focusing on, including their geographical, local or regional community, as well as social community. However, all initiatives are working within the same context as the Greenbelt region. Which is a geographical community defined by its legal status as a protected region as well as a social community of people who live, work, and engage within the Greenbelt.

3.4.3 Social Capital: Relationship Building and Creating Networks

A prevalent concept central to developing a good sustainability-enhancing community is "social capital." The definition for social capital varies given its application, however its understanding is consistent among the literature (Lefebvre et al., 2016). Social capital describes the shared knowledge, understanding, social relations and resources, built by a group of people and/ or organizations through a network of relationships that can facilitate collective action (Roseland, 2000; Payne et al., 2011; Ling & Dale, 2014). Literature distinguishes differing types of social capital (Hanna et al., 2009; Ling & Dale, 2014). Relationship building within a community or closed network is described as "bonding", characterized as smaller, less diverse but stronger and greater trust. "Bridging" describes relationships outside a community, across different social groups, including class and race, that facilitates access to resources and opportunities across, although is often characterized by weaker intra-community ties. "Linking" social capital are the connections between the civic community to those in institutionalized power, of governance and financial resources (Hanna et al., 2009; Ling & Dale, 2014; Lefebvre et al., 2016).

Building social capital is understood throughout the literature as a key component to enhance community development and sustainability (Dale & Newman, 2005; Ling & Dale, 2014). Greater social capital, stronger and more relationships, can enhance connectivity, contributing to aspects of community vitality and resilience, and ensure greater diversity in knowledge, perspectives, and

resources (Dale & Newman, 2006; Dale et al., 2010; Ling & Dale, 2014). Social capital is a resource but one unlike others in the conventional understanding of capital. Social capital is deeply embedded with trust, bringing people together, building long term relationships, developing a sense of cooperation and reciprocity that provides the foundation for developing social networks that can lead to greater coordination and self-organization (Hanna et al., 2009; Ling & Dale, 2014).

A critical aspect of building social capital is the creation of networks and their ability to facilitate inter-learning or knowledge sharing. Networks are critical to community sustainability and development because the complex challenges faced within a community often require more transdisciplinary involvement, often beyond the capacity of a single community (Dale & Newman, 2008). Therefore, the bonds within a community, socially, organizationally, or geographically, and the bridging to other communities, work to bring together greater diversity of knowledge, perspectives, and resources. Networks can bring together diverse perspective, expertise, and capacities to stimulate creativity and encourage transdisciplinary relationships that can bring about innovation and applications of resilience and transformation thinking integral to community-level sustainable development (Dale et al., 2010).

Knowledge sharing networks are specifically defined by participants coming together to support the sharing of knowledge and resources to facilitate learning within a given social, professional, or innovative network (Lefebvre et al., 2016). Learning networks are associated with greater efficiency in transferring knowledge, supporting further growth, enhancing awareness and accessibility to opportunities (Maurer et al., 2011; Lefebvre et al., 2016). However, factors such as trust, compatibility, good network management practices, like cooperation and maintaining motivation, help contribute to more successful networks (Lefebvre et al., 2016). Social and learning networks work to enhance social capital, and along with individual and community agency, social capital can be mobilized. Applying the trust built, knowledge shared, and resources accessed towards a given cause, such as implementing social change, enabling more informed decision making, encouraging civil engagement, and impacting policy formation (Roseland, 2000; Dale & Newman, 2006; Dale et al., 2010; Ling & Dale, 2014).

Social capital and the potential opportunities of networking and inter-learning is broadly examined as beneficial in the literature. However, as explored by Maurer et al. (2011), it is important to acknowledge social capital and knowledge sharing networks do not always determine effectiveness (Maurer et al., 2011). A high number of social ties does not always mean a network is effective, as they can lead to redundancy and be overwhelming (Maurer et al., 2011). Certain forms of social capital should

not be prioritized over others. Bonding social capital is often more homogenous in nature, due to being within a community, which is effective for social support but can be exclusionary. Bridging social capital often leads to greater diversity in terms of demographics, knowledge, and expertise, providing more opportunities and capacity; however, it can be more difficult to maintain and coordinate (Hanna et al., 2009; Aldrich & Meyer, 2015). The total number of social ties does not determine effectiveness, rather engagement through social interaction, shared values, social embeddedness, and longevity, the overall strength of relationships, are what contributes to more effective collaboration and knowledge transfer (Maurer et al., 2011; Lefebvre et al., 2016).

3.4.4 "Sense of Place" and its Role in Sustainability Research

In sustainability, resiliency, and social-ecological systems research, the concept of "sense of place" has been an increasingly explored to provide a deeper understanding of the interconnectivity of the social and natural world (Masterson et al., 2017). Sense of place refers to the collection of meanings associated to a "place", being a physical setting, the values of that place and the connections to characteristics of a place (Hanna et al., 2009; Masterson et al., 2017). Place is significant in that it can help define those who live within that setting and can ultimately help to shape individuals and the collective who identify with their "place" (Hanna et al., 2009). A "place" is more than a location, it can refer to the complex interconnection of ecological, cultural, social, political, and economic dimensions of social and natural life (Guthey et al., 2014). Therefore, place-based sustainability approaches recognize the uniqueness of places' complexity, recognizing that developing solutions requires understanding the relationship between place and people (Grenni et al., 2020). Creation of a sense of place is an ongoing, dynamic process reflecting the complexity of the place itself and can act as a reflection of the evolving social interactions, shaping social action (Hanna et al., 2009; Grenni et al., 2020). This connection to sense is unique, but understood to be developed through social experiences, emerging from interactions between people and the biophysical environment (Masterson et al., 2017).

Sense of place is significant to sustainability research due to the role the concept has in supporting community sustainability development and sustainability transformations (Dale et al., 2008; Masterson et al., 2017; Grenni et al., 2020). The meanings and values attached to place are understood to be potential drivers for collective willingness to embrace and implement change, ecologically, caring for the environment, and socially, such as civic participation, which are key to enhance sustainability (Masterson et al., 2017). Developing a sense of place is associated with supporting long term stewardship,

as people's connections to a place can encourage greater concern for place, drive for action and encourage greater local ecological knowledge (Chapin & Knapp, 2015). Strong bonds to the natural aspects of the place to the community and between individuals of a community, build stronger connection to identity and the greater motivation to protect and preserve sense of place and promote social change (Steadman, 2006; Masterson et al., 2017). Understanding how people relate to one another and to their "place" can also be applicable for understanding opportunities for collaboration, in appreciating diverse perspectives or harnessing shared place meanings (Masterson et al., 2017).

This concept has only emerged in recent decades in sustainability and resilience research; however, this concept is not unique to western knowledge systems. Indigenous ways of knowing and understanding, while highly diverse, are consistently rooted to land, and "place" is embedded with meaning (Johnson, 2012; Johnson & Larsen, 2013; Williams, 2018). Indigenous knowledge is often place-based, emerging from generations of experiences with the land, understanding the interconnectedness of all aspects of nature, acknowledging their spirit and the reciprocal relationship all people share with the land (Johnson & Larsen, 2013; Williams, 2018). Given how land is deeply interconnected with Indigenous knowledge systems, law, histories, science, and culture, Indigenous identity is inextricably linked to their relationships with land or place (Johnson & Larsen, 2013). As such, the importance of understanding and developing a sense of place, its contribution to stewardship and collective identity is deeply rooted in Indigenous knowledge systems. In the growing movement to engage with and amplify Indigenous knowledge systems, Johnson (2012) describes the need to recover sense of place, place connectedness and the importance of place within Indigenous communities.

There remain considerable gaps in sense of place research, given that the concept is relatively new in sustainability research and the historical exclusion of Indigenous knowledge systems. Similar to sustainability, the definition and applications of sense of place and the meaning of "place" are inconsistent across differing epistemological perspectives between social sciences, conservation, social-ecological systems, etc. (Jorgensen and Stedman 2006; Grenni et al., 2020). Sense of place has largely been explored at the local scale, largely in the context of communities or specific region and there is research potential in exploring how sense of place can be applied beyond community (Chapin & Knapp, 2015). Furthermore, developing "sense of place" does not necessarily translate to caring for the environment or stewardship. Sense of place is subjective, with individuals and communities within the same region developing different "sense of place" or attaching differing meanings or attachments to place. These differing meanings can even stall progress to implement change or potentially be

exclusionary (Chapin & Knapp, 2015; Masterson et al., 2017). As discussed above, genuinely engaging with Indigenous knowledge systems can allow for deeper understanding of sense of place, the importance of place and appreciate diverse perspectives on sense of place (Johnson, 2012).

3.4.5 Community Engagement

An understanding of the importance of community and social capital in sustainable development provides a good basis for considering how to engage a community effectively. How this engagement can be achieved, however, is a significant challenge given that engagement ultimately depends on the specific context of the system and the community members. As with most challenges in sustainability, there are no universal solutions to effective community engagement (Head, 2007). However, despite this complexity, consistent themes emerge as effective approaches to encouraging community engagement and can be informative in developing criteria for "success" and case study selection.

Ling et al. (2009) outlines an extensive in-depth process in integrated community planning, which provides insight for engaging a community. It is evident that to engage a community effectively, an individual/ organization must possess an in-depth understanding of the community itself, in its socio-ecological/ economic context and the community member's connection to a sense of "place". It is important that an initiative takes the time to develop a comprehensive understanding of the community, which can occur in the form of mapping out the diversity and scales interacting within a community. By understanding the ecological, social, economic, political, etc. systems and their resources, one can understand what sectors, systems or groups are impacted most be the specific sustainability challenge, need to be involved, and who processes the required resources (Ling et al., 2009). Additionally, given the relevance of a "sense of place", as indicated in Masterson et al. (2017), one must understand the community members' general perception of their connection to the community, the environment and idea of sustainability. An established understanding of the complexities of the community will allow organizers to better tailor tools and techniques of engagement to the specific needs of the community.

Sustainability relies on and benefits from transdisciplinary partnerships, alliances and collaboration that are rooted in community openness, trust, diversity, and mutual learning (Dale & Sparkes, 2010). Transdisciplinary relationships and multi-stakeholder alliances can foster greater innovation, creativity, and capacity to complete the goals of the intended project and improve community vitality for long term project and best practice integration (Dale & Sparkes, 2010). Engagement with different knowledge systems allows for greater insights into complex challenges, by providing new

perspectives, evidence, and capacity to understand and interpret conditions (Tengö et al., 2014). This is especially relevant as sustainability science and governance approaches work to engage and weave western sciences and Indigenous knowledge systems to address complex for knowledge production and decision making (Tengö et al., 2014; Johnston et al., 2016). To facilitate such relationships, engaging in effective dialogue among diverse actors with openness and transparency, to bridge the variable and often misaligned perspectives helps to build collective and consistent norm, goals and intended outcomes. The ability of diverse actors to reconcile their role in the partnership/ alliance is critical to sustainable development. Reconciliation among different members in recognizing the key role all components play in the system, whether it be social, ecological, economic, and political, can allow for more acceptance and trust (Dale & Onyx, 2005; Newman & Dale, 2005).

It is critical that community engagement remains a dynamic and inclusive process, ongoing throughout the course of the initiative (Walker et al., 2004). Dialogue should be maintained throughout the process and can provide a consistent and inclusive strategy to foster collaborative and informed decision making with all actors and the public (Walker et al., 2004; Dale & Onyx, 2005). A collaborative environment, well-informed community and equitable participation can help to build a safe and trusting environments for all those involved to feel as though they can effectively contribute to the project (Dale & Sparkes, 2010). Early involvement by the public and other actors in the decision making and planning process can increase agencies by empowering those involved with the knowledge that they are able to make informed decisions and shape the process. Agency over an initiative or movement can foster ownership, further encouraging continued participation and engagement (Ling et al., 2009; Dale & Sparkes, 2010; Ling & Dale, 2014).

An important factor in effective community engagement is the contributions of leaders and the role of leadership in driving sustainability forward. Mintrom & Rogers (2022) describes leadership as a driving force for transformational change, for local scaled innovation and broader systems. This is due to leaders' capability to adhere to sustainability principles and designing an initiative that works to understand a community, build social capital, ensure equity, foster sense of place, etc. Mintrom & Rogers (2022), informed by the literature, outlines key actions for driving sustainability transitions for leaders to practice which embody much of the foundational concepts in sustainability discussed above. These include developing a shared vision, engaging with multiple perspectives to develop solutions, securing support from influential stakeholders, establish monitoring and learning tools to track progress and gain feedback, foster long term relationships built on trust and reciprocal support, and develop narrative that

support on-gong action to continue focusing on achieving outcome. As such, when examining case studies, actors who actively engage with these actions within an initiative can be understood as leaders working to drive sustainability.

Leadership within a sustainability movement can take differing forms. Distributed leadership, in which leadership is spread across an organization or broader community, or in the form of a "team of champions" who works closely and collaboratively with one another (Wittmayer et al., 2017). As discussed in Head (2007) and Dale & Sparkes (2010), leadership in sustainability initiatives is understood to be more effective when it is shared, rather than directive. In addition, it is important to remain consistent in this leadership to ensure stability in the project, especially given the complexities and uncertainties often faced when engaging in sustainability (Head, 2007; Dale et al., 2010). Encouraging engagement in a community can be difficult if the leadership, participation from partners and funding is inconsistent and confusing (Ling & Dale, 2014).

3.5 What Does the Literature Tell Us About How Sustainability is Achieved?

This section will address consistencies in the literature of how "success", in terms of initiative effectiveness, is assessed and what factors contributes to enhancing sustainability, within the context of a community-based initiatives and community scaled sustainability transitions. The complexity of sustainability and the different contexts it can be applied in, makes measuring sustainability "success" highly complex and inconsistent across the literature (Igalla et al., 2020). The most relevant literature to provide a foundation for this research exploring "sustainability success" can be found through community-based initiatives research and community sustainability transition research, both providing insights to how sustainability can be enhanced.

Community-based initiatives can be defined as self-organization among citizens to carry out work that provides a public good or service for their given community, often intersecting though largely independent from other sectors, governments, funding organizations or other third parties (Igalla et al., 2020). Community-based initiatives are multi-dimensional and highly diverse, and have been examined through diverse perspectives, given their specific goals (Celata & Sanna, 2019). Community-based initiatives are understood to be key contributors in working towards a more sustainable future, given their greater flexibility to innovate, develop create solutions and direct impact (Igalla et al., 2020). However, there remains a considerable gap in understanding the factors that impact community-based initiative

performance, with much research focusing on community experiments or single case studies (Celata & Sanna, 2019; Celata et al., 2019; Igalla et al., 2020).

Much of the literature regarding community-based initiatives focuses on assessing sustainability pathways towards transition (e.g., Bennett et al., 2016), although much of these are global in scale and highly diverse in their sustainability typologies. While this master's research paper is not specifically focused on transition or transformation; pathways towards sustainable transitions at the community scale can provide insight into potential factors that contribute to enhancing sustainability that is relevant to this research, given the existing gaps in community-based initiative research discussed by Celata & Sanna (2019) and Igalla et al. (2020). There has been growing interest in literature on researching the impact of community-based initiatives contributions to sustainability, and the potential contributions of local sustainability innovations for broader applications (Ling et al., 2009; Forrest & Wiek, 2014; Forrest & Wiek, 2015; Celata & Sanna, 2019).

When assessing potential "seeds" for sustainable futures, Bennett et al. (2016), who provide the foundation for the motivation of this research, provide insights into understanding the most consistent types of community initiatives that contribute to enhancing sustainability. In developing a database of "seeds" for the good Anthropocene, six consistent categories of seeds across a diversity of initiatives were observed: (1) agroecology, socio-ecological approach to enhancing food producing landscapes, (2) green urbanism, improving livability within urban areas through engagement with nature, (3) future knowledge, knowledge generation to encourage transformation within systems and societies, (4) urban transformation, work to create urban socio-ecological cities, (5) fair futures, creating more equitable decision making processes, and (6) sustainable futures, social movements to build more sustainable futures. Each of the "seeds" further contributes to scenarios for the future of their respective communities – those of technology, local adaption based and value change scenarios, that encourage shifts towards transitions that could then be applicable at the global scale (Bennett et al., 2016). These categorizations provide a broader, general idea of the types of initiatives that are attributed to being "seeds", or examples of innovative initiatives that push forward positive scenarios for the future.

When assessing performance community-based initiatives among different typologies, such as community garden, food cooperatives, community energy, recycling, etc., the criteria Celata & Sanna (2019) applied included eight dimensions: social capital, human capital, economic impact, social inclusion, innovativeness, financial sustainability, carbon efficiency and carbon reduction. These criteria

mainly aimed to assess the potential capacity of a community-based initiative to make an impact and account for the diversity of initiatives that address differing sustainability typologies. When assessing the effectiveness of community-scaled initiatives, the research is consistent in emphasizing the initiative's need to account for complexity. As indicated by Celata & Sanna (2019), the best performing community initiatives engaged in more than one dimension of their sustainability typology, demonstrating the impact of diversification. This greater diversification within an initiative correlate to diversity of participants that diffuse knowledge more effectively and foster creativity for developing solutions (Celata & Sanna, 2019). A consistent consideration for greater initiative performance is ensuring that the community initiative, in its management and work, is multi-dimensional, integrating ecological, social, economic, cultural, institutional, etc., aspects (Ling et al., 2009; Forrest & Wiek, 2014, 2015; Orenstein & Shach-Pinsley, 2017; Celata & Sanna, 2019).

Similarly, in exploring characteristics of sustainability initiatives in the literature, Orenstein & Shach-Pinsley (2017) outlined the four typologies sustainability initiatives align with and their structures. These typologies include natural resource and ecology-based, urbanism, issue based, and governance, participation, and science-based initiatives as well as their structures, being bottom-up vs. top-down, their focus being ecological or socio-economic, subject specific or holistic and finally, the spatial scale, local up to regional. In applying their thematic axis of typologies, some key components became apparent in ensuring effectiveness of a sustainability initiative. The importance of participatory governance, supporting collaboration and trust building among participants in the initiative, focusing on supporting quality of life for communities, and strengthening the connection between socio-economic wellbeing and nature. Furthermore, for the initiative to be effective, the community must be willing to participate, and all partners and collaborators must be aligned with a consistent but dynamic vision of sustainability (Orenstein & Shach-Pinsley, 2017).

Igalla et al. (2020) tested hypotheses across multiple categories that contribute towards community-based initiative performance, many of which were explored above: organizational capacity, human and financial resources, government support, social capital, leadership styles and boundary spanning leadership, the ability of an organization to adapt. From their analysis, a distinct pathway for performance emerged. Initiatives led based on a strong transformational leadership style, which inspires those within the organization with a clear, inspirational mission and set of values, encouraging creativity and innovativeness, were often associated with greater performance. This leadership style facilitated greater openness to adaptation, boundary spanning leadership, which would then allow for greater

opportunities for bridging and bonding, leading to greater social capital and accessibility to resources, particularly human resources, and government support. Diverse forms of social capital showed a positive relationship with performance. Interestingly, creating and mobilizing social capital is beneficial, as well as utilizing social ties, particularly through bridging with governments greatly supports organizational capacity (Igalla et al., 2020). Ultimately, Igalla et al (2020) highlights the importance of intra-organization leadership, openness to adaptation and the development of social capital, with a strong connection to government support, for greater performance, as the interconnectivity of each factor enhances capacity and support.

Ling et al. (2009) outline an extensive in-depth process for integrated community sustainability planning, emphasizing the importance of transdisciplinary approaches and collaboration for community sustainability development. Effective transdisciplinary approaches to enhance sustainability require a deep understanding of the context of the community itself. Taking the time to develop a comprehensive understanding of the community can occur in the form of mapping out the diversity and scales interacting within a community. Ling et al. (2009) further emphasizes the importance of long term, active participation in engagement processes, commitment, and accountability from collaborating institutions and political will to continue supporting sustainability plans, aligning with conclusions stated in Orenstein & Shach-Pinsley (2017). Much of the conclusions found in Ling et al. (2009) are consistent with conclusions of Celata & Sanna (2019) and Igalla et al. (2020).

Research that most specifically addresses success factors of community-based initiatives, aiming to address the significant gap, can be found in Forrest & Wiek (2014) & (2015). In exploring factors that contribute to successful sustainable transitions across different projects in different communities, Forrest & Wiek (2014), (2015) incorporate sustainability assessment criteria from Gibson (2006). Forrest & Wiek (2014), (2015), in addition to Newman & Dale (2005) and Ling et al. (2009) further emphasizes the significance of understanding the contextual factors of a community, demographics, community governance capacity and the skills of those involved in the project. Social cohesion within the community, potentially through a sense of identity, social action capability, through existing social capital within the community and trusted community governance systems, were understood to be important community factors in supporting the success of initiatives (Forrest & Wiek, 2014).

To address the gap in research in exploring the rich learning opportunities that come from community-based initiatives, Forrest & Wiek, (2014), (2015) examine case studies to assess the success

factors contributing to sustainability transitions. For more intermediate success factors, accessibility to resources, in terms of materials, facilities, land and labour, which is often supported through the support of participants, volunteers, efforts to secure funding, grants and initiative partnerships. Organization and management of initiatives played a critical factor in initiative success. Another important factor is related to initiative leadership, in that it is recognized and credible, provided continued oversights and guidance, was made up of a core dedicated core team of managers, and had a flexible initiative structure, allowing for a diversity of tasks to be taken on by managers and volunteers (Forrest & Wiek, 2015). Community support and participation are understandably important success factors as well, with support providing greater credibility to the initiative and engagement in their work, although community support does not necessarily translate to participation. Support from outside interests, other institutions and communities, and partnerships, especially those established early in the process, are valuable in providing resources, credibility, and pride in the community for supporting a given initiative (Forrest & Wiek, 2014: 2015).

3.6 Summary of Literature Review

This chapter provides an exploration of sustainability in the literature, its emergence as a concept, conceptualization, core concepts to sustainability, concepts specific to community sustainability and factors that contribute to enhancing sustainability at the community scale. This chapter explored the emergence of sustainability from the Brundtland Commission, how sustainability is conceptualized such as through the three-pillar conceptualization of sustainability and socio-ecological perspective, foundational concepts to understanding sustainability, complexity, resilience, transformation, and equity. With this knowledge background, the generic criteria for progress towards sustainability presented by Gibson et al. (2005, 2017) incorporates these concepts and emphasizes their interconnection to one another to progress towards sustainability.

Achieving sustainability at the community scale specifically explores concepts more specific to enhancing sustainability at the community scale. As the cases examined will be community scaled initiatives, a definition of community sustainability that this research adheres to and justification for why community sustainability is the focus is provided. Key concepts such as social capital, sense of place, community engagement and the roles of leaders are explored. Section 3.5 specifically examines what the literature considers factors of sustainability initiatives that contribute to enhancing sustainability. Initiative's the ability to account for complexity through diversification, leadership open to innovation

and adaptation, embracing diverse social capital, ongoing and active engagement, understanding and connecting to the community.

The next chapter will first introduce the methodological approach of the research, the criteria for case study selection, how data was collected, and the analytical framework constructed for this research will then be presented. The implications of the exploration of sustainability research and the factors of enhancing community sustainability provide the foundation for the analytical framework presented in Chapter 4. The analytical framework details how each case of a sustainability initiative will be examined and demonstrate how they are enhancing sustainability, despite their differing sustainability themes and community. Each of the concepts explored in the literature review will contribute to the construction of the framework. The broader sustainability concepts and the sustainability criteria presented by Gibson et al. (2005, 2017), provide the background understanding for what is considered sustainability and the factors of enhancing community sustainability will construct the more specific categories of the framework.

Chapter 4. Methodological Approach and Conceptual Framework

4.1 Description of Methodological Approach

To meet the goals and objectives of the MRP, this research has been qualitative, applying methodological methods that aim to collect and synthesize empirical data. Qualitative research involves the collection and interpretation of textual materials as well as the exploration of meaning of one's experiences within a given context (Grossoehme, 2014). This intends to capture the understanding and meaning of what makes a project/initiative "successful" within the context of a local community within the Greenbelt. The intent is to capture the understanding and meaning of what makes a project/initiative "successful" within the context of a local community within the Greenbelt. Such understanding and meaning of relatively subjective elements, including what constitutes "success", creativity, innovation, and positive impacts can be more effectively be derived from literature and personal experiences described in documented interviews as opposed to assessing numerical data in quantitative research.

4.1.1 Justification for the Greenbelt as a Focal Setting

The Greenbelt, as explored in Chapter 2, is a region dedicated to fulfilling sustainability goals. It possesses several biophysical and cultural as well as economic resources and is both benefited and stressed by its proximity to a large population and its associated economic opportunities. Thus, it is worth exploring how local communities in this region are contributing to the sustainability goals within their own community and to the broader Greenbelt region. Little literature has explored how local, community level initiatives within this region are contributing to achieving sustainable communities and sustainability in the Greenbelt more generally. For the purposes of this research, the Greenbelt region acts at the broader focal system in which the initiatives must be operate. This does not mean that the operations of the selected initiative/project must physically exist entirely within the boundaries of the Greenbelt. However, their work must be closely tied with the Greenbelt in collaborating with or receiving funding from the Greenbelt Foundation, providing services that directly benefit ecosystems and/or communities that exist within the Greenbelt, or collaborating directly with diverse stakeholders (local businesses, municipal governments, etc.) located within the Greenbelt.

4.1.2 Case Studies

This MRP adopts a multi-case study research structure, in which each initiative selected will support an in-depth, comprehensive exploration into understanding how the specific initiative is achieving its local

sustainability goals as well as how it is impacting the community. When considering a case study approach for qualitative research, the literature acknowledges that when the research is exploring questions of "how" and "why", the conditions of the case cannot be manipulated, and the contextual setting of case is relevant to the phenomenon of interest, case studies are appropriate (Yin, 2009; Stake, 1995; Baxter & Jack, 2015). The intended goals of this research are to gain greater understanding of these initiatives, what they mean to those involved, and to how effective local level sustainability initiatives are contributing to enhancing within the specific context of their community. Because these conditions are relevant to the conditions of this MRP, a case study approach is applicable. This research can be characterized as intrinsic and descriptive, given that each case study will be aiming to understand a specific project/initiative and those involved in its current context (Stake, 1995; Yin, 2003; Hancock and Algozzine, 2006).

Three initiatives were chosen as part of the research design to explore the different themes of sustainability present within the focal system of the Greenbelt region as well as be able to draw comparisons across each case. Given that there are diverse dimensions to sustainability, social, ecological, agricultural, governance, etc., and many contexts and potential foci of sustainability initiatives in and around the Greenbelt region, a multiple case approach was judged to be highly applicable to this research design. The approach provided the opportunity to explore different cases addressing different socio-ecological and sustainability challenges in different communities and to observe any consistent patterns and themes to gain a better understanding of the phenomenon of sustainability initiative "success". The ability to compare across cases allows for greater credibility and reliability in the attributes observed for each case of how the project/initiative successfully enhanced sustainability and shifted perceptions of sustainability within their community (Baxter & Jack, 2015).

Presented below are the criteria for selection of case studies, based upon the goals of the Greenbelt, insights from the literature, and insights from experts from the Greenbelt Foundation. The selection criteria for cases required that each selected case incorporated the following:

- Demonstrates the eight generic criteria for sustainability assessment, outlined in Gibson (2017) and found in section 3.2.7, in the initiative/project planning, implementation and management process

- Explores a specific theme of socio-ecological sustainability present within the Greenbelt to demonstrate the complexity of sustainability challenges and solutions present within the Greenbelt. Examples can include:
    - Local food systems
    - Ecological land protections/ conservation/ restoration
    - Participatory governance
    - Recreation opportunities
    - Climate change action
- Directly impacts communities that exist within the Greenbelt region or the major settlements found in close proximity to the Greenbelt as depicted in Figure 1
- Demonstrate collaborative approaches in producing forward-thinking, creative and innovative solutions to addressing problems within their communities
- Emphasizes community and participatory engagement throughout the initiative/ project process
- Is well documented
- Demonstrates resilience in terms of the longevity of the project, delivering lasting benefits over a period of time despite outside pressures (such as economic constraints or changes in government).

4.1.3 Grey Literature

The main method for data collection for each case study, exploring the story of how each community initiative is effectively enhancing sustainability, is through the evaluation of related grey-literature. Grey literature refers to documentation of credible but non-peer reviewed publications associated with the sustainability initiative. Material reviewed included documents, reports, new articles, and websites published by credible sources associated with the initiative that provide descriptions of the initiatives and their potential impacts on their community or the Greenbelt. This documentation and data included sources provided by the Friends of the Greenbelt Foundation, as they could provide specific documentation regarding their partnership or funding support for each initiative.

The exploration of grey literature is used for this research process as the purpose of each case study is to explore the story of each sustainability initiative, experiences that are more adequately captured through more diverse sources that can directly report on the initiative's historical and current activities. Therefore, exploration of grey literature regarding each initiative helps to provide a more

detailed understanding of the initiative's story, from its formation, leaders, most notable projects, as well as its impact on the associated individuals, partnering organizations, and their community. To address possible publication bias, literature from more independent sources, such as news articles and government publications as well as relevant peer-reviewed literature is included. If peer-reviewed material related to an initiative was available, applicable to its story and if concepts explored in the initiative's work required further explanation from peer-reviewed sources, it was included. However, given the smaller scale of each initiative, the availability of peer-reviewed material related to each case study is limited.

Following a story-telling structure, which will be expanded further below in section 4.1.6, this grey literature analysis will aim to gather information about the journey of the initiative and its work in their community. Beginning with the initiative's formation, its prominent leaders, main sustainability contributions including notable projects and programs, efforts towards building social capital through partnerships and collaborations, main challenges, and most current activities the initiative is engaging in. The scope of the grey literature review was limited to the story-telling structure of each sustainability initiative, exploring relevant documentation to tell the story of the initiative and reports on their contributions to further validate their work. Given their small scale, material related to the initiative and its work is limited and most sources could be exhausted in the search.

The process began using a credible search engine, Google, using the sustainability initiative ("Greenbelt Farmers Market Network", "Alderville Black Oak Savanna", "Shared Path Consultation Initiative") as the term to begin the search. This would begin the process with the initiative's own website and associated post from the Greenbelt Foundation about their partnership or funding of the initiative. From these starting points, sources from their website regarding information on the initiative's formation, historical, current, historical, and upcoming projects and partnerships were gathered to gain firsthand information from the initiative itself. Additionally, publications produced by, or sources provided by the initiative for background information regarding their work or importance of their work would be included to provide justification to their significance as an initiative. When gaining firsthand accounts of the initiative, the search would then focus on investigating the initiative's leadership, partnerships, or projects, to search if partnering organizations or independent sources reporting on the work with the initiative. Partnering or collaborating organization's websites and publications relating to their specific work with the initiative would be explored, as well as sources from news reports, social media, and blogs to find contemporary information about the initiative or a specific project. Sources from the Greenbelt

Foundation specifically regarding each initiative were searched to gain potential funding information, updates on their work from Greenbelt Foundation annual reports and contemporary news alerts and blogs.

Utilizing Google Scholar, any peer reviewed material related to the work of the initiative would also be considered, if it provided insight to specific work of the initiative or informative background information necessary for understanding the initiative's work within its given sustainability typology. Often these publications were produced by the initiative or in research partnership with the initiative. Importantly, sources by leaders of the initiative were considered. Especially for Chapters 6 and 7 when regarding challenges or descriptions of Indigenous knowledge or experiences that are best sourced from Indigenous voices and perspectives.

4.1.4 Semi-Structured Interviews

In addition to a grey literature review, semi-structured interviews are used as a supplementary method to gather further information about the experiences of each initiative and how they are contributing to sustainability. This approach to data collection will be employed as interviews gain a deeper understanding of the nature and meaning of the main research concepts (Stake, 1995). For the purposes of this research, interviews work to provide firsthand experience of forming and leading the initiative, providing more in-depth details of the initiative's journey that literature cannot provide. Furthermore, with the purpose of telling the story of the initiative, interviews help to better illustrate each initiative's story. Through exploration of their experiences in forming the initiative, developing its programs as well as challenges faced by the initiative that they work to overcome or adapt to, getting the perspective of initiative leaders provides a deeper understanding of the initiative's contributions to sustainability.

Interviews are commonly applied data gathering methods for qualitative research and case study types and are highly applicable to intrinsic and descriptive type research (Hancock & Algozzine, 2006). Interviews will allow participants to provide information and stories from their lived experiences organizing or participating in their associated initiative. This can allow for greater insights into how the sustainability initiative impacted the community from the perspective of those who observed firsthand its effects, gaining greater understanding and depth that could not be as effectively obtained from the literature. Interviewing goes beyond observations and aims to uncover the context of their experience and find deeper meaning and as this research aims to be more engaging and motivating in demonstrating the progress in community-scale sustainability, such meaning is more impactful and valuable to the research (Seidman, 2006).

For the purposes of this MRP, semi-structured, individual in-depth interviews are used. Semi-structured interviews are a commonly applied interview format for qualitative research and are well suited to case studies, as they provide a balance between the benefits and limitations of structured and unstructured interviews (DiCicco-Bloom & Crabtree, 2006; Seidman, 2006). Employing a semi-structured interview is applicable for this research as understanding an experience benefits from the structured and unstructured nature of an interview. The set of structured, pre-determined questions that are included for all interviewees will allow for effective data analysis and comparison across all interviews, facilitating identification of patterns and themes. The unstructured aspect of the interview allows interviewees the freedom and flexibility to describe personal experiences while being involved with the initiative and provide greater insight into the meaning of their experience (Qu & Dumay, 2011; DiCicco-Bloom & Crabtree, 2006). Additionally, the ability to go in greater depth and allow interviewees to express their personal experiences can help to build greater rapport with the interviewee and create a more comfortable atmosphere (DiCicco-Bloom & Crabtree, 2006). Interviews were conducted one on one to provide greater opportunity to connect with the interviewee more effectively and allow for more time for the interviewee to provide information (DiCicco-Bloom & Crabtree, 2006). To accommodate for COVID-19, the interviews occurred in a virtual setting, to align with safety precautions. Refer to Appendix A for interview structure.

For this MRP, two interviews per sustainability initiative were conducted, specifically with leaders and organizers of the initiative. Leaders or current organizers of the initiatives were interviewed as they are best able to provide direct knowledge and experience of the initiative's journey. As they had in-depth, firsthand knowledge of formation of the initiative, specific programs, or activities they organized, the collaborations made, and challenges faced by the organization that are often not detailed publicly. Through their perspective, they could provide details about what they believe to be the most significant positive impact their initiative has made on their community, a critical aspect of understanding the initiative's impact and sustainability contributions. Additionally, Burkhard Mausberg, the former CEO of the Greenbelt Foundation, was interviewed due to his direct knowledge of the formation of the Greenbelt and Greenbelt Foundation. His knowledge and experience similarly provided insightful background information for understanding the sustainability context of the Greenbelt and its story.

For the GBFMN, Anne Freeman the former Coordinator of the GBFMN was interviewed to provide firsthand experience on the formation and early work of the initiative, and Daniel Taylor, the current Coordinator of the GBFMN was interviewed to provide further information on the GBFMN

transition away as a project of the Greenbelt Foundation to an independent initiative and its current work. For ABOS, Mark Stabb, Nature Conservancy Canada's program director for Central Ontario, provided background for Nature Conservancy Canada's support for the ABOS in its earliest stages, details about the partnership and background information about ecological restoration in the Rice Lakes Plains region. Julie Henry and Gillian di Petta, the Manager and lead Biologist and Nursery and Outreach Coordinator of ABOS respectively, were interviewed to provide insight into the current work of the initiative, especially the Mitigomin Nursery, emphasize the importance of respecting Indigenous knowledge and seed sovereignty and unique challenges of their work. Finally, former executive director of SPCI, Morgan Peters provided background information on the initiative's current work, unique challenges given their work in Indigenous engagement and their main partnerships. Clara Fraser, co-founder and former executive director of the SPCI was then interviewed, providing background information about the initiative's formation, main early challenges and the importance of the Greenbelt Foundation's involvement and understanding the significance of Indigenous engagement, planning and knowledge.

4.1.5 Convenience Sampling

Sampling for interview participants was conducted through non-probability convenience sampling, incorporating snowball sampling techniques (Cox, 2015). When conducting convenience sampling, samples are included based largely upon their accessibility to the researcher, general proximity, availability, willingness to participate and criteria for the types of individuals that meet the needs of the research (Ghaljaie et al., 2017; Etikan et al., 2016). The general criteria for the participants sampled, as indicated above, was composed of those involved with the Friends of the Greenbelt Foundation, organizers of the selected projects/initiatives, and participants in the services provided by the initiative. This sampling pool was intended to gain a representative sample of individuals who have first-hand experience with the initiative that is the subject of the case from an organizational perspective to gain more insight on how the initiative/project came to be implemented and its impact on the community.

Snowball sampling methods, in which those who participated in the research can provide contacts with others who may also be willing to participate to help increase in sample size, was employed as rapport and trust was built with interviewees (Ghaljaie et al., 2017). Snowball sampling is a commonly applied qualitative sampling method in social sciences and is highly compatible with studies that employ interviewing, as interviewing can allow for building of connection and trust with a participant, which can then facilitate further connections (Noy, 2008). Convenience sampling is a convenient form of sampling a

population and snowball methods can allow for an increase of the sample size through building connections with others and seeking out more participants that are willing to contribute to the research process, rather than undergoing a more extensive sampling process (Etikan et al., 2016). This sampling ensures that those who were interviewed possess the knowledge and expertise that is relevant to their initiative. Convenience and snowball sampling are being employed for this research due to the ease of the sampling technique, availability given the uncertain circumstances of COVID-19 during the time of interviewing and the feasibility of the limitations of the MRP (Etikan et al., 2016).

4.1.6 Storytelling Approach

The presentation of the data and this research incorporates storytelling, in which the data evaluated from the grey literature and in the interviews detailing the initiative/project from proposal to implementation and the impacts on its community, were presented by applying story-telling communication techniques. This approach algins with the purpose of the research to effectively communicate sustainability progress with a broader audience. Given the complexity of addressing socio-ecological challenges, it can be difficult for traditional scientific reports to clearly communicate to broader audiences about the resources, attitudinal and behavior changes needed to effectively address these challenges. Recognition of the complexity and history of previous ineffective communication should motivate sustainability science participants to explore innovative approaches to efficiently transfer knowledge to diverse audiences (Sindin et al., 2018).

Thus, this storytelling approach for the MRP is highly applicable, in that it could contribute a new approach to presenting graduate research to wider literature. Providing a deep contextual understanding of the communities being explored, the goals of the initiative/projects, and the people involved will help for the audience to connect with the narrative and potentially be more engaged in the case and the findings of the report (Sindin et al., 2018). Presenting the MRP in this manner can help to serve the purposes of the research more effectively, as it is research meant to connect and engage with the audience and more effectively communicate the insights and understandings that will be illuminated.

Furthermore, Bennett et al. (2016), provide the overarching guidance and motivation for this research by similarly exploring their “seeds” or examples of unique and innovative initiatives through a case study approach and centered on the stories of the initiative’s impact on their communities. The research into “seeds” of the good Anthropocene applied a “novel” approach to thinking about the future, building on experiences that draw from diverse practices, worldviews, and values (Bennett et al. (2016).

To explore these experiences, the researchers explored the stories of initiatives through methods that engaged directly with those involved in the initiatives and local networks. While the methods Bennett et al. (2016) are more extensive given the scale of the research, this MRP similarly aims to engage with the stories of the initiative and draw on the experiences, thus employing a storytelling method.

4.2 Conceptual Framework

As a basis for assessing the selected Greenbelt community initiatives, a conceptual framework was constructed and applied. The framework integrated the understandings set out in chapter 3, above, to provide a consistent set of recognized parameters and interactions for identifying similarities and differences in how the diverse initiatives have enhanced prospects for sustainability. This conceptual framework, presented in Figure 4, below, provided a guide for examining each story considering these parameters and interactions. Attention to each component of the framework as well as their interconnectivity with other components was used to indicate the initiative's capacity to effectively enhance sustainability. The framework respects and highlights the complexities of sustainability-enhancing projects, which involve the interaction of multiple variables, many of which overlap and are applicable across scales and even disciplines. Each of the building blocks that form the conceptual framework for assessing community sustainability enhancing initiatives are concepts identified throughout the literature with strategies for effectively encouraging sustainability at a community scale and contributing to a project's overall success.

4.2.1 Concepts to Construct MRP Conceptual Framework

The construction of the conceptual framework was informed by concepts in sustainability and community development research. A generic framework was built first and then adjusted in light of context-specific considerations.

The process started with the eight generic sustainability criteria from Gibson et al. (2005, 2017), as discussed in Chapter 3, section 3.2.7. These criteria were developed to move beyond the three-pillar model most often used in sustainability reporting to an approach that respects the interactive complexity of enhancing sustainability in socio-ecological systems (Gibson et al., 2005; 2017). Notably, they are also purposely generic, allowing for broad application for assessing sustainability in a variety of contexts. As such, these criteria served as the starting point for constructing the framework, indicating the core requirements for progressing towards sustainability. The examined cases of local initiatives in the Greenbelt region cannot enhance local sustainability if they are not addressing these eight criteria in

varying capacity. For each sustainability enhancing initiative, certain criteria will be a stronger focus over others given its goals; however, the initiatives should address all the criteria in ways that are mutually supporting. To account for each of the eight generic criteria when assessing cases, each will be folded into the constructed conceptual categories that will be discussed below, each criterion being a key component of the conceptual category.

Building on the foundational eight genetic criteria for sustainability, the conceptual categories developed for evaluating the initiatives are rooted in sustainability, community sustainability enhancement and factors of "effective" contributors to sustainability literature, as explored in chapter 3. Specifically, this conceptual framework builds upon key, recurring concepts found in the literature that consistently are identified as integral to progressing towards sustainability and understanding parameters that make up a sustainable community.

The main components, depicted and elaborated in Fig. 4, below, integrate the eight generic sustainability assessment criteria into four core considerations for evaluating community-scale initiatives: complexity, contributions to a sustainable community, community engagement and enhancing equity.

Understanding and appreciation of complexity is a foundational concept to sustainability. It allows those engaging in sustainability to recognize the interconnections among subsystems and scales of a given socio-ecological system, seek diverse approaches and perspectives, and enhance resiliency thinking. Understanding the complexity of socio-ecological systems entails the application of holistic approaches, demonstrating innovative thinking, working to enhance community resilience and facilitate necessary transformations.

Contributions to a *sustainable "good" community* apply concepts in the literature that are applicable to sustainability at larger scales but are especially significant at a local, community scale. Particularly important are enhancing social capital, fostering sense of place or connection to community, and developing lasting livelihood opportunities to support their community's agency and integrity. These factors are understood to be characteristics of communities working towards sustainability, or "good" sustainable communities, as discussed in Chapter 3, section 3.4.

Community engagement aspect of the framework refers to the ways in which initiatives engage with their communities and build connections with collaborators. The literature highlighted specific factors that enhance engagement, including a deep understanding of the needs of the community, engaging in diverse partnerships and collaborations, strong community leadership and efforts to empower their community.

Finally, *enhancing equity* is a key component of the framework, due to its increasing prominence in literature. In the context of this research, the equity being enhanced depends on the initiative itself, whether it is more social, ecological, or economic. Equity should be reflected in the initiative's leadership and decision-making processes, be both short- and long-term., The goal of empowering the disadvantaged must be a central part of the initiative, as opposed to a performative afterthought.

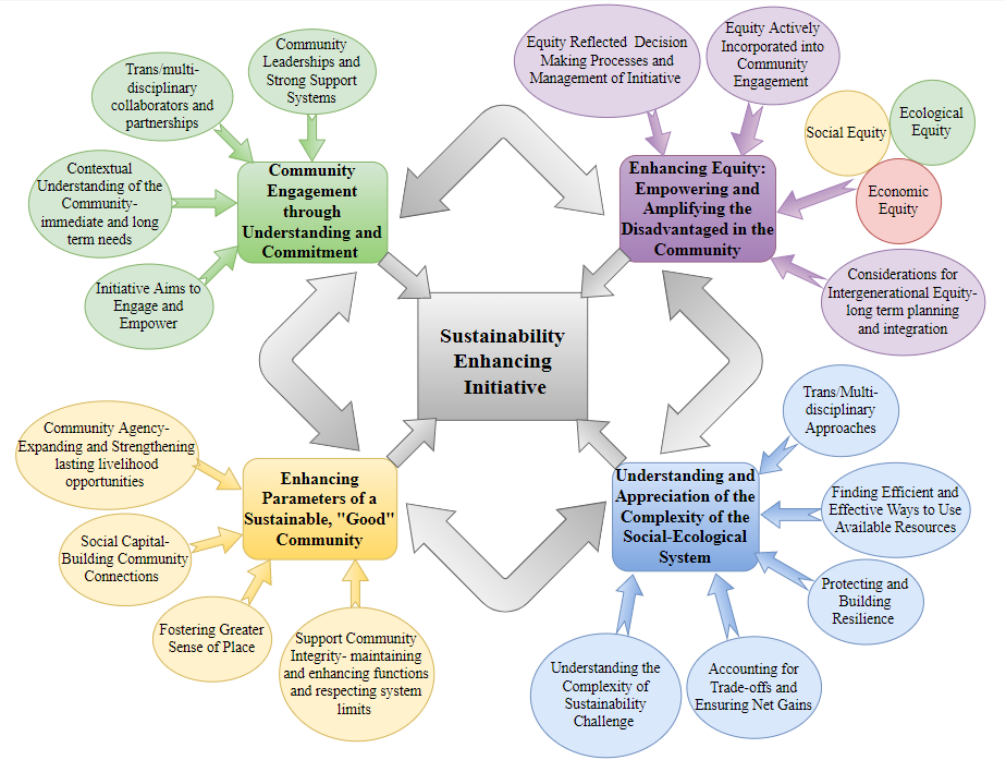

Figure 4: Constructed conceptual framework for assessing how selected sustainability initiatives are enhancing sustainability in their given "community"

The interactive and mutually reinforcing nature of the of the four components, as seen in Figure 4, illustrates how each main concept that constructs the framework is interconnected to the others, as contributions to one factor are enhanced by contributions to the others. Because of the complexities involved, enhancing sustainability requires the attention to the interaction of multiple variables, often many overlapping with one another, all of which collectively support the effectiveness of an initiative to enhance community sustainability.

4.2.2 Adjusted Embedded Conceptual Framework

In the process of exploring the stories of the community initiatives, it became increasingly evident the depth and richness for which these initiatives reflected the experience of actively working to enhance sustainability in a particular context. These critical insights were consistent with the foundational understanding of complexity and the four core concepts interacting together, but also reflected the characteristics of the place and participants and a context-specific depth of relationships and mutual influences. To capture these considerations, the conceptual framework was adjusted.

Adjusting a conceptual framework after assessing case studies is not a typical procedure for research; however, the process of research does not have to be fixed. Rather, it can often be dynamic and improved by revisiting structures that do not capture adequately insights arising from the research. For this MRP, adjusting the framework ensured it incorporated a more accurate understanding of the interconnectedness and depth s exhibited by the case studies. Inclusion of the adjusted conceptual framework at this stage in the report also provides greater insight into how the conclusions have been drawn from the research.

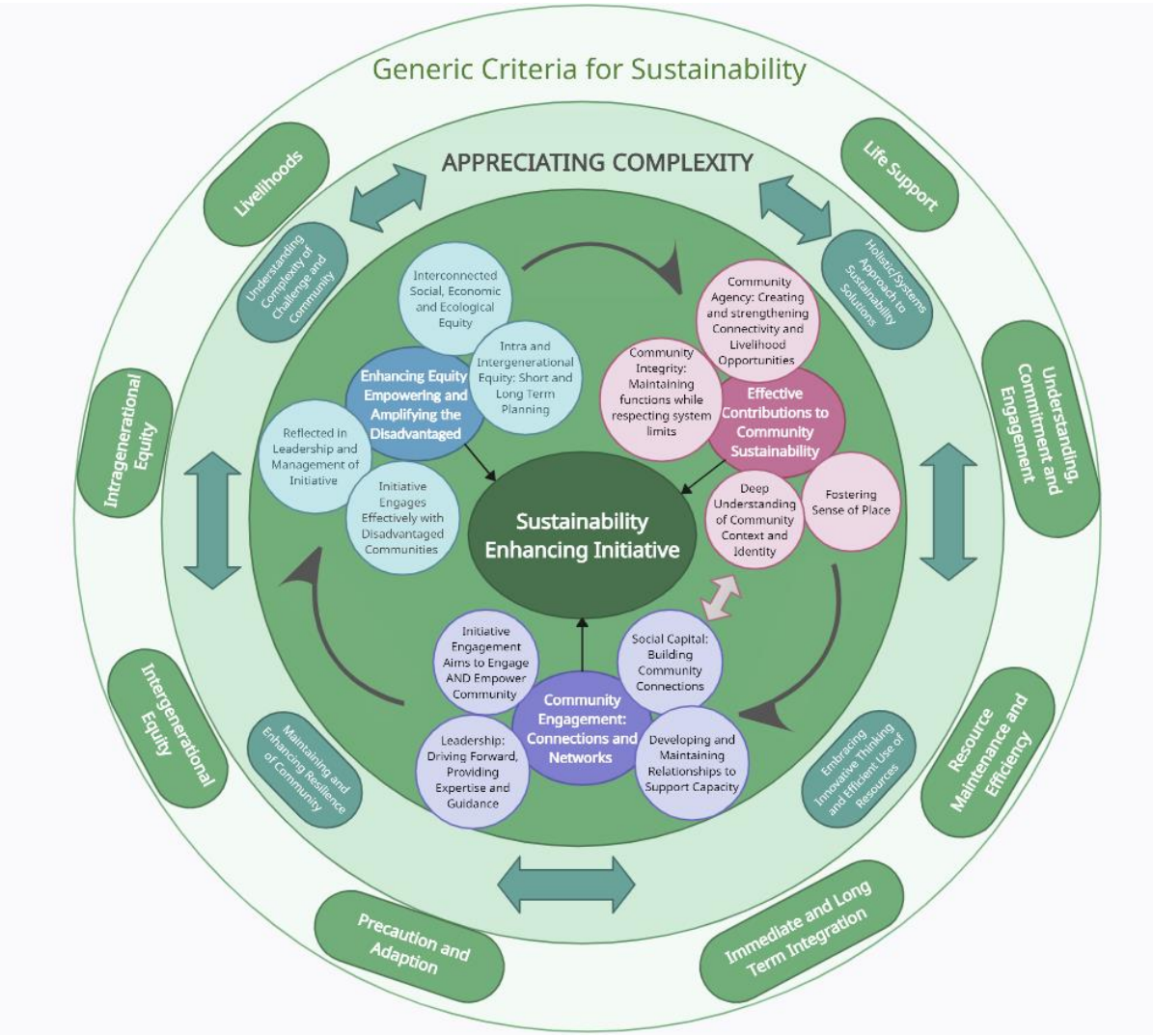

Figure 5: Adjusted Conceptual Framework reflecting the embeddedness of the factors contributing to enhancing sustainability. This revised structure reflects the interconnectivity of sustainability enhancing factors that emerged when exploring each case study with greater richness and depth, understanding how embedded and interconnected each factor was to one another. Through the circular shape, each layer reflects increasing depth of understanding, with the outer layer representing the foundational understanding that is embedded with the more detailed components viewed in the interior. As in the first iteration of the framework, the arrow indicate the interconnected nature of each of the concepts.

The adjusted framework in Fig. 5 aims to be a holistic guide to understanding how initiatives effectively enhance sustainability in the context of the stories told and examined in this paper. While complexity as a sustainability concept is widely understood to be critical, a common thread throughout

each success story was the foundational role of understanding the interconnections of sustainability challenges and of initiatives and participants in the community itself. Having that understanding of complexity facilitated greater openness to recognizing practices that demonstrate other key components, enhancing equity, effective community engagement and sustainable community factors. Additionally, this conceptual framework more effectively integrates the eight generic criteria for sustainability assessment in the framework, visually indicating how the linked criteria form the framework's foundation.

A notable detail in the adjustment is the inclusion of "social capital" in the "Community Engagement" factor, when initially it was an aspect of the "Good Community". This shift was made as, while social capital is a notable characteristic of a community working towards sustainability, it aligns more with community engagement. This aspect of the framework reflects the actions of the initiative in engaging with and serving their community, and growing in capacity, which reflects the process of building social capital. Building community connections and networks is a key aspect of each initiative's process, as will be apparent in Chapters 5, 6, and 7, and these connections are through the actions that initiatives take to build social capital. The "Effective Contributors to Community Sustainability" more specifically refers to characteristics of the initiative that reflect their understanding of their community and how they contribute to community agency, integrity and serving the unique needs of the community. However, these concepts are closely tied to one another, with the component of social capital overlapping and so the pink area indicates how this component is interconnected with both.

4.3 Conclusion and Preparation for Case Studies

Chapter 4 has provided an overview of the methodology applied for conducting this research, applying a qualitative, case study structure that gathers data through semi-structured interviews and presents the data in a story-telling format. The conceptual framework presented near the end of the chapter was designed to guide examination of the three community initiative cases discussed in the following chapters. The framework incorporates key concepts from the literature concerning sustainability and complexity in community. In the process of exploring each story, however, it became apparent the initial framework did not adequately account for the richness of influences from the particular context of Greenbelt initiatives. Therefore, an adjusted conceptual framework is included that accounts for the interconnectivity and richness that emerged through exploring each initiative. This second iteration of the conceptual framework provided the basis for how each case study was explored.

In this context, the following chapters, Chapter 5-9, will be the exploration of the community initiatives selected for the case studies, the Greenbelt Farmers Market Network, Alderville Black Oak Savanna and Shared Path Consultation Initiative, respectively. They will each explore enhancing community sustainability within their own socio-ecological context and sustainability themes. Through exploring these positive stories, the main research questions will be addressed and highlight key lessons in enhancing sustainability that can have implication for the sustainability literature as well as for further initiatives in the Greenbelt as a host for contributions to sustainability.

Chapter 5. Case Study 1- Greenbelt Markets and the Greenbelt Farmers Market Network: Enhancing Local Food Systems in the Ontario Greenbelt

The story of enhancing sustainability through the farmers' markets in the Greenbelt region begins with a large-scale project central to the Greenbelt Foundation's early efforts in supporting the local agricultural sector. The following case study is centered on the Greenbelt *Farmers' Market Network* (GBFMN), which has been supported by the Greenbelt Foundation for over ten years and led since 2018 by the Greenbelt Markets organization. It is a network-building initiative to connect farmers more effectively to consumers as well as to build social connections and increase access to economic opportunities for those whose livelihoods depend on the local agricultural industry. The network is closely tied to the Greenbelt itself. However, it is also linked with many other food and agriculture initiatives and networks that operate within or adjacent to the Greenbelt. All are indirectly supported by the Greenbelt initiatives and the culture fostered by the Greenbelt region.

The ever-expanding GBFMN embodies many aspects of Greenbelt's vision and purpose. Beyond farmers, markets, and vendors, the GBFMN fosters a convergence of many different people and organizations, including municipalities, residents of the Greenbelt and the larger Greater Golden Horseshoe region, local businesses, corporations, academic institutions, and non-profit organizations. Though not all are official members of the network, many collaborators contribute through resources and support, collectively working towards enhancing the functioning of local food systems in a region that has been tied to agriculture for decades.

Today, with the leadership of the independent *Greenbelt Markets* organization, the network is continuing to enhance economic opportunities, facilitate relationships for local Greenbelt farmers and markets, and contribute to truly sustainable local food systems. It continues to maintain a strong working relationship with the Greenbelt Foundation.

5.1 What is the Greenbelt Farmers' Market Network Initiative (GBFMN)?

By current estimates, the GBFMN is composed of over 100+ diverse farmers' markets across the Greenbelt region, with each market offering various local produce, meats, locally made goods, arts, crafts, etc. (Greenbelt Markets, 2023; A. Freeman, personal communication, November 16, 2021). The network provides a centralized mechanism for various marketers, vendors, and consumers to connect with one another to share in knowledge, resources, and opportunities, while also providing support in the case of

challenges faced by those within the network. All this serves the overarching purpose of growing and sustaining local food networks (Lewis, 2022, 2:00).

The GBFMN's network-building efforts include professional development events, resources for market organizers, and education in marketing. Many involve collaboration with similar agricultural sector organizations. The common objectives are to help markets and farmers to share knowledge and resources, strengthen business practices, take advantage of funding opportunities, enhance their economic viability and to engage directly with customers (Greenbelt Farmers' Market Network, (GBFMN), 2010). By creating this network and connecting people and businesses together, the GBFMN also acts as a support system and advocate for farmers' markets throughout the Greenbelt and Southern Ontario, especially when they are faced with considerable challenges, as will be explored below.

The GBFMN initiative works towards some of the Greenbelt's main goals, preserving agricultural land and providing social and economic opportunities throughout the Greenbelt, especially rural communities (Greenbelt Markets, 2022). It was clear at Greenbelt's inception, and remains true today, that there is a high demand among people in the GGH and GTA for locally grown produce. Thus, GBFMN initiative serves as a way for farmers, marketers, and vendors to engage in this expanding market, taking advantage of the opportunities that can be brought when markets and communities are connected to one another through a centralized network. Along with enhancing economic opportunity for farmers and markets, the initiative works to help bridge the social and agricultural system gaps between Greenbelt residents and their local food producers. This is in response to the disconnect between urban and agricultural communities observed by the Greenbelt Foundation and GBFMN leaders (B. Mausberg, personal communication, November 14, 2021; A. Freeman personal communication, November 16, 2021; D. Taylor, personal communication, November 22, 2021). By bringing communities together, within the agricultural sector as well as rural and urban, the GBFMN hopes to strengthen peoples' connections to their broader community, enhance regional "sense of place".

For the first nine years, GBFMN was a project under the direction of the Greenbelt Foundation, one of several Foundation projects working towards local food, agriculture, and rural community development. Since 2018, the GBFMN initiative has been under the direction of the independent organization, Greenbelt Markets, which continue to receive considerable support from the Greenbelt Foundation. As such, although under new leadership, the objectives and vision for the GBFMN initiative remain the same. Greenbelt Markets as an organization aims to emphasize the important role local food

systems play in our communities, and through the GBFMN, those living within and around the Greenbelt can begin to view farmers' markets as a vital space that everyone can engage in. Farmers' markets can be spaces in which all can reconnect with their community, whether rural or urban, while also creating economic opportunities, supporting farmers in their roles as land stewards and contributing to local and provincial sustainability goals (Lewis, 2022, 4:01).

5.1.1 Why is the Work of the GBFMN and Greenbelt Markets Organization Significant?

Farmers' markets have long been communal gathering areas, having been the primary way people purchased food and connected to one another and their local farmers for centuries. These markets were most often the only way people would access food and thus were critical parts of the community, while also being central community gathering spaces (Gurin, 2006; Lewis, 2022). In much of North America, this localized food system structure was largely eclipsed by the global food system people are now most familiar with today. This structure prioritizes large-scale, monoculture production and exportation for engaging in the global food market (Petrie et al., 2008; Miller, 2013; Mausberg, 2017). With this new system came greater quantities of globally sourced produce, but at a considerable expense (Miller, 2013).

This corporate food system has contributed to a significant disconnect to food, where it is produced, the people who grow it, how it reaches them or even where they can access local food (Scharf et al., 2010; Bond & Feagan, 2013; O'Kane & Wijaya, 2015). While a global phenomenon, this is true for Ontario. Despite living in the most agriculturally productive land in Canada, this disconnect was evident, especially during the period of the Greenbelt's establishment, although does persists today (B. Mausberg, personal communication, November 14, 2021; A. Freeman personal communication, November 16, 2021; D. Taylor, personal communication, November 22, 2021). As a result, there is a lack in understanding food's impactful role with how we engage within our communities (Miller, 2013; Bond & Feagan, 2013). Food is part of everyday life of all people, it impacts health, happiness, brings people together socially, helps people connect with their own culture, as well as others, crossing social and political boundaries (Bond & Feagan, 2013). As such, food is unique in its ability to bring all people together and we all collectively rely on it, and this is especially true for food that is locally produced in our own communities.

In recent decades, there has been growing dissatisfaction with the global, industrialized food system. Negative implications of this systems that have become more visible over time including the unequal distribution of power across the food system, contributions to food insecurity, impacts on food nutrition and growing concerns over the environmental implications (O'Kane & Wijaya, 2015; Leiper &

Clarke-Sather, 2017). In the Greenbelt itself, farms were, and remain, predominantly family-owned businesses, smaller in size, favoring smaller but diverse crops, and relying on direct marketing to be successful (Gurin, 2006; Petrie et al., 2008; Friends of the Greenbelt Foundation, 2015). As a result, it is difficult for local, small scale food production operations to compete in the food system against larger, well-resourced industrialized food companies. Thus, it is vital for farmers and others within the agricultural system to find reliable ways to make sustained livelihoods. Additionally, with greater societal awareness of shifting towards sustainability, the idea of supporting local food systems as a sustainable alternative to the larger agricultural system has grown in recent decades (Schupp, 2017; Leiper & Clarke-Sather, 2017). As a result, farmers' markets have re-emerged as an effective tool to support local food systems, due to their intersectional benefits and how they can help reconnect to localized food system structures (Gillespie et al., 2007; Bond & Feagan, 2013; O'Kane & Wijaya, 2015).

Evidence of farmers' markets reducing ecological impacts, transportation costs, supports local scale farms as opposed to industrialized scale producers' association with high levels of waste and GHG emissions (Gurin, 2006; Campsie, 2008; O'Kane & Wijaya, 2015). Even participating in a farmers' market can encourage sustainability thinking, as people become more aware that they are making choices that can contribute to lowering their carbon footprint (Greenbelt Farmers' Market Network, 2012). Socially, farmers' markets are effective gathering spaces for the community, providing the opportunity for people to connect with members of their own community as well as with local farmers. This social connectivity has the potential to reconnect people with where and who produces their food, helping to enhance appreciation for agriculture and form positive associations with food and the people they engage with (O'Kane & Wijaya, 2015). This can have a broader impact of fostering greater connections to their community, enhancing sense of place, as well as fostering interpersonal relationships within and outside the community, building social capital.

Economically, farmers' markets allow farmers to engage with customers directly, as opposed to through the "middlemen" of the larger industrialized food system and retain greater profit and control over their operations (Gillespie et al., 2007; O'Kane & Wijaya, 2015; Warsaw et al., 2021). Those advantages open greater potential to explore additional economic opportunities or focus their operations to serve specific localized market needs. Market networks can encourage innovation through knowledge sharing of best practices, promoting entrepreneurs in agriculture and exploration of product diversification, all contributing to greater viability and opportunity in for farmers to make sustained livelihoods (Gillespie et al., 2007). Furthermore, these economic benefits can extend outward for the

entire community, creating localized communities of support, which are especially important for small or rural communities, and contribute to community economic revitalization (Gurin, 2006; Brown & Miller, 2008; Dodds et al., 2014; Warsaw et al., 2021). These indirect economic benefits can include the increase in tourism from outside the community, supporting surrounding businesses, and jobs and economic activity adjacent to the agricultural sector (Warsaw et al., 2021).

Greenbelt farmers' markets are well-positioned, as they are directly adjacent to large, diverse urban markets, the GTA and larger GGH regions. As stated in Petrie et al. (2008), "farming's former foe may be its newest asset – neighbouring cities". More productive lands next to high demand markets can mean greater quantities of and more diverse produce for farmers' markets as well as more people with diverse life experiences able to access and engage in said markets. In this way, a land culturally connected to agriculture can start to reflect the unique diversity of the region, demonstrating food's cross- cultural impact (Ethnic opportunity for farmers report). The more people connected to the agricultural lands that produce their food, there is hope for more support for the continued protection of the land (A. Freeman personal communication, November 16, 2021).

5.2 Forming the Greenbelt Farmers' Markets Network

The formation of Greenbelt Markets initiative was a direct response to simultaneously emerging opportunities and challenges of sustaining local food economies in the years soon after the Greenbelt's establishment in 2005 (B. Mausberg, personal communication, November 5, 2021). The Greenbelt Foundation was keenly aware of the opportunity for farmers' markets in the region and how their associated benefits could help address the challenges faced by local farmers (B. Mausberg, personal communication, November 5, 2021). Having these farmers' markets be connected through a centralized network could offer more consistency and stability in the resources, knowledge and opportunities that could be available to all Greenbelt farmers and markets. The Greenbelt Foundation also recognized that such a network could bring vendors, marketers, and consumers together in a way where all can identify with the Greenbelt. This would be especially true for new farmers as they gain experience in direct marketing to consumers, share knowledge with one another and have access to resources through the Greenbelt Foundation's growing connections within the industry and other initiatives (Gurin, 2006). As a result, support for farmers' markets was one of many early initiatives undertaken to begin engaging with the agricultural community and hope to fulfill the Greenbelt's intended agricultural and economic goals.

5.2.1 Begin Growing the Network, But With the Right Leadership

In the early years of the Greenbelt Foundation, the organization who initially possessed the funding for building the GBFMN initiative assessed markets for the market's representation of Greenbelt vendors. Although meant to assess how much markets were supporting Greenbelt farmers and vendors at the time, Freeman (personal communication, November 16, 2021), the manager of the Dufferin Grove Organic Farmers' Market, found this method to be a way of alienating city markets. Having her own market be critiqued for its Greenbelt vendor representation, despite the Greenbelt having only recently coming into existence, demonstrated a lack of understanding and appreciation for the farmers and communities who had built up farmers' markets. These markets existed long before the Greenbelt had been established. Freeman understood that for this initiative to be effective at growing, farmers and vendors, these markets needed to be *allies* with the Greenbelt Foundation. The initiative needed to educate and grow awareness, not criticize. In taking the "learning" approach, farmers' markets could be encouraged to grow the representation of Greenbelt farmers through greater understanding of what the Greenbelt was and why it was important to support Greenbelt farmers and vendors (Freeman, personal communication, November 16, 2021).

In seeking a leader with considerable knowledge of challenges and opportunities of farmers' markets, the Greenbelt Foundation turned to Freeman. In her time as the market manager, she had successfully grown the market from six farmers, to upwards of thirty vendors, leading it to become one of the most popular in the city (B. Mausberg, personal communication, November 5, 2021; A. Freeman personal communication, November 16, 2021). With her insider knowledge and experience, the Greenbelt Foundation hoped that Freeman would be able to do for the GBFMN what she had for the Toronto Farmers' Market Network, create a thriving market network (A. Freeman personal communication, November 16, 2021). Her time with the Greenbelt Foundation started small, with organizing the markets tent program, providing tents to eligible vendors, but her role would expand substantially from there (A. Freeman personal communication, November 16, 2021).

For Freeman, the best strategy for structuring the network was to ensure that the initiative supported the heart of the farmers' markets, the farmers themselves (A. Freeman personal communication, November 16, 2021). It was important in the early stages to demonstrate that the initiative was on farmers' side, to understand and advocate for their needs to be successful in markets. This was especially important due to the general lack of cohesiveness that existed among current markets

outside the GTA region observed by Freeman. Competition between farmers often meant that there were not centralized tools those engaged in markets could use to communicate and share information with one another (A. Freeman, personal communication, November 16, 2021). As a result, early engagement focused on special events for farmers and market managers, those most directly engaged in farmers' markets as a key part of their business. This was not only to share in information about the Greenbelt, the Foundation, and the goals of the new GBFMN, but also to simply bring people together from different markets to share in knowledge and experiences to begin building those critical connections. Farmers and markets did not have to see themselves as competition, but rather, be *allies* in the market space, as all collectively shared the same thing, more developed local food systems (A. Freeman personal communication, November 16, 2021).

Demonstrating Support for Farmers

The Greenbelt Foundation had their chance to demonstrate their support to farmers most evidently during the 2009 workers strike in Toronto, which included a garbage strike (Lewington & Fenlon, July 28, 2009). This strike took place in the summer, which was strawberry season for farmers and this strike risked significant disruption for farmers and their livelihoods for the season. Through a connection between the Greenbelt Foundation and the Canadian Union of Public Employees (CUPE), they were able to make an agreement that the labour organizers would not block the farmers from being able to sell their produce during this critical time. Additionally, there was support from Public Health, as despite health inspectors also being on strike, market managers were trusted to run the farmers' markets safely. This was significant as markets during such a critical season could have been entirely shut down. This small but vital victory was an early indicator that the Greenbelt Foundation and GBFMN were working to support farmers' livelihoods (A. Freeman personal communication, November 16, 2021).

Along with establishing support for the farmers, Freeman understood the barriers to the success of establishing a market network specific to the Greenbelt region. One of the most critical was the evident urban-rural community divide, mentioned above (B. Mausberg, personal communication, November 5, 2021). Both urban and rural communities needed to be educated about the Greenbelt's purpose and bringing them together to see the role each played in supporting local food economies. Urban communities, due to their larger populations and greater connections to resources, are often the largest customer base for farmers' markets as well as powerful voter bases for policy that supports farmers' markets. With urban communities valuing the land for which local food is produced in and the

experiences from engaging with farmers' markets, they could be powerful voices in supporting the need to preserving the livelihoods of rural communities and adjacent farmland (A. Freeman, personal communication, November 16, 2021).

Urban communities and city markets could be important allies for raising awareness of the Greenbelt and be significant partners to their rural counterparts. Thus, when starting to build the network, Freeman ensured that markets eligible for inclusion and support from the GBFMN would not only be for those geographically located within the Greenbelt. If markets wanted to participate in the network, they simply needed to have farmers or vendors from the Greenbelt included in their market, as showing any sort of support for the Greenbelt was enough. Slowly, this could allow for connections to build connections among the rural farmers and vendors in urban markets and for information about the Greenbelt to be shared wider and wider (A. Freeman, personal communication, November 16, 2021).

Purpose of the Greenbelt Farmers Market Network Initiative
• Support the growth of farmers' markets throughout the Greenbelt due to their intersectional economic, ecological, and social benefits on their respective communities to enhance the Greenbelt's impact on sustainability • Support the vision and goals of the Greenbelt by "providing economic and social activities associated with rural communities, agriculture, tourism, recreation and resource uses" through farmers' markets • Promote the Greenbelt Foundation as an organization dedicated to supporting the agricultural community through their support of farmers' markets as an economic opportunity for local farmers and rural communities • Promote the role of the Greenbelt as a tool for agricultural land protection by engaging those from rural and urban communities with farmers' markets, providing positive experience with local food producers to encourage support for further land protection • Create a directory of all farmers' markets throughout the Greenbelt for the Greenbelt Foundation to share in knowledge, resources and opportunities more efficiently • Address the disconnect and competition among different farmers' markets throughout the Greenbelt and foster a sense of connection and allyship to support greater inter-learning and sharing of resources

- Address the cultural divide and disconnect between urban and rural communities, bringing them together through food, helping encourage urban communities to support and engage in rural economies
- Begin changing the way we interact with and think about farmers' markets, viewing them as an essential part of local food systems and reliable sources of locally produced food

5.3 Unique Contributions to Enhancing Sustainability: How Greenbelt Markets Connects and Supports Greenbelt Marketers, Vendors, and the Communities Who Engage With Them

5.3.1 Growing Support, Implementing Programs and Building a Network

In the beginning, there lacked a directory of the existing markets and their managers at the time and so earliest efforts for the GBFMN was to research what communities had markets, who their vendors were and attempt to create an inventory of all the producers (A. Freeman, personal communication, November 16, 2021). This was a difficult undertaking, given the difficulty of contacting managers at the time and the sheer number of potential producers and farmers that were in the Greenbelt. Gradually, over time the team working on the GBFMN initiative built up a directory of producers and connected with managers who became more willing to work with the Greenbelt Foundation and began sharing information (A. Freeman personal communication, November 16, 2021). Many of these early connections were made from attending agricultural conventions and travelling to the several known farmers' markets. Slowly, they built rapport with varying farmers' markets, allowing the GBFMN initiative to slowly build trust and greater willingness to engage (A. Freeman personal communication, November 16, 2021).

The earliest iteration of the Greenbelt market directory was through Greenbelt*fresh*.ca, established in 2009. This "match-making" website allowed for vendors to put their product lists online and managers could more easily search for vendor's offerings and connect them with their markets (Friends of the Greenbelt Foundation, 2010; A. Freeman personal communication, November 16, 2021). This online matchmaking tool was made free, to enhance accessibility and allow for market managers, producers, and consumers to seek out the location of markets, their vendors as well as find specific produce (Friends of the Greenbelt Foundation, 2010; Greenbelt Foundation, June 05, 2020). This tool not only facilitated a communication and connectivity need for markets, vendors, and consumers, but it also addressed the initial challenge of providing a registry for those engaged in farmers' markets throughout the Greenbelt. At the time, this online tool took advantage of the newly emerging tool that was the

internet, something that would foreshadow the important resource it could serve in times of challenges or struggle within the local food system.

Given Freeman's recognition of the importance of engaging market managers, one of the most notable early engagement programs was the running of Market Manager Day events. Notable given that the first Market Manager conference brought managers from farmers' markets across Southern Ontario and Greenbelt together "in one room" for the first time (Lewis, 2022). Managers of farmers' markets fill a variety of roles, accounting, record-keeping, maintaining correspondences with farmers and vendors, social media management, volunteer, and vendor support as well as outreach, promotion, market planning, etc. As such, managers are significant in their impact and influence on farmers' markets, not just in sharing information about the Greenbelt, but on the success of the markets themselves, whether they could sustain themselves, continue to grow and access greater opportunities for their farmers (Greenbelt Farmers Market Network, 2013). The purpose of the Market Manager events was to provide an opportunity for managers to engage in professional development programming and gain skills and resources that they could then bring back to their respective markets. (A. Freeman personal communication, November 16, 2021). These events included industry leaders and prominent organizations in the agricultural field, including FoodShare, explored more below, who could all come together to provide training, tools, and industry knowledge to managers.

These events provided a consistent way for the GBFMN to continually engage with the markets they supported and slowly build up the network through the connections built among managers and agricultural organizations. From then on, Market Manager events were run consecutively each year, up until the COVID-19 pandemic, providing an annual opportunity for market managers to continue coming together. As information spread about the events, and more managers attended, the more information and the Greenbelt and the purpose of the GBFMN was shared, enhancing the capacity of the GBFMN (A. Freeman personal communication, November 16, 2021).

After many years of networking, forming connections and gaining greater support from the agricultural community, the GBFMN could begin to take on more ambitious projects that could focus on providing support and resources for farmers and their operations. The most notable of which being the micro-grants program. The micro-grants program aimed to create market opportunities for farmers using smaller amounts of grant money of between $500-$2000 (Greenbelt Fund, n. d.). These micro-grants provided low financial risk to the farmers and the GBMNF to fund innovations while also allowing the

GBFMN to support a greater number of farmers. The title of the program changed each year, but each time it had a similar objective, to stretch out this small amount of money to enhance farmers' operations. Whether it be through providing new products, scaling up their operations, extending their growing season, etc. (Alternative Journal Staff, 2015; A. Freeman, personal communication, November 16, 2021).

The Production Opportunities Program, the 2016 iteration of the microgrants program provided micro-grants to 32 farmers, which used the funding for a wide variety of projects. Some examples include installing hoop houses and irrigation equipment to support raising pastured poultry, a filling machine to scale up production of home-grown preserves, supporting the construction of a cheese aging room, installing buried pipes for efficient irrigation and less maintenance and finally, and helping to build a commercial kitchen to provide will provide year-round income (Alternative Journal Staff, 2015; Greenbelt Fund, n. d.).

For Freeman (personal communication, November 16, 2021), the micro-grants were among her favourite projects while working at GBFMN. This was in large part due to the diversity of farmers she was able to interact with, the number of projects that could be supported and how it encouraged innovative thinking from those engaged in their respective projects. What sticks out in her mind was working with an individual bean farmer. This Farmers' grant went towards converting a trailer into a mobile commercial kitchen, allowing her to cook at the markets with her produce. Each week she would cook new dishes and offer new products, making her an innovative and creative vendor at each market she attended, making a big impression, despite her small stature (A. Freeman, personal communication, November 16, 2021). Although small, when applied to the right thing, these grants could make a significant impact.

5.3.2 Building on the Foundation: Establishment of Greenbelt Markets

After several years working with the GBFMN, Freeman stepped down from director to go back to managing the Dufferin Grove Organic Farmers' Market full time once again, the market she had never truly left even while managing the growing GBFMN. Leadership was handed over in 2018 to the new Co-Directors, Daniel Taylor and Madeline Chambers, who were brought on to continue building upon what Freeman had largely founded. Under this new leadership, Greenbelt Markets was launched as an independent organization that would continue to direct and manage the GBFMN initiative. However, it still works closely with and receives funding from the Greenbelt Foundation through the GBFMN initiative.

As Taylor would report, (personal communication, November 22, 2021), Freeman was the implementer, having established programs and tools for the initiative as well as building up the initiative's connections, credibility, and trust during her time as director. The new Co-Directors are the marketers, who could build upon the solid foundation Freeman established and market the GBFMN initiative, to not only continue building the network, but also leverage its resources and connections to support more local food initiatives (D. Taylor, personal communication, November 22, 2021). Greenbelt Markets is based in Toronto, focusing on building a network of food hubs across the city as well as providing planning and consultation services to other organizations, city markets or grassroot initiatives. All in the effort to build a stronger, more sustainable local food system in and around the GTA. Because farmers' markets are effective community gathering spaces to build social connections, they are a key part of developing food hubs within the city of Toronto, as well as in the broader Greenbelt region.

Much of Greenbelts Markets' work under the new Co-Directors involves supporting several farmers' markets, through helping to build up and manage, provide training, resources, and consultation on operations. These markets include the High Park Community Market, Leslieville Farmers Market, Metropolitan Farmers Market and Seneca Farmers Market. Providing services to farmers' markets are so critical as many markets are run by the communities themselves, often relying on volunteers. As a result, many market organizers have little to no professional direction or support to grow their markets and support the livelihoods of those who organize them (Greenbelt Farmers Market Network, 2013; Lewis, 2020). By providing direct support for farmers' markets around the city of Toronto, Greenbelt Markets hopes to increase market accessibility to those in the city, connect local producers to urban communities and help to provide more support to the communities and individuals who organize the markets.

Through these partnerships, Greenbelt Markets can support the day-to-day operations of markets as well as help work towards larger projects and build connections with other aspects of their community. An example of this, is the partnership between Greenbelt Markets and St. Michael's Hospital Farmers' Market, developed a project that aimed to help to introduce local food markets to hospitals who are part of the Unity Health Toronto (Greenbelt Fund, 2013). This was a huge battle. As Taylor (personal communication, November 22, 2021) describes, many were hesitant to "introduce anything other than muck" into hospital systems. After two trial years of the project and a collection of data around the health impacts of fresh vegetables into health systems, there was far less hesitancy for associated hospitals to connect themselves with local farmers' markets across the city (D. Taylor, personal communication, November 22, 2021).

The biggest project for Greenbelt Markets in recent years has been the Neighbourhood Food Hub project, a collaborative project operating in Toronto's East End. The purpose of the project is to work with already established, but often underutilized community gathering centers across the city and transform them into functioning spaces that can house the growth of community food hubs (The Neighbourhood Food Hub, 2022; D. Taylor, personal communication, November 22, 2021). These spaces can then be used by community groups to hold events, host workshops, meetings or conferences or rent out the Neighbourhood Food Hub commercial kitchen. An example of a space being given "new life" was an old church in Greenwood-Coxwell that was renovated so that could be used for small scale farmers and local businesses to gather and establish a food hub in that neighbourhood (D. Taylor, personal communication, November 22, 2021). What is so significant about this space being a food hub that that this neighbourhood has a higher proportion of seniors who live alone and in poverty, a demographic often experiencing food insecurity (City of Toronto, 2019). The presence of a local food hub can help to enhance food accessibility by bringing a food market and local business owners right into the community where fresh, locally produced food is both needed, and often less accessible.

5.3.3 Greenbelt Farmers Market Network in Action During Crisis

The COVID-19 pandemic marked one of the first agricultural sector wide scale challenges Greenbelt Markets would have to address in their effort to support farmers' markets. Social interactions are often the main drawing point of a farmers' market, the ability to engage with one another face to face, build connections, and have an enjoyable experience. Suddenly for the 2020 markets season, consumers, farmers, and marketer managers realized this vital part of the farmers' markets, social engagement, would not be possible. With ever-changing restrictions on social gatherings, the market season for farmers, a critical season for smaller scale local producers, could potentially be shut down completely. This was even more critical as many farmers had lost close to a third to half of their customers since the pandemic hit, already impacting income significantly (Ontario Greenbelt, 2021).

Organizations such as Toronto Food Policy Council, Sustain Ontario and Farmers Market Ontario came together to advocate for farmers' markets, eventually leading the Province of Ontario to declare farmers' markets an essential service. This secured the market season for farmers, allowing the season to move ahead (Ontario Greenbelt, 2021). Although, with still little to no idea of what would happen, there was understandable concern from vendors, the GBFMN team recognized that for the 2020 market season,

things would have to be quite different to accommodate for the unprecedented situation everyone was faced with.

In what Taylor (personal communication, November 22, 2021) describes as the "pandemic pivot", all projects and upcoming events for the market season needed to be shifted. Rather than attempting to establish projects that could support farmers and markets in the long term, the team suddenly had to focus on helping farmers operate and function in a new way within a matter of weeks. In collaboration with a local e-commerce start-up company, Local Line, Greenbelt Markets provided dozens of free online market spaces, allowing 50 markets and their vendors to shift their operations completely online (D Taylor, personal communication, November 22, 2021; Ontario Greenbelt, 2021). Switching to online food market format was similarly followed by several farm stores and markets as many grocery stores and restaurants had effectively utilized the system to sustain business during the early months of the pandemic. Although there was great uncertainty at the time if this online system would be successful, early feedback from farmers and customers indicated that many appreciated the opportunity to continue buying local produce (Coppolino, 2020).

For some farms, such as Kooner Farms, the option to make produce available online not only helped to recover pandemic income, but also helped them surpass the anticipated sales for the season (Ontario Greenbelt, 2021). In addition to managing the online market rollout, Greenbelt Markets also helped to teach workshops about the logistics of how to run an online market. A much-needed service considering most market managers, farmers and vendors likely did not have as much technological experience. Partly due to demographics but also likely due to most farmers and managers preferring social engagement, as opposed to navigating technical logistics, hence their participation in markets. Although, this is a theory proposed by Taylor (D Taylor, personal communication, November 22, 2021).

Despite the lack of ability to plan for the long term and primary data about farmers' markets economic impacts, Greenbelt Markets was quickly able to "pivot" how farmers' markets do business, in a time where its most valuable feature, social engagement and connectivity was significantly reduced. In the end, Greenbelt Markets observed around $1.3 million in sales over the markets season and supported 570 farmers and vendors, averaging $2389 in sales per vendor (Ontario Greenbelt, 2021). In their efforts of demonstrating resilience and innovation in the face of such significant change, Greenbelt Markets was one of the 2021 Friend of the Greenbelt Award recipients (Greenbelt Foundation, 2022b).

5.4 Collaborations and Relationship Building to Fund and Support Greenbelt Markets

5.4.1 Foundational Support: Greenbelt Foundation, Foodshare and the City of Toronto

Critical to the GBFMN initiative's sustained persistence and the existence of the Greenbelt Markets organizations is the foundational support from the Greenbelt Foundation. Since its formation in 2009, the Greenbelt Foundation has been a consistent supporter of the GBFMN, being the main source of funding that has sustained this initiative (B. Mausberg, personal communication, November 5, 2021). The Greenbelt Foundation recognized the potential of a unified farmers market network as it could enhance public relations, provide educational opportunities about local food economies and be an avenue to advocate for supporting the local agriculture sector (B. Mausberg, personal communication, November 5, 2021). Many of the GBFMN's efforts, including the Market Manager Days, micro-grants, connecting to related organizations, accessing industry resources, and the pandemic pivot, was largely due to the continued support and funding by the Greenbelt Foundation.

Support for GBFMN was also facilitated through the Greenbelt Fund, a separate not-for-profit organization established by the Greenbelt Foundation that specifically focuses on providing grants to Greenbelt agricultural and environmental initiatives. Grants provided by the Greenbelt Fund to the GBFMN includes the "*Partners in Production 2017"* aimed to "provide cost-sharing investment assistance to 16-20 small and medium-sized farms to increase and diversify offerings at local farmers' markets" (Greenbelt Fund, 2017). In 2018, the "*Rebuilding Consumer Trust in Farmers' Markets*" grant was made to conduct a "comprehensive survey of consumer attitudes towards farmers' markets and utilize the findings to develop new marketing strategies and materials," while also helping to provide resources, education material and business tools for farmers to better engage with customers (Greenbelt Fund, 2018).

The Greenbelt Foundation continues to see the value of the network of farmers' markets, given farmers roles as land stewards, and the capacity for enhancing connections to the Greenbelt through food. Connections that can extend to further supporting the Greenbelt for its agricultural and ecological goals of land preservation, economic opportunity, and conservation (Lewis, 2020). Therefore, although Greenbelt Markets has become an independent organization that manages the GBFMN, they continue to receive support and funding from the Greenbelt Foundation (Greenbelt Foundation, 2022a).

The GBFMN's next most significant partner, supporting the efforts of the initiative alongside the Greenbelt Foundation, was FoodShare Toronto (A. Freeman, personal communication, November 16, 2021; D. Taylor, personal communication, November 22, 2021). FoodShare became an important and influential supporter early on for the GBFMN initiative. Foodshare was a critical part of the GBFMN growth, providing the resources, knowledge and connections needed to sustain itself and conduct the programs needed to support farmers and markets as well as grow in credibility in the agricultural sector (D. Taylor, personal communication, November 22, 2021). FoodShare is a Toronto based not-for-profit organization that supports communities within the city of Toronto to enhance food justice. Having been founded back in 1985, this organization is the largest and longest-serving food security organization in the city and has garnered greater support and credibility in its time supporting local food security initiatives (Friedmann, 2007; Blay-Palmer et al., 2016). FoodShare aims to address the roots of the complex challenge that is food insecurity by directly working with communities, neighbourhood leaders, grassroot organizations and policy makers to establish long term solutions with an emphasis on inclusivity and diversity (FoodShare, n.d.).

FoodShare manages several notable programs in the city of Toronto, including the Good Food Box delivery program, community gardens, nutrition education and the Good Food Markets program (Foodshare, programs, n. d. a). Good Food Markets aims to bring farmers' markets that contain high quality, seasonal and cultural produce to areas where markets are not typically available. The GBFMN promoted FoodShare's Good Food Markets model as part of their Managers Day event to encourage the incorporation of this model for other markets to encourage greater market accessibility (A. Freeman, personal communication, November 16, 2021).

The organization also supports the operations of these independent markets organized by providing community-scaled organizations or leaders with training, tools, and resources to properly coordinate the market. Most importantly though, FoodShare helps to facilitate the delivery of fresh produce, sourced directly from local farmers and the Ontario Food Terminal (FoodShare, n.d. b). Much of the food provided by the Ontario Food Terminal, is food produced from Greenbelt farms (D. Taylor, personal communication, November 22, 2021).

Since the establishment of Greenbelt Markets in 2018 as an independent non-profit and engaging in more projects and markets within the city, the City of Toronto has become a significant partner (D.

Taylor, personal communication, November 22, 2021). The City of Toronto has provided continual funding for Greenbelt Markets projects, as the city sees the organization leading local food pilot projects at the community level. In this way, the city can support enhancing the sustainability of its overall food system from the bottom up (City of Toronto, 2019; D. Taylor, personal communication, November 22, 2021). Given the City of Toronto is continuing to provide funding for Greenbelt Markets, specifically the Neighbourhood Food Hub project, it is likely their support will continue (City of Toronto, 2019; D. Taylor, personal communication, November 22, 2021). By supporting Greenbelt Markets, the City of Toronto helps to sustain the organization, allowing allow it to continue working on projects within the city, and the GBFMN.

5.4.2 Agricultural Sector Support

In the early years of the GBFMN, it was critical to begin forming connections and establishing relationships and so the GBFMN were frequent attendees at the Guelph Organic Conference, an annual event facilitated by the Organic Council of Ontario. This event brings together food producers, businesses, organizations, and individuals involved in the food sector, providing an opportunity to market products, engage in networking and access resources related to best practice to enhance organic food production operations (Organic Council of Ontario, n.d.). The Guelph Organic Conference provided an opportunity for the new GBFMN to network with other local individuals and organizations in the agricultural sphere. This was helpful as it allowed the GBFMN to not only to form new relationships, but also gain resources and knowledge to better support markets and farmers each year they attended (A. Freeman, personal communication, November 16, 2021).

Additionally, the GFBMN helped co-plan projects with the Ecological Farmers Association of Ontario, an organization that supports farmers and building resilient operations through community building efforts, emphasizing knowledge sharing through farmer-led education and research. Understandably, the shared goals of building a community and providing resources to a network of farmers brought GFBMN and Ecological Farmers Association of Ontario together (A. Freeman, personal communication, November 16, 2021). The GBFMN also benefited from Freeman's strong ties to the Toronto Farmers' Market Network, as it made it easier to connect with the numerous markets within the city to begin disseminating information about the Greenbelt and start incorporating existing markets and vendors.

Staple organizations in the Ontario agricultural space, including Sustain Ontario, the Golden Horseshoe Alliance, Culinary Tourism Alliance, etc., have always been welcoming to the GBFMN and Greenbelt Markets. As stated by Taylor (personal communication, November 22, 2021), Greenbelt Markets and the GBFMN were always welcomed by these larger organizations to engage in this agricultural space when conducting their projects and programs, which enabled the initiative to continue moving forward as opposed to facing resistance within the sector. Sustain Ontario, for example, promoted GBFMN's *GreenbeltFresh* online market tool, news about GBFMN markets and Manager Days and other GBFMN programs. Most recently, as mentioned above, Sustain Ontario was among the group of agricultural organizations that advocated for designating farmers' markets as essential services, enabling the network of Greenbelt farmers' markets to move forward with the 2020 market season (Ontario Greenbelt, 2022).

Since Greenbelt's Markets independent work began in 2018, it quickly partnered with several markets within the city, providing consultation to help coordinate and support operations. During the pandemic, Greenbelt Markets supported the Leslieville Farmers' Market to provide emergency food boxes with fresh food options, through the FoodShare's Good Food Box delivery program. Much of this food, sourced through FoodShare, is from Greenbelt farmers as well as with localized food sources from nearby markets. While bringing together markets, it also provided an economic outlet for farmers and local food producers after important buyers, such as restaurants and cafes closed during the pandemic (D. Taylor, personal communication, November 22, 2021). The Metropolitan Farmers' Market was able to hold its first market in 2021 along Queen and Church Streets in downtown Toronto, supported in part by Greenbelt Markets, with vendors made up of several diverse local business owners and farmers in and around the city (Metropolitan United Church, n.d.). St. Michael's Hospital is among Greenbelt Markets most notable partners given the success of introducing farmers' markets' produce to Unity Health Toronto's hospitals and the research conducted during the project (D. Taylor, personal communication, November 22, 2021).

Lastly, one of Greenbelt Markets' most recent partners has been the private electrical commerce company, Local Line. Local Line, as mentioned above, was critical to the Greenbelt Market's ability to sustain the 2020 markets season for farmers through the available online marketplace platforms developed by the company (D. Taylor, personal communication, November 22, 2021). Local Line provided significant discounts to Greenbelt Markets for establishing online marketplaces for local farmers

in the early stages of pandemic. These discounts were provided to Greenbelt Markets as Local Line recognized how significant losing farmers' markets would be to the local food economy. The advantage of forming this partnership with a private sector company is that they often can provide resources, knowledge and opportunities that may have been initially unavailable or inaccessible to those in the financially limited non-profit sector. Local Line's incredibly useful service helped Greenbelt Markets to serve their community much faster and more effectively than if they had to develop a similar platform on their own. As online marketplaces become an increasingly important avenue for farmers to engage in markets in the future, partners with resources like Local Line will be an important in the years ahead for Greenbelt markets (D. Taylor, personal communication, November 22, 2021).

5.5 Main Challenges and Limitations for the Greenbelt Farmers Market Network Initiative and Greenbelt Markets and How They Were Accounted For

5.5.1 Funding Challenges and Limitations

Being that GBFMN was a funding-based organization, supported almost entirely by the Greenbelt Foundation, the associated Greenbelt Fund, and FoodShare, there was a lack of long-term stability for the initiative (A. Freeman, personal communication, November 16, 2021). This limited source of funding, alongside the Greenbelt still attempting to establish itself, leads to uncertainty in continued or renewed funding prospects. As a result, the initiative could not make long term plans for operations or programs for fear they may not receive funding (A. Freeman, personal communication, November 16, 2021). Many of the early projects organized by the GBFMN were conducted on short timelines, ranging from a season, up to only a few years. Sources of long-term career sustainability and viability for farmers, such as establishing insurance and, benefits as well as continuous training and education programs, were not viable for this initiative that lacked long term stability (A. Freeman, personal communication, November 16, 2021). As a result, despite many of the impactful projects facilitated by GBFMN from season to season, there were objectives that the initiative could not fulfill, especially in its foundational years.

This short-term funding model also created the challenge of needing to demonstrate results on shorter timelines to indicate that the funding was being used effectively. For the GBFMN, the results of a project often had to be reported after only a year (A. Freeman, personal communication, November 16, 2021). Unfortunately, projects often need longer timelines to demonstrate positive impacts, especially on a system wide scale. What this meant is that those on the GBFMN had to be more creative and innovative in the types of projects that could be done to demonstrate positive results on a shorter timeline, as seen

with the annual Manager Day events or the micro-grants program. Those working with the initiative at the time worked beyond what was expected of them to ensure the initial success of the initiative's projects (A. Freeman, personal communication, November 16, 2021). Although the initiative could not see the long-term impacts of their program, which would provide a more accurate indication of how the initiative was impacting markets and farmers on a systematic scale, there were indications of short-term, positive impacts (A. Freeman, personal communication, November 16, 2021).

Although Greenbelt Market and GBMFN have become more established and gained more stable sources of funding, the challenges associated with funding persist. As described by Taylor (personal communication, November 22, 2021), oftentimes the use of funding would have to align with the interests of the organization who provided it, often being "beholden" to provincial strategies, societal priorities of the time and organizational expectations (D. Taylor, personal communication, November 22, 2021). As a result, the Greenbelt Markets team would have to accommodate for the different perspectives or interests of funders. However, this issue has been less impactful when Greenbelt Markets became a more independent organization (D. Taylor, personal communication, November 22, 2021). This limitation did present the opportunity for the Greenbelt Markets team to be creative in how they would achieve the intended goals of the GBFMN. This challenge is not unique to GBFMN, as many similar non-profit organizations often must balance the interests of funders to the intended goals of the initiative.

5.5.2 The Trouble with Farmers' Markets Themselves: Too Much of a Good Thing

The increased popularity of farmers' markets and the rise in the sustainability movement have created some challenges threatening the economic viability of farmers' markets. With the high demand and interests from adjacent populations in accessing local food, farmers' markets have become an increasingly visible and viable option to not only shop at, but participate in. With the perceived viability of markets, the number of markets themselves and vendors throughout the Greenbelt region, especially in the Toronto area, have increased, with the number of markets now exceeding demand (Informa & Greenbelt Foundation, 2016). As observed by Freeman (personal communication, November 16, 2021) and reported on by Greenbelt farmers and managers, many markets reached saturation points (Greenbelt Farmers Market Network, 2010; Friends of the Greenbelt Foundation, 2015). While the increased number of options can be beneficial to customers, it makes it increasingly difficult for farmers, especially those that heavily rely on the market season, to compete with the sheer number of other vendors. With increased density of vendors and differing markets, market attendance and diverging customer base

continues to have negative impacts on farmers and vendors (A. Freeman, personal communication, November 16, 2021).

Secondly, the increase in markets and vendors has resulted in an increase of inauthentic vendors or resellers, who claim their products are "organic", "locally produced" or are sourced from family farms, with no basis. The main purpose of shopping at a farmers' market is the understanding that customers are purchasing locally grown food products and supporting local farmers, often paying higher prices for products for these reasons. With the increase in economic viability and knowledge that customers are willing to pay higher prices, some vendors are misleading customers about the authenticity of their "locally grown" products (Denne & Foxcroft, 2017). This issue surrounding authenticity of certain vendors was a persisting concern from customers (Greenbelt Farmers' Market Network 2010, 2012 & 2015). A *Marketplace* investigation from the CBC found evidence of some Ontario vendors across 11 investigated markets falsely claiming their products were locally grown, despite buying them wholesale. Farmers at those same markets were not only aware, but increasingly frustrated by the practice, as these false local vendors are additional competition impacting their ability to make income and contribute to reducing customer trust in farmers' markets in general (Denne & Foxcroft, 2017).

5.5.3 Lack of Equity in Farmers' Markets

It must be acknowledged that farmers' markets have long not been reflective of their communities, lacking equity and inclusivity, in not only who shops at markets, but also who sells at them. Equity in the farmers market space has been a persisting issue, long before and not unique to the networks of markets under the GBFMN and Greenbelt Markets organization. It was an issue Freeman recognized during her time directing the GBFMN, and now the Co-Directors, Taylor, and Madeline Chambers, are aiming to take this issue head on, making it a priority issue to address in the years ahead (A. Freeman, personal communication, November 16, 2021; D. Taylor, personal communication, November 22, 2021).

Inequity in farmers' markets is a result of a variety of factors, many of which are tied to the overarching challenges of food insecurity in the province of Ontario. Systematic and institutional factors that perpetuate poverty and racism in society impact the ability to access food, which then has a direct impact on who participates in farmers' markets and further shape the idea of who farmers' markets should serve (Campsie, 2008). Despite the highly diverse population in urban Ontario, farmers' markets and broader food systems continue to lack BIPOC representation.

High prices of fresh produce are often a significant limiting factor in purchasing from markets, which can limit the customer base of markets to those of higher socio-economic means (Freedman et al., 2016). This issue was apparent not long after the establishment of the GBFMN, as around 10% of shoppers surveyed for the Greenbelt Farmers' Market Network (2012) report indicated price as being the most significant limiting factor to the market experience. Unfortunately, those with lower socio-economic means simply cannot afford to shop at local available markets, as it is not economically viable to pay higher prices for produce. The location of farmers' markets also contribute to limited equity as many are often located in high income areas, outside of low-income communities, limiting farmers market accessibility. As indicated in Freedman et al. (2016), most studies found that spatial factors most impacted low-income communities' ability to engage in farmers' markets. This is significant as, BIPOC populations, particularly Black Canadians, continue to be overrepresented in low-income neighborhoods (Government of Ontario, 2018; Igbavboa & Elliot, 2019). Many markets in the Greenbelt are held in rural communities that are difficult to access through public transportation or are located in high income communities within the GTA.

Outside of economic or geographic factors, a significant social barrier was the feeling of being unwelcome, particularly for those who are Black, Indigenous, and Persons of Color (BIPOC) (Igbavboa & Elliot, 2019; Equity in Farmers' Market Working Group, 2021). Understandably, people who do not see themselves reflected in a space, may not feel they are welcome to engage there. Overrepresentation of "whiteness" and "affluence" in these spaces can further perpetuate harmful and exclusionary cultural ideas around what farmers' markets are and who is able to participate in the local food system (DeLind, 2011). Black and Indigenous farmers have historically and continue to be shut out of the benefits of participating farmers' markets, which limits the ability to build connections within the agricultural sector, continuing to perpetuate the negative cycle of lacking representation and feeling of being unwelcome in those spaces (Equity in Farmers' Market Working Group, 2021). As described by Taylor, farmers' markets in the Greenbelt and GTA continue to be predominantly white spaces that are largely tailored to specific demographics and socioeconomic classes (Lewis, 2020: 4:01; D. Taylor, personal communication, November 22, 2021). As a result, the intersectional social, economic, and environmental benefits of farmers' markets are not being shared with all in the community, but rather to a limited demographic. As Taylor (personal communication, November 22, 2021, 25:45) puts it best, "*we're never going to grow sustainable food systems to the place they need to be if we are only serving one tenth of the population that can afford it*."

Acknowledging a Challenge is Only the First Step

While the lack of equity in farmers' markets is a problem both Freeman and Taylor acknowledge, that is not always the case for those throughout the agricultural sector. Addressing equity is difficult at a systematic level because, as D. Taylor (personal communication, November 22, 2021) explains, it may imply to some that all their hard work has been "wrong" or are intentionally perpetuating inequity in the system. No one wants to feel as though they have contributed to exclusion. However, it is an issue that needs to be faced head on and acknowledged. For Greenbelt Markets, one of the most considerable challenges has been attempting to work with others in the same sector who do not align or understand Greenbelt Markets' shift in priority to focus on enhancing equity (D. Taylor, personal communication, November 22, 2021). This was most evident when the Greenbelt Markets team gave a presentation at a conference on enhancing equity in farmers' markets. By Taylor's estimates, almost a third of the audience walked out of the presentation. While it cannot be said for certain the motivation, it could be attributed to the pervasive perception that food security and equity was not considered that significant of a problem in that region's food system (D. Taylor, personal communication, November 22, 2021). While not representative of the many, some continue to share in this similar sentiment that inequity in this space is not as significant an issue (D. Taylor, personal communication, November 22, 2021). If influential organizations within this sphere cannot acknowledge the issue or are unwilling to properly address it, it will continue to be a challenge for Greenbelt Markets to effectively target the roots of inequity in food systems.

5.6 Greenbelt Markets and the Greenbelt Farmers Market Network: Notable Projects Today and What Lies Ahead for the Network

With an established network of farmers, markets, agricultural collaborators, and partners built during Freeman's time, the GBFMN is moving forward with Greenbelt Markets' vision of building sustainable food systems. Farmers' markets were and continue to be for many countries, central spaces of commerce and gathering, accessible to all in the community. For Greenbelt Markets, there is a need to reignite this way of thinking about farmers' markets, as gathering spaces that are regular parts of engaging in local food economies and reflect the diversity of the community (Lewis, 2020: 4:01).

5.6.1 Addressing Inequity: Anti-Racism in Farmers' Markets Toolkit and BIPOC Farmers Program

To address the lack of representation in farmers' markets, Greenbelt Markets partnered with Equity in Farmers' Market Working Group to address the barriers that lead to the lack of diversity in the

farmers market economy. The Equity in Farmers' Market Working Group is a group of individuals, BIPOC and non-BIPOC allies, who are farmers, managers, and customers collectively working to address lack of equity in food spaces. Many in this working group have experienced barriers to entering the food system and farmers' markets themselves, such as not receiving responses to grant applications, bias, or discrimination in the space (D. Taylor, personal communication, November 22, 2021). Greenbelt Markets helped to support the Equity in Farmers' Market Working Group publication, the Anti-Racism in Farmers' Markets Toolkit, developed from research conducted with BIPOC youth establishing their businesses and careers in the farming sector (D. Taylor, personal communication, November 22, 2021; Equity in Farmers' Market Working Group, 2021). This resource is publicly available and addresses core concepts such as food justice, anti-racism, and directions on how to run a market that is actively anti-racist (Equity in Farmers' Market Working Group, 2021).

Further, Greenbelt Markets and Equity in Farmers' Market Working Group developed the BIPOC Farmers Program, which aims to connect BIPOC farmers with markets. As of 2021, the program has paired 10-12 BIPOC farmers with markets across the Greenbelt, providing resources such as tents, decor, marketing support, etc. Upon connecting the farmers with the markets, the host market will agree to keep the farmers as a vendor for the next season, as well as provide a mentor from the market to guide them through the process. All this helps farmers to get their foot into the market, have guidance during the season and develop skills to sustain themselves in the marketplace that they can then take into the next season or in other markets (D. Taylor, personal communication, November 22, 2021). Although this program is still recent, continuing work of the Neighbourhood Food Hub project are representative of the direction Greenbelt Markets is headed.

5.6.2 Pandemic Pivot and the Future of Farmers' Markets

The COVID-19 pandemic had serious adverse effects on local food systems as a whole and has changed the trajectory for farmers' markets in the future. For Greenbelt Markets and the GBFMN, the "pandemic pivot", while a considerable challenge, was also a clear indicator of the role online farmers' markets can be in the future of the Greenbelt and GTA regions. This program helped to fast track the modernization of farmers' markets, changing the way people both operate and interact with them. Online markets provide a new avenue to keep or expand sales, promote business online, use online digital payment systems and connect with customers through direct delivery services (D. Taylor, personal communication, November 22, 2021; Ontario Greenbelt, 2022). During the "pandemic pivot" there were

positive responses to the online marketplace as those that struggle in social situations, large gatherings, or inaccessibility could now engage and support local markets in a way that they would not have been able to before. Moving forward, such tools can be used to explore new ways to connect with customers and other community members, including ways that can make farmers' markets accessible to new communities and demographics (Ontario Greenbelt, 2022).

Beyond innovation, this project truly put to the test the importance of connectivity within the network, as Greenbelt Markets helped to support GBFMN members with support through network-wide virtual meetings and consultations with other regional market networks, especially in Toronto. Through this work, farmers were directly connected with market operators, market operators were connected to each other, helping to provide support during a time of crisis and uncertainty. This connectivity through the network helped to catalyze problem solving and information sharing during a shared challenging experience (Ontario Greenbelt, 2022). A key indicator of a system being sustainable is its ability to adapt in the face of considerable change, and this could not be more evident than Greenbelt Markets and the GBFMN initiative's response during the COVID-19 pandemic.

With the success of the GBFMN's response to the pandemic, it does provide a glimpse into the future of food system disruption response, especially in the face of climate change. In the years ahead, global food systems are likely to become more disrupted due to shifts in climates, more intense weather systems, droughts, flooding, etc. Mobilization of market networks that helped to quickly develop solutions like widely available online markets and training, will be key in sustaining local food economies for the future. In the future, despite challenges to global food systems, communities could still find reliable, consistent, and accessible avenues for locally produced food through online markets (Ontario Greenbelt, 2022).

5.6.3 Understanding the Role of Local Food Systems

As reflected upon by Freeman (personal communication, November 16, 2021) and D. Taylor (personal communication, November 22, 2021), even since taking over the GBFMN initiative under Greenbelt Markets, there is positive change happening in farmers' markets. At the local level, there is an increasing understanding of the powerful impact building food economies can have on community sustainability among municipalities and cities across the GTA. Food is directly tied to how people live and interact in their communities, a realization that has led to more municipalities developing food strategies, incorporating concepts of sustainability, dedicated to developing their local food system (D.

Taylor, personal communication, November 22, 2021). This can be promising for the future, as more communities value and prioritize developing plans that incorporate food policies that support local food economies. Farmers' markets can be a powerful tool for communities to develop local food systems, due to their ability to address multiple complex challenges, ranging from food insecurity, to promoting local business, reducing municipal carbon footprints, and building a local "sense of community".

Farmers' markets' new status as an "essential service" continuing after the pandemic, better ingrains their importance of municipal food systems. This can make securing permits and public health approvals easier in the future, helping to secure economic opportunities for farmers and ensure markets are valued as critical components of a local food economy (D. Taylor, personal communication, November 22, 2021).

Furthermore, in Taylor's observations, markets are also starting to diversify. Though the process is slow, more younger people and those of differing cultural and ethnic backgrounds are seeing agriculture as a viable field, particularly in the farmers market space (D. Taylor, personal communication, November 22, 2021). Many people − young, old, working within the food sector or food customers, newer to the country, those identifying in a racial or ethnic minority, etc. − no longer want to see farmers' markets as "monolithic" spaces. Farmers, vendors, and customers "want to see the same diversity they see everywhere else. They want to see themselves in that space and reflected there." (D. Taylor, personal communication, November 22, 2021, 27:30).

In this vein, Greenbelt Markets' latest initiative is LaunchPAD, meant to break down systematic barriers for new farmers, producers, chefs, etc., entering farmers' markets. Reflecting the GBFMN, the LaunchPAD initiative aims to enhance connectivity among new participants with one another and resources such as community kitchens, production, office and event spaces, and customer pick-up points. With this enhanced connectivity, new participants varying in backgrounds and incomes can better engage with local farmers' markets, to allow markets to become more diverse spaces that reflect their own communities (Greenbelt Markets, 2023). While there is still a long road ahead, projects such as the BIPOC Farmers Program and the LaunchPAD initiative shows a promising step forward, not just for Greenbelt Markets, but for the broader local food sector in the GTA and broader Greenbelt region as well (D. Taylor, personal communication, November 22, 2021).

5.7 Conclusion: What Can We Learn From the Story of the GBFMN?

The GBFMN began as an initiative for the Greenbelt Foundation to raise awareness of the Greenbelt, begin bringing rural and urban communities together and support farmers to work towards the agricultural and economic goals set by the Greenbelt Plan. Despite lack of awareness and a lack of resources at the start, the initiative grew considerably due to the important connections made along the way and designing innovative projects to serve the direct needs of the communities. Today, the initiative is managed by Greenbelt Markets, who continue with the GBFMN's original mission. However, they are also preparing and supporting farmers' markets for the challenges and opportunities of the future. The aim is to shape the way we think about and engage with farmers' markets as welcoming and diverse staples of our communities.

The GBFMN is only one of many initiatives to enhance local food systems in Ontario. It is not the biggest, or longest lasting or most equipped in the region. However, the story of the GBFMN is worthy of being told because of how it built a supportive and functioning network upon the interconnected foundations of sustainability. The GBFMN has been exemplary because of consistent contributions that reflect four characteristics:

- In-depth understanding of the complexity of building local food systems and therefore a deep understanding of their communities who they wished to support:
- Emphasis on innovative thinking and making the most of available resources by thinking creatively to find solutions;
- Focus on equity by prioritizing the voices of the disadvantaged in the agricultural sector, with the aim of sharing the benefits of farmers' markets with all in the community; and
- Commitment to building networks and forming connections to grow capacity and positive impact.

5.7.1 Understanding Complexity and the Communities the GBFMN Serves

From the beginning, this initiative demonstrated a deep understanding of the complexities of local food systems and their intersectional impact on communities, ecologically, economically, and culturally. The formation of the initiative itself was built upon the Greenbelt Foundation's understanding of the potential for farmers' markets to enhance local economies and support the goals of the Greenbelt. Building local food economies is complex. However, the Greenbelt Foundation and GBFMN director Freeman saw that a network linking farmers' markets throughout the GTA, and Greenbelt region could improve their

capacity and better enhance local sustainability. Farmers' markets were largely disconnected, separated both by competition and the cultural divide that existed between rural and urban communities. Rather than focusing on one aspect of the system, improving profits, enhancing local tourism, or focusing on local food, Freeman understood that for this initiative to have a positive impact on farmers' markets, a "holistic" approach was needed (Freeman, personal communication, November 16, 2021). Solutions would have to address the root of the complex challenges, which meant supporting connectivity and being allies to deliver mutually reinforcing benefits for all in the system.

With their understanding of the local food system and farmers' markets' complexities, the leaders took the time to truly understand the communities they were aiming to serve. That entailed learning what the farmers, market managers, diverse consumers, and broader agricultural community across the Greenbelt and GTA wanted and needed from farmers' markets. Freeman recognized that if the GBFMN was going to grow in capacity, it needed to serve the farmers and market managers whose livelihoods depended on farmers' markets directly and could disseminate information the most effectively. She also understood that managers, farmers, and consumers needed to be listened to, so that their concerns, needs, and interests were heard when designing projects. The engagement efforts, including Manager Days, the Matchmakers tool, market research and micro-grants, all focused on understanding farmers' and managers' needs, and demonstrating their support for these communities.

Greenbelt Markets has since demonstrated a continued dedication to listening to and engaging with farmers' markets. A clear example is the GBFMN's response to the pandemic. Responding quickly to the needs of their communities in a time of crisis, the network partnered with Local Line, an online e-commerce platform for farmers and food hubs that quickly allowed farmers and managers to run their markets and anticipate part of the future of local food economies. Furthermore, Greenbelt Markets' understanding of the need for greater representation of disadvantaged voices among farmers, markets and participants came from listening to farmers and customers and observing the many markets in the network.

When networking, Freeman continually reached out to the agricultural sector –representatives and growers at The Guelph Organic Conference, the Ecological Farmers of Ontario, FoodShare and its Good Food Markets program and the Toronto Farmers Market Network. Those key connections, who had the

best knowledge and understanding of the complexities of the system, led to increased awareness and a greater platform to reach out to farmers and markets to begin developing a network of their own.

Better understanding of the network's communities of farmers and consumers has been accompanied by stronger connections with municipal governments. One result has been partnerships with the City of Toronto, local food markets and the Neighbourhood Food Hub project, which focuses on specific communities. As Taylor reported, governance bodies are beginning to see the complex impacts of building local food economies. More are incorporating food strategies into municipal, and city plans due to the intersectional community benefits of local food systems. The City of Toronto, for example, has continued its support for the GBFMN in part because of the Neighbourhood Food Hub project's benefits for food insecure neighbourhoods in the city.

Ultimately, the GBFMN initiative was made stronger and more successful it has built a bigger community of collaboration. Throughout the story of the GBFMN, forming partnerships, sharing resources within its network, listening to, and knowing the needs of the larger community and promoting further connections among Greenbelt farmers and markets has enhanced the viability of the local agricultural sector.

Understanding a Community Comes from Good Leaders

Successful community sustainability initiatives often feature complex, interconnected networks of individuals and organizations working together to enhance sustainability. However, as shown in the story of the GBFMN, strong leaders can also be critical drivers of the initiatives. By taking the time to understand their communities, leaders within the GBFMN initiative developed projects to respond to the greatest needs of the local food system community in ways that would be effective in the long term. In the words of Taylor (personal communication, November 22, 2021), "Anne definitely blazed the trail", a sentiment echoed by Burkhard Mausberg"s (personal communication, November 14, 2021), who describes Freeman as a "great leader".

In no small part due to her experience and expertise as the GNFMN's first director, Freeman built up the GBFMN through years of networking, relationship building and gaining the trust of market managers and industry organizations. Current co-directors Taylor and Madeline Chambers have been able to utilize those resources to explore new directions, such as the focus on equity in the Network, and

innovative solutions, such as online markets to prepare for the future. By actively working within their communities, building trust, forming working relationships and supporting the sharing of knowledge and resources, these leaders can recognize and respond to the shifting needs and interests.

5.7.2 Innovative Thinking and Efficient Use of Resources

At every stage, of the GBFMN story, the initiative's limited resources or capacity fueled innovative thinking and creative ways to make the most of available resources. Innovation, creativity and efficiency expanded capacity and supported the network through leadership changes and times of crisis such as the GBFMN's Manager Market Day events, micro-grants program and pandemic pivot.

An early example of innovation for efficiency is Freeman's use of Manager Market Days as a tool for building the network. The events recognized market managers' influential role in farmers' markets, but also relied on the managers to disseminate information about the Greenbelt and the GBFMN throughout the network. As more managers attended Market Days, more knowledge about the Greenbelt, the purpose of the GBFMN and interest in joining the network reached the individual markets (Freeman, personal communication, November 16, 2021).

Another product of creative and innovative thinking in the face of minimal resources is the GBFMN's micro-grant project to support market farmers and vendors. Freeman (personal communication, November 16, 2021) remembers it as the biggest contributor to sustainability in her time working with the GBFMN because it supported diverse projects that made tangible differences. While financially small, these grants represented a key aspect of sustainability thinking, making the most of what was available to address multiple inefficiencies and opportunities. The simple and flexible approach to choosing initiatives to support simply asked, "what do you *really* need?" and "what do you need *most* right now?" rather than imposing specific parameters. As a result, farmers were able to make small, but impactful contributions to their production to enhance efficiency, explore economic opportunities, reduce ecological impacts, and better connect with customers at markets (A. Freeman, personal communication, November 16, 2021).

Innovation and creativity were also well-represented in the network's pandemic pivot project. To support farmers' markets through the COVID-19 crisis, the Greenbelt Markets team embraced an experimental approach to operating farmers' markets online with the help of a private sector partner, Local Line. The online marketplace maintained the strong relationships that the network had built among

different farmers and markets and helped farmers and markets to make profits during lockdowns. Moreover, it piloted an additional way for the markets to reach and serve more people in the future.

Through these initiatives the GBFMN has demonstrated that innovation goes well beyond technical changes, although those certainly can help. Much of the network's innovative thinking has centered on thinking outside the typical structure, making connections, and sharing information and resources. It has found many, often small ways to increase the viability of individual markets and farms while also building capacity and resilience in the local food system.

5.7.3 Focus on Equity: Understanding the Intersectional Impact of Food

The question at the forefront of any sustainability initiative should always be: who is this initiative serving and will its benefits be shared with as many as it can be with the community? The GBFMN was formed to give greater voice and capacity to local farmers and markets, working within the broader industrialized food system. As such, the initiative worked to promote the voices of those who relied on farmers' markets, farmers, and market managers, to enhance economic opportunities and increase their local and regional connections within the industry.

However, as the initiative grew in capacity, it was clear to Freeman, and later Taylor that for local farmers' markets to have a positive impact, their benefits needed to be more fairly distributed throughout the community. The lack of diversity in the farmers market spaces meant that a rich diversity of knowledge, life experiences and perspectives was missing from the network. This left gaps in their understanding of how to enhance local market capacity across the Greenbelt and a disconnect from those who most needed the support of local food systems.

This illustrated a foundational part of enhancing sustainability. While an initiative may be growing in capacity and able to move toward its intended vision, an initiative is only as successful as the distribution of those lasting benefits. The GBFMN is exemplary in that they are acknowledging the problem of inequity, making it the central foundation for projects moving forward. With a strong foundation and network of markets across the Greenbelt and GTA built by Freeman, the GBFMN can use those connections and resources to support those who have been historically excluded from farmers' markets. By expanding the idea of who farmers' markets are meant for and who can participate, it can

expand how fairly the social, economic, and ecological benefits are distributed throughout the community.

Greenbelt Markets' focus on centering diversity for its projects has opened the possibilities for what the GBFMN can support and enhance locally. Greater inclusion can mean more people of diverse backgrounds can view agriculture as a viable career. This can bring new, innovative ideas and products forward to the market, stimulating economic potential of markets, the community's local economy and better reflect the diversity of communities across the Greenbelt and GTA. Enhancing diversity among consumers can more effectively address challenges related to food accessibility, food insecurity, representation, and ability to reach communities that initially felt unwelcome in the space. By centering diversity and promoting inclusivity, the initiative has the capacity to address multiple, overlapping challenges related to food within the communities they serve.

The Anti-Racism Toolkit and Neighborhood Food Hub are the right steps forward but working towards greater inclusion and equity is a long and difficult journey that requires hard and consistent work. This is work that Taylor, Greenbelt Markets and the GBFMN are willing to do because all people deserve the ability to access fresher and healthier local food options. Everyone deserves the opportunity to engage with and feel welcome in their community, and connect through something we all share, food.

5.7.4 Creating Networks to Build Capacity and Enhance Social Capital

All exemplary contributors of sustainability discussed above provide the foundation for the last, most significant contribution of the GBFMN, building a network. Networks of knowledge sharing are critical for enhancing sustainability and the GBFMN illustrates how network building enhances sustainability because its interconnected network builds social capital, foundational to contributing to an initiative's growth and capacity. The network in this story is not just the core GBFMN initiative and organizational collaborators, but also the smaller, mutually supporting, networks it embraces.

Building the network of farmers and markets was a long and slow process, especially in the beginning. The historical disconnect among communities, the competition among markets and the initial lack of support for the Greenbelt meant that Growing the GBFMN had to begin with building trust, demonstrating support, and sharing in the goals of the initiative with farmers and markets to encourage them to participate. Building trust was slow, but well worth it, as more managers and markets understood

the vision of the GBFMN and became willing to engage with the initiative, eventually becoming part of the larger network, growing to include over 100 unique markets across the Greenbelt.

What is key for building capacity is to find organizations that share in your broader goals, as well as support the unique way in which your initiative will contribute to the space. Addressing the clear disconnect between the key participants in the local food systems across the Greenbelt and GTA was something that many in the agricultural sector could benefit from. Furthermore, there must be both a willingness to reach out to established industry leaders in the space and openness to potential partnerships to build social capital and enhance initiative capacity.

Freeman took the time to form relationships with industry leaders in the local agricultural space, FoodShare, Sustain Ontario, the Golden Horseshoe Alliance, Culinary Tourism Alliance, Ecological Farmers of Ontario, etc. Through these industry leaders welcoming the GBFMN into the space, the GBFMN gained increased the resources, knowledge, and a platform to reach out to farmers and market managers more effectively (Taylor, personal communication, November 22, 2021). Taylor would later secure support from the City of Toronto, and several city markets and collaborate with FoodShare's Good Food Markets program. The GBFMN's openness to work with private sector start up, Local Line, allowed for the GBFMN to serve markets in a new, innovative way, through information and resource sharing, outside the typical sector knowledge held by the broader system.

An unintended, but welcome product of building a broader network for markets, was the creation of mini-networks and the knowledge sharing that took place among smaller groups of markets (Taylor, personal communication, November 22, 2021). The GBFMN may have brought them together through the broader network, but other factors, such as their shared community, access to certain resources or geographical proximity has allowed for smaller networks to arise. Even without the direct guidance of the larger initiative, broader networks can promote the creation of smaller networks where knowledge sharing can take place. Knowledge sharing at the local level can promote innovative ideas, help participants access opportunities, resources, and address more localized challenges more effectively. Over time, greater trust and social capital is built, which can lead to long lasting and meaningful connections, contributing to a more resilient and self-sustaining system (Blay-Palmer et al., 2016).

From building of the network, Freeman and Taylor have seen the initiative grow in capacity to support markets, farmers, and several communities throughout the Greenbelt. For farmers, there was greater recognition of the importance of investing and protecting their land. The landscape's cultural

connection to agriculture deserves to be conserved, given the land's uniqueness and productivity, just as much as the ecologically significant lands (D. Taylor, personal communication, November 22, 2021). Greater awareness and knowledge sharing through smaller networks has even led to a notable increase in young people choosing to work in the agricultural field, particularly as farmers. While small, this has begun the process of growing and diversifying farmers' markets throughout the Greenbelt.

The most tangible impact has been how the sharing of knowledge has enhanced awareness among farmers, consumers, and municipalities about the benefits of sustainable food systems in creating functioning communities. This understanding has led to more local governments investing greater resources in developing food strategies. Ultimately, there is greater recognition of how food systems are intrinsically tied to how people live in cities and how the economic, social, and ecological benefits tied to farmers' markets are all interconnected (A. Freeman, personal communication, November 16, 202; D. Taylor, personal communication, November 22, 2021). This recognition of the impact food has on our communities can reflect a slow but meaningful step forward in transforming our local systems to be more sustainable. Networks of those committed to supporting local food systems who are deeply interconnected with the communities they serve can be powerful drivers of change at the local level.

Chapter 6. Case Study Package 2- Alderville Black Oak Savanna: Enhancing Ecological Sustainability Through Rare Native Plant Restoration and Conservation

The story of restoring rare and native tallgrass prairie communities in Ontario incorporates the work of several interconnected organizations, all dedicated to restoration and conservation work. Much of this work – in identifying, studying, and working to preserve remnants of tallgrass communities – began in the early 1990s when researchers confirmed the need for protecting and restoring these ecosystems (Tallgrass Ontario, 2019). The Alderville Black Oak Savanna (ABOS) initiative was among those early efforts to preserve the few remaining tallgrass communities' remnants. What differentiates ABOS from others in the network of initiatives and organizations that will be explored later in this chapter, is that the decisions on how restoration is undertaken on the site are made by Indigenous people who have historically been excluded from restoration management. The ABOS is a tallgrass prairie restoration site actively governed by the Alderville First Nation community in the Rice Lake Plains region of Ontario, with support from major partners, especially Nature Conservancy Canada. The Alderville community has historical and continuing deep cultural and spiritual ties to the land and the ecosystem being protected.

Tallgrass community restoration in Ontario began with the Mississauga Ojibway, Anishinaabe and Haudenosaunee people who called the Rice Lake Plains region, and much of Ontario, home for generations. Today, the ABOS plays a critical role in the effort to restore this rare ecosystem. This restoration area serves to enhance the ecological sustainability by improving the ecological integrity through incorporating local Indigenous knowledge and understanding. In this way, the restoration site serves not only to improve local and provincial biodiversity, but also to meet the needs and expand opportunities for the Alderville First Nation community. The ABOS projects today continue to be guided by key principles of local Indigenous knowledge, with the opportunities created are always meant to serve the needs of the land and the Alderville First Nation community first and foremost.

6.1 What is the Alderville Black Oak Savanna (ABOS)?

The ABOS is an 81-hectare cultural heritage site located within the territory of the Alderville First Nation, the traditional lands of the Mississauga Ojibway people, on what is now south-central Ontario near the towns of Cobourg and Peterborough (Clarke, 2005; Alderville Black Oak Savanna, (ABOS), 2019a; Beaver, 2020; Julie Henry & Gillian di Petta, personal communication, February 23, 2022). The

Rice Lake Plains region, where ABOS is located, has been designated as Canada's easternmost prairie, known historically for its once abundant grassland landscape (Nature Conservancy Canada, 2021). The ABOS currently is the largest site of an intact tallgrass community in the Rice Lake Plains region and remains an important site for researching grassland ecosystems and innovative restoration work (ABOS, 2019a). Due to the land's uniqueness as the largest remnant of tallgrass prairie and savanna ecosystems in central Ontario, the ABOS is known as the "Jewel of the Rice Plains" (ABOS, 2019j; Beaver, 2020).

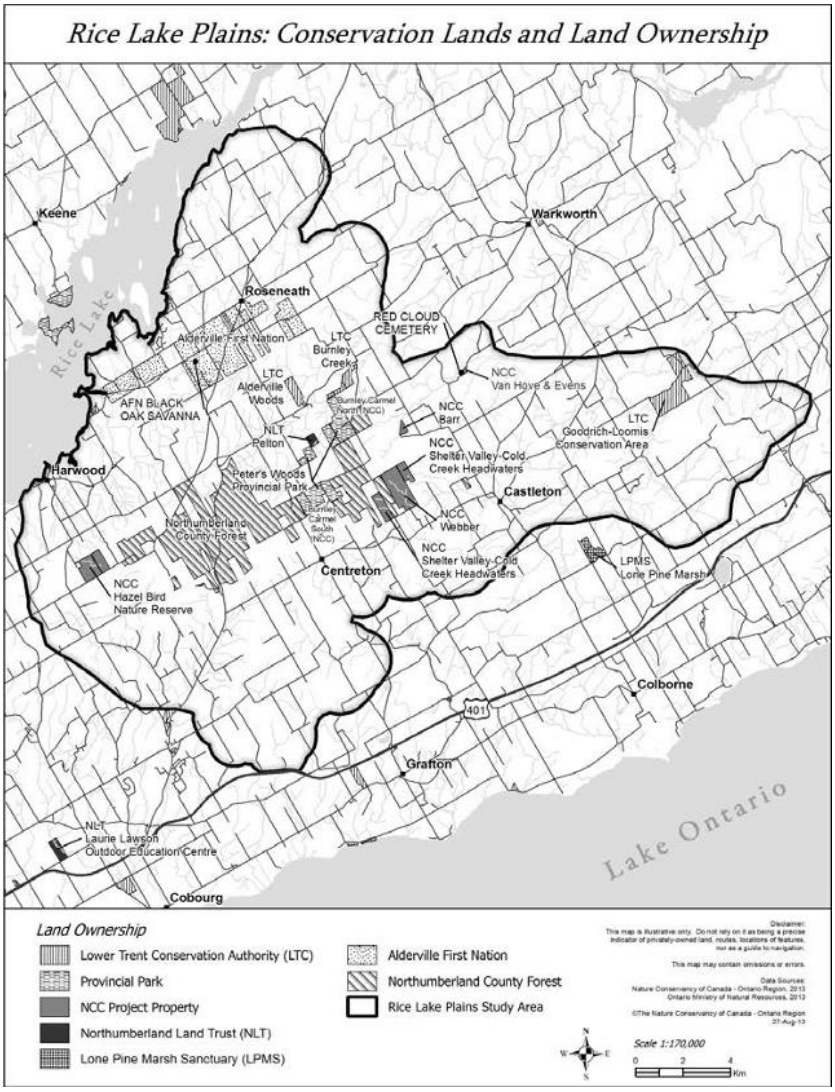

Figure 6: Rice Lake Plains Region refers to a region in South/Central Ontario between Rice Lake and Lake Ontario, characterized as historically dominated by tallgrass prairie and oak savanna ecosystems, much of which has disappeared and what remains being highly fragmented. The map depicts the land ownership in the region,

including the different municipalities, conservation authorities, and Alderville First Nation (Farrell et al., 2014). While sections of this land are the current home of the Alderville First Nation, this region is the traditional lands of the Mississauga Ojibway peoples (Clarke, 2005).

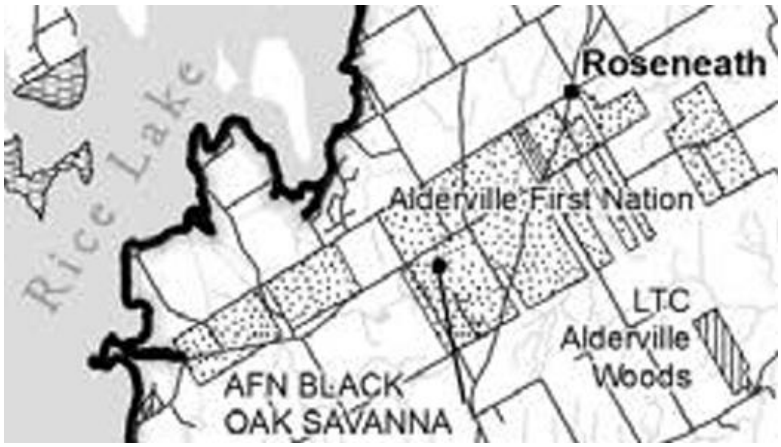

Figure 7: Close up of Alderville First Nation land, including a line indicating location of Alderville Black Oak Savanna just south of Rice Lake in the Rice Lake Plains region (Farerll et al., 2014).

Cultural heritage refers to both tangible artifacts, buildings, or significant landscapes, and intangible, oral traditions, language, ceremonies, knowledge, resources that contribute to the history and current attributes of given culture. In Ontario, the Ontario Heritage Act provides the legislative framework for the identification and protection of resources designated as part of Ontario's cultural heritage (Ontario Heritage Act, 1990; Ontario Ministry of Tourism, Culture and Sport (OMTCS), 2022). This legislation is integrated with the Planning Act, and as such, is interconnected with the Greenbelt, in its goals of protecting and supporting the cultural heritage of local communities and the broader province through land conservation and thriving communities (OMTCS, 2022). Conserving cultural heritage is understood to positively contribute to quality of life, developing sense of place and fostering connectivity across cultures within communities. Furthermore, heritage conservation can promote sustainable land development through balancing the conservation of cultural heritage lands and resources with new developments, which can also be an aspect of adaptation solutions for climate change (OMTCS, 2022). Cultural sites like the Alderville Black Oak Savanna, hold further significance in enhancing the representation and knowledge systems of Indigenous peoples in the journey towards reconciliation (OMTCS, 2022). As will be explored in this chapter, protecting and conserving landscapes of ecological and cultural significance can contribute to the cultural revitalization and respect of Indigenous communities.

The people of Alderville First Nation are Mississauga Anishinabeg of the Ojibway Nation (Clarke, 1999; Alderville First Nation, n.d.; Beaver, 2020). The Alderville First Nation traces their beginning to the 1830s. The earliest members who would eventually form the Alderville First Nation, were made up of families from different Mississauga communities who travelled to Alnwick/ Haldimand Township due to much of their lands in the Bay of Quinte and Grape Island area being taken by early British settlers. Although the exact reasons for the move to the Rice Lakes Plains area are unknown, Clarke (1999) describes how the region was historically associated with healing and an abundance of food staples, including wild rice. Perhaps, this land seemed like an appropriate place to live, in the face of such constant upheaval from ongoing colonization (Clarke, 1999). The village they founded was initially known as “Aldersville”, but would eventually become Alderville (Beaver, 2020).

The cultural heritage site is unique in that it is both governed and managed by the people of the Alderville First Nation, as they are the landowners and traditional land users and stewards and hold historical ties to the land (Nature Conservancy Canada, 2021). This landscape is of deep cultural significance to the Alderville First Nation members. The Ojibway and Haudenosaunee are known through oral tradition to have burned portions of the grasslands for traditional crops, including corn, squash, and beans. Such practices demonstrated a deep understanding and application of fires as a tool for management in these ecosystems. Despite fire in western knowledge being associated with destructiveness, the Ojibway and Haudenosaunee understand fire to be a source of regeneration (Rick Beaver and the Alderville Black Oak Savanna, 2012). This knowledge is reflected in the term used in an ancient dialect of the Anishinaabe, “Pemadashkotayang” or “Pemedashdakota" which means “lake of the burning plains", a term used to describe the region (Farrell et al., 2004; Kelly, 2012).

The goal of the ABOS is to share the knowledge of the importance of this rare ecosystem. The sharing is done through three key activities: ecological restoration, education, and outreach, including use of the site for applied and academic research (ABOS, 2019j). In this way, they can actively restore the lands, and utilize them for research and education to increase understanding and appreciation of this ecosystem, and the significance of Indigenous restoration practices. Ever since the heritage sites’ formation, this initiative has grown towards supporting a series of restoration projects as well as establishing the Heritage Ecology Center. The center serves their education and outreach goals through providing educational tours, school trips and hosting public events. With continual support, the ABOS has been enabled to engage in ambitious projects, the Mitigomin Native Plant Nursery (ABOS, 2019j).

6.1.1 Why is the ABOS so Significant?

The true historical extent of tallgrass prairie range is difficult to determine, given the lack of comprehensive settler surveys and scarcity of documented histories of First Nations peoples living in the area, due to their histories largely being oral (Bakowsky and Riley 1994: Tallgrass Ontario, 2019). The few available oral histories from the Ojibway and Haudenosaunee, the name of the region, "Pemadashkotayang", and the first Nations' need to clear significant parts of it for agricultural use suggest that the tallgrass area was large. Documents from early settlers hint at tallgrass communities' heights and expansiveness, for example by reporting that early explorers got lost on horseback in the tallgrass (Delaney et al., 2000). Research using paleorecords, sediment cores from around that period to determine climatic conditions and soil contents, found that around 10000-6000 years ago, the tallgrass prairie ecosystem dominated the landscape across southern Canada, mainly Manitoba and Ontario, and parts of the northern United States (Farrell et al., 2004; Nelson et al. 2006, Umbanhowar et al. 2006). However, if tallgrass communities were so widespread across southern Canada, where did the tallgrass prairies and savannas go?

The elimination of much of the once dominant Ontario grassland ecosystem, including the Rice Lake Plains region, can, in large part, be attributed to European colonization. Almost all the Mississauga Ojibway peoples' lands were overtaken by settlers, who, along with the Canadian Government, took action to convert the lands to agriculture and to enforce assimilation of the Indigenous people into western culture, attempting to eliminate their traditional knowledge, language, and practice (Clarke, 1999; Clarke, 2005). The Mississauga Ojibway peoples, along with the broader Indigenous community, endured decades of colonization and assimilation. During this time, Mississauga Ojibway peoples were subject to forcible relocation to Native reserves. They were driven from their ancestral lands, relocated to reserves and their children were sent to residential schools (Clarke, 1999; Clarke, 2005; Beaver, 2020). Over time, the inability to share traditional knowledge and practice to steward their lands and mismanagement of the colonial settlers led to a disconnect between Mississauga Ojibway peoples and their land and culture.

The well-drained tallgrass ecosystems proved an attractive landscape that could easily be converted into farmland and more recently, to residential and commercial development (Lee et al., 1998; Tallgrass Ontario, 2019). Additionally, the lack of understanding and appreciation for Indigenous knowledge, led to the practice of fire suppression by settlers, limiting the regeneration benefits associated

with occasional fires practice by local Indigenous communities (Rodger, 1998; Farrell et al., 2004; Tallgrass Ontario, 2019).

Loss of tallgrass communities due to intensive agricultural use, fire suppression and land development throughout Ontario, extended to the lands of what is now the Alderville First Nation territory in the Rice Lake Plains region (Rodger, 1998; Tallgrass Ontario, 2019). However, despite the loss of much of the grasslands and the damage done to their cultural identity and way of life, the Mississauga Ojibway peoples found a way to regain their culture and work towards reconnecting with the sanctity of their land and waters in the Rice Lake region (Clarke, 1999; Clarke, 2005).

While the ABOS is significant for many reasons, the site is especially notable as an example of how the Mississauga Ojibway people's knowledge and culture is surviving and thriving today, despite the historical and current impacts of colonization. Resistance to cultural assimilation in previous generations provided the foundation for the Mississauga Ojibway people, including the Alderville First Nation, today to continue maintaining and strengthening their culture (Alderville First Nation, 2016). This generational resistance is reflected through the existence of the ABOS.

As the restoration site is on Alderville First Nation's owned land, the Alderville First Nation can practice self-governance and sovereignty over their own lands. The management and coordination of the ABOS restoration site, including establishing its goals, developing projects, sharing knowledge, hiring staff, and reaching out to the broader public, is under the direction of the Alderville First Nation community. As emphasized by ABOS team members Henry & di Petta (personal communication, February 23, 2022), nothing is done without the community's direction, making the Alderville First Nation the true driver of the ABOS initiative. Elsewhere for most restoration work, even when there is Indigenous collaboration, decisions are most often made within colonial structures, using predominantly colonial perspectives. However, in this case, those who were the historical stewards and still hold significant connection to the land are making decisions on how to manage it (Henry & di Petta, personal communication, February 23, 2022).

6.2 Formation of the Alderville Black Oak Savanna

The formation of the ABOS as a heritage site and organization was a collaborative effort by many members of the Alderville First Nation community. Most notable are the contributions of the now recognized Elder, Rick Beaver. Rick Beaver, an Indigenous biologist and artist, and member of Michi Saagiig, Mississauga Anishinaabeg peoples, was born in the Alderville First Nation territory, north of

Cobourg Ontario (Nature Conservancy Canada, 2021). Rick Beaver's work as a conservationist and artist has always been deeply tied to his cultural understanding and Indigenous perspectives' of viewing the landscapes, inspiring both his creativity and curiosity (Nature Conservancy Canada, 2021). His traditional Indigenous knowledge in addition to his training in Western knowledge systems provides him with a cross-cultural and interdisciplinary understanding of how to protect ecosystems. Though much of Rick Beaver's work took him across Canada, ultimately, he was brought back to his home, dedicating his later career to collaborating on conservation projects in the Rice Lake Plains region (Nature Conservancy Canada, 2021).

In the early 1990s, Rick Beaver was walking through a tract of Alderville First Nation's land when he identified a rare tallgrass community ecosystem. The mix of diverse tall grass and wildflower species along with the scattered black oak trees on the landscape established that this tract of land was home to a remnant of the endangered tallgrass prairie and black oak savanna ecosystems (Kelly, 2012; Henry & di Petta, personal communication, February 23, 2022). This identification of tallgrass community remnants marked the beginning of Rick Beaver's dedicated journey towards preserving, protecting, and restoring his home's rare ecosystem, for its ecological importance and cultural significance (Kelly, 2012).

Beginning in 1992, Rick Beaver collaborated with Nature Conservancy Canada, a non-profit conservation organization, and local Indigenous communities to work towards conservation and restoration efforts in the Rice Lake Plains region. This early collaboration provided him with the valuable resources and support needed to further investigate the remnants of the tallgrass communities and begin efforts towards preserving and saving the endangered remnant ecosystems (Nature Conservancy Canada, 2021; Kelly, 2012). At the time, only a small number of Canadian and American researchers and government conservation experts recognized the rarity and vulnerability of the tallgrass communities (Tallgrass Ontario, 2019). Rick Beaver's contributions to tallgrass community restoration at the time were unique, given his understanding of the historical and cultural as well as ecological significance of the ecosystem to the region (Nature Conservancy Canada, 2021; Kelly, 2012).

After collecting information on the remnants of tallgrass communities on Alderville First Nation's land, Rick Beaver brought forward his findings and the associated need for protection to the Alderville Chief and Counsellor. The timing of this proposal could not have been more crucial. The small tract of land Rick Beaver had found to contain tallgrass community remnants was planned to be

developed for a subdivision. This would mean the tract of land would be dug up and built over and the remnant lost forever (M. Stabb, personal communication, November 2, 2021; Henry & di Petta, personal communication, February 23, 2022).

The Alderville Chief and Council at the time reviewed the material and chose to support protecting the land due to its historical and ecological significance, providing little resistance to its approval despite the planned community subdivision project (Kelly, 2012; Henry & di Petta, personal communication, February 23, 2022). With the approval by the Alderville First Nation Chief and Council, Rick Beaver launched into the official process for establishing the site of the tallgrass prairie and oak savanna as a natural heritage site of Ontario (Kelly, 2012; M. Stabb, personal communication, November 2, 2021).

The collaboration between Rick Beaver and the Alderville Chief and Council reflected a shared understanding of the community's values and interests (Kelly, 2012). For the Alderville First Nation community, the designation would ensure their historically and culturally significant site would have law-based management and protection from development (Ontario Heritage Act, 1990; Keller, 2017). That in turn would give the community a firm basis for investing in rehabilitating the endangered ecosystem and making the key protection and restoration decisions themselves. Thanks largely to Rick Beaver's initiative, the Alderville Black Oak Savanna and Tallgrass Prairie was formally deemed a heritage site by the provincial government of Ontario in 2000 (Keller, 2017).

Since then, the Alderville First Nation have made many contributions to stewarding the land and participating in other aspects of the ABOS project. In the early days of the initiative, the new Alderville First Nation's Chief participated in a re-seeding event on the ABOS site. At the time, the community was sowing the seeds of the native plants that would soon populate the land. But they were also sowing the seeds of continuing stewardship of the land, sowing the continuing legacy of support from the Alderville First Nation for the ABOS (Henry & di Petta, personal communication, February 23, 2022).

Purposes of the Alderville Black Oak Savanna

- Preserve, restore and work towards expanding the ecologically, historically and culturally significant rare tallgrass prairie ecosystems.
- Educate members of the Alderville First Nation and the public on tallgrass prairie ecosystems to emphasize their importance and complexity with the hope of fostering positive associations with nature and encouraging stewardship.

- Utilize the uniqueness of the restoration site for supporting diverse applied and academic research of tallgrass prairies to enhance knowledge and understanding of these ecosystems and support monitoring efforts as part of the restoration process.
- Create opportunities for self-governance in land management decision making for the Alderville First Nation community, including applying Indigenous knowledge, engaging in cultural practices, and ensuring the sovereignty of native species.
- Create opportunities for enhanced and sustainable livelihoods for members of the Alderville First Nation community through the cultivation or traditional medicinal and food species, as well as address the need for native plant stock in Ontario.

(ABOS, 2019c)

6.3 Unique Contributions to Sustainability: How the Alderville Black Oak Savanna Actively Engages in Ecological Sustainability and Connects with their Local Community and Beyond

6.3.1 Engagement with Traditional Ecological Knowledge and the Alderville First Nations Community

Over 20 years, the ABOS project has designed and implemented dedicated ecological conservation and restoration efforts for tallgrass communities, through prescribed burning, planting native species, collecting seeds and controlling invasive species. The results have gradually transformed the ABOS site into the "Jewel" of the Rice Lake Plains. Much of this long, continuous process of tallgrass restoration has been founded on the invaluable traditional ecological knowledge of the Alderville First Nation community. Traditional ecological knowledge rests on Indigenous ways of knowing that encompass oral traditions, rituals, collective memory, practical skills, and generational observations that are often rooted in a long history in their geographic or ecological landscape (Nelson & Shilling, 2018). As the knowledge acquired over generations is highly localized, traditional ecological knowledge systems are highly diverse (Bell et al., 2010; Tengo et al., 2014; Nelson & Shilling, 2018). Traditional ecological knowledge can help to inform restoration and conservation of biodiversity today due to the core concepts of respect, relationship building, reciprocity and responsibility for the environment. These knowledge systems apply holistic ways of thinking and coexistence with the environment, in contrast to the objectives of domination which have historically informed modern Westerns way of thinking and scientific practice (Bell et al., 2010; Nelson & Shilling, 2018). Thus, many restoration projects at ABOS focus on educating community members, both Indigenous and non-Indigenous alike, in traditional ecological knowledge.

The sharing of traditional ecological knowledge is particularly relevant for fire ecology studies and prescribed burn management, as this work is influenced by traditional burning practices of the

Anishinaabe and Haudenosaunee people on these lands. Fire is most often associated with its destructive impact on nature; however, fire plays a key role in the life histories of many native species in tallgrass prairie, savanna, and forest ecosystems (Kimmerer & Lake, 2001; Miller et al., 2010; ABOS, 2019j). These Indigenous communities recognized the impact fires could have, particularly with shifting succession stages and favouring more diverse ecosystems. This "mosaic" of ecosystems allowed for new harvesting potential, as newly cleared areas promoted the growth of different species, cleared out pests, created conditions suitable for hunting and cleared land for settlement and agriculture (Kimmerer & Lake, 2001; Miller et al., 2010).

Today, the practice of prescribed burnings – intentionally starting fires on designated areas that can benefit from fire's restorative properties – on ABOS land helps promote native species that, unlike non-native species, have adapted through the millennia of occasional burnings. Researchers are also given the opportunity to learn about the impacts of fire management, to enhance the literature's understanding and encourage its application in other environments. Critically, the application of fire to this landscape allows for members of the Alderville First Nation to engage with and practice traditional ecological knowledge, helping reconnect with their cultural traditions (ABOS, 2019i, 2019j).

The influence of traditional ecological knowledge in the ABOS projects can also be seen in their wild rice restoration efforts. The Wild Rice restoration effort aims to restore wild rice stands along the Trent Severn Waterway, which have been degraded due to human activity and invasive species (ABOS, 2019- wild rice). Ecologically, wild rice provides habitat for wildlife and helps stabilize shorelines. Furthermore, wild rice holds cultural significance to the Alderville First Nation. Wild rice is referred to as the Anishinaabe word "manoomin" meaning "gift from the creator," and referred to by other First Nations as "the Good Seed." It was a staple food source and included in many local oral teachings (ABOS, 2019j). Consequently, the wild rice restoration efforts have been another key opportunity for community members to learn about their own culture or that of the Alderville and Anishinaabe people.

Because the ABOS is situated on Indigenous lands and was founded by local Indigenous leaders, it is uniquely positioned for engagement in knowledge sharing with partners, community members and potential collaborators. Sharing traditional ecological knowledge and incorporating it into practice can help members of the Alderville First Nation connect with their cultural history (Bell et al., 2010). But the site also serves as a gathering point for workshops and events that bring partnering organizations, volunteers, school groups, researchers, etc., and members of Alderville First Nation together with

Knowledge Holders, and Elders, who can share Indigenous history, cultural practice, and traditional ecological knowledge (ABOS, 2019j).

These knowledge systems of the Knowledge Holders and Elders are inherently tied to the Alderville First Nation community, Anishinaabe and Haudenosaunee peoples and their lands, dynamically changing in response to environmental and generational change, shared over many generations. As such, their knowledge cannot be separated from the land or the people or from the way it is generated or understood, the way Western knowledge systems often can (Latulippe & Klenk, 2020). However, due to the impacts of colonialism, Indigenous knowledge is often not respected or understood, but instead viewed through the same lens as Western knowledge or viewed as supplementary material. Without proper space for understanding the Indigenous community, engaging responsibly in sharing and relationship building, Indigenous knowledge can often be viewed as "less credible" or applied without consent, misinterpreted, or commodified (Kolezar- Green, 2018; Whyte, 2018). As such, it is important that when Indigenous knowledge is shared, it is done with the relevant Indigenous community having agency over how the knowledge can be shared and with whom. Through the ABOS, Alderville First Nation's Knowledge Holders and community members have the capability to share and practice local traditional knowledge within the community first and foremost. For broader sharing beyond community members, the Alderville First Nation community, through its management of the ABOS site and its projects, has sovereignty and agency over what knowledge can be shared and with whom on their terms.

6.3.2 Educational Opportunities

Consistent with the ABOS's broad vision, restoration of the ABOS site extends beyond the outdoor restoration work and incorporates active engagement through outreach, education, and research. For restoration of tallgrass communities, or any ecosystems, to be successful in the long term, people must understand why they are important. Therefore, much of the work done by the ABOS is intrinsically tied to working with the Alderville First Nation and broader community to create a connection to tallgrass prairies ecosystems and inspire interest in nature. Furthermore, these educational and research opportunities provide the ability for participants to engage with and develop a deeper appreciation for Alderville First Nation's culture, history, and knowledge.

The ABOS is home to several rare and endangered species and can provide a accessible site for outdoor education opportunities. Having built connections with the Ontario educational system, ABOS has and continues to develop several outdoor programs tailored to the Ontario curriculum, for elementary

and secondary school students (ABOS, 2019j). These holistic ecological learning experiences provide the ability for students to engage in learning outside the classroom, to see actual tallgrass communities, and at least potentially to build greater connections to these ecosystems and perhaps the broader natural world (ABOS, 2019j; Rice Lake Plains, n.d. a). The Alderville First Nation Ecology Centre has become a central community hub for the project's educational programming and other activities. In addition to outdoor programs, the ABOS hosts workshops for classrooms and organizations that detail the process of restoration of natural areas and encourage participants to engage ecological restoration and traditional knowledge application beyond their experience with ABOS (ABOS, 2019j). For example, the ArcGIS StoryMaps presentation provides a virtual learning experience for individuals and students, for a more accessible way to learn about tallgrass communities, especially those who may be unable to physically visit the site.

In addition to providing education resources for elementary and secondary students, the ABOS has established relationships with local academic institutions, such as Fleming College, allowing for research at the site (ABOS, 2019j; Rice Lake Plains, n.d. b). These research opportunities provide researchers with a unique chance to study a rare ecosystem. In turn, their work helps contribute to a deeper understanding of tallgrass communities and how to best enhance restoration and management practices. Much of the work conducted at the ABOS focuses on long term monitoring of restoration efforts, to understand how such practices are impacting each of the individual ecosystems and how they could be improved or applied. The research is covers tallgrass communities and the individual species that inhabit the ecosystem – including rare plants, vulnerable amphibians and reptiles, birds, and pollinators – as well as prescribed burning and fire management practices (ABOS, 2019j).

The Influence of ABOS On the Next Generation

Creating educational and research opportunities helps spread the message of the importance of these grasslands, particularly for young people in and around the Alderville area community. A reflection on the impact ABOS has on encouraging young people towards stewardship was the "Revitalizing Rice Lake" project. This project was initiated by Gezhii Smoke-LeFort, a student of Roseneath Public School. Having learned about the negative impact local agricultural runoff was having on Rice Lake's water quality, Gezhii Smoke-LeFort suggested that volunteers could plant native trees and herbaceous plants along the sides of the creek to act as buffers to soil erosion and help with water filtration (Northumberland News, 2018). Gezhii Smoke-LeFort's proposal became a reality in 2018, when Lower Trent Conservation

partnered with ABOS Ecology Centre to facilitate the streambank restoration project (Northumberland News, 2018). These partners and a team of 15 Roseneath Public School students worked to re-naturalize the banks of Sandercook Creek, a tributary to Rice Lake to create a maintainable native plant buffer zone to improve water quality (Northumberland News, 2018; Belleville Intelligencer, 2018).

This proposed restoration plan from a student would later initiate the ABOS's "Stream to Shore" program, a program specifically focused on conservation efforts along the streams that connect to Rice Lake. This project has expanded from assessing water quality, to applying field observation and monitoring data from installed automated data loggers to assess the impacts of climate change on this ecosystem. This program also includes the "Turtle Habitat" project. This work includes installing nest protectors over vulnerable nests, such as roadsides and agricultural fields, and constructing a nesting site adjacent to Rice Lake to enhance survivability of adults and hatchlings (ABOS, 2019j).

6.3.3 Engaging in Community Science

Opportunities for learning and participating in knowledge building are not limited to educational programming for students at ABOS. Participation of community members in citizen science also has become a significant part of the work being done at ABOS. Citizen science, or community science, is a collaborative approach to science, in which researchers engage with members of the public as active participants in science data gathering projects, often in monitoring and population assessments (Bonney et al., 2016). Community science efforts have become increasingly popular as means of mobilizing more people to gather widespread data with minimal funding while also giving community members opportunities to participate knowledgably and usefully in natural science efforts (Bonney et al., 2016).

Through forming important collaborative connections with likeminded organizations, the ABOS has developed resources for community members to engage in restoration and monitoring. These activities include recording seasonal variation and abundance of caterpillars, beetles, and spiders, identifying and recording species in one's own backyard, and mapping local invasive species populations using Early Detection and Distribution Mapping System (EDDMapS). Additionally, people can participate in "Mission Monarch" and "Bumblebee Watch" initiatives that encourage recording, photographing and reporting sightings of monarch butterflies and bumblebees (ABOS, 2019j). Each of these programs encourages community members to engage in ecological conservation efforts themselves and learn more about species important to tallgrass communities that may even exist in their own local community. The findings from these efforts add critical data to the scientific databases of the

organizations facilitating the projects and can be used by ABOS to understand species variation, abundance, population, and geographic location on site and in the rest of the Rice Lake Plains region.

6.3.4 Mitigomin Native Plant Nursery

The Mitigomin Native Plant Nursery is a plant nursery operating on the ABOS site. The nursery project began in 2019 with the support of Alderville First Nation Chief, Dave Mowat and is coordinated by Gillian di Petta. The project was proposed in large part due to the significant demand for local, native plant stocks of endangered species needed for future grassland restoration projects on the ABOS site (di Petta, personal communication, February 23, 2022; Abrahamse, 2022). Harvesting native plants from the ABOS site or nearby is critical because the plants' genetics have co-evolved with the surrounding climate and wildlife. These plants are best adapted to this specific region, and best suited to support local pollinators, provide specialized habitats, and develop more resilient populations. Furthermore, native tallgrass community plants are effective carbon sinks and drought resistant, making them important species for restoration in the face of climate change (di Petta, 2021).

Being one of the largest tracts of the tallgrass community ecosystems in Ontario, the ABOS is a significant source of well-established and diverse rare species populations that are difficult to source outside of restoration sites. Thus, through the Mitigomin Native Plant Nursery, the ABOS aims to be a reliable, local source for endangered native plants for the ABOS site itself, as well as for restoration efforts occurring on similar sites throughout Ontario (di Petta, 2021).

For the Alderville First Nation community, the Mitigomin Native Plant Nursery grows traditional foods, such as wild raspberries, Canada wild rye, pawpaw, and walnuts, along with medicinal plants used by the Annishinaabe (di Petta, 2021). This is meant to help the Alderville First Nation community enhance their food sovereignty and engage in cultural revitalization. By gaining greater control over their access to sustainably grown food and medicinal plants, the community can begin reclaiming traditional agricultural practices and reduce dependence on current, colonial food systems. Having a more sustainable source of food can also help address food and nutrition insecurity, which often disproportionately impact Indigenous communities throughout Canada. The ability to grow and use medicinal plants can contribute to the reconnecting of current and future generations to traditional cultural frameworks and practices around agriculture, wellness and relationships with their community and the land (Coté, 2016).

More than just a source of native seeds, the nursery represents full circle restoration taking place, on the ABOS site and throughout Ontario. Reflected in the program's name, "Mitigomin" is Anishinaabe for "seed from an oak". The ABOS is an established protected landscape, functioning like an established oak tree on a larger scale, while the nursery represents the seed, not just in its newness or that that it cultivates seeds, but in its promise of a restorative future. The seeds collected on ABOS lands will be used to support continued restoration on the ABOS site, and perhaps future restoration projects further afield (Greenbelt Foundation, 2021; Abrahamse, 2022). The tallgrass prairie and savanna plants that are being cultivated today could be the metaphorical "mothers" and "fathers" of future tallgrass community restoration sites, both on the ABOS site and beyond. The traditional foods and medicines grown will further support cultural revitalization of the Alderville First Nation community and perhaps other communities working towards greater capacity. In this way, the ABOS can engage in a more reciprocal relationship with the landscape and build a more sustainable, local agricultural as well as ecological system.

The foundational guiding principle of the Mitigomin Native Plant Nursery is to maintain seed sovereignty (di Petta, personal communication, February 23, 2022; Abrahamse, 2022). Just as Knowledge Holders maintain the community's sovereignty over traditional and cultural knowledge, the traditional tallgrass food and medical plant seeds being collected represent community sovereignty in respect of seeds. Recognizing their autonomy as living beings with significant historical and cultural value to the Indigenous communities with the knowledge of how to collect and care for traditional native plants (Hill, 2017; di Petta, personal communication, February 23, 2022). Native seeds are so culturally significant given their connection to the land they originate from, representing a way for the Indigenous communities to develop stronger, reciprocal relationships to the land (Hill, 2017).

Seed sovereignty is emphasized because the impacts of colonization, in addition to degrading Indigenous agricultural systems and stewardship practices, often led to loss of knowledge, including around seed care and cultivation, loss of community's seed stock or theft of seeds. Through colonial frameworks, the respect for seeds and their roles in connecting the land and the people who care for it, has been disrupted. As a result, many may view seeds for their functional value as commodities rather than autonomous beings directly connected to their land of origin. Therefore, ABOS is working to decolonize views about seeds and to emphasize their role in cultural revitalization (di Petta, personal communication, February 23, 2022).

Through this guiding principle, the Mitigomin Native Plant Nursery will care for the seeds of native species in ways that adhere to the interests and needs of the Alderville First Nation and respect the seeds and their cultural as well as practical roles throughout the process, from collection, through cultivation, sharing, tracking, and ensuring the benefits of this seed sharing will go back to the Alderville First Nation community (di Petta, personal communication, February 23, 2022). This process includes emphasis on sharing the seeds with those who understand and respect their sovereignty as well as the goal of the nursery, to support the Alderville First Nation community. For now, that circle may be small, but it is one of mutual understanding and reciprocity, with confidence that the seeds will support future restoration and livelihood opportunities and be respected for all the potential they hold.

6.3.5 Gitigaan Interpretive Garden

The Mitigomin Native Plant Nursery also includes an interpretive garden, the Gitigaan. The term "gitigaan" is Michi Saagiig for "garden" or "gathering space." The Gitigaan Interpretive Garden is an educational and outreach space for community members, Indigenous and non-Indigenous alike, to interact with and learn about native tallgrass species (ABOS, n.d.- Mitigomin Native Plant Nursery). The Gitigaan is used as an interpretive garden for educational programs and special events, allowing community members see many of the different ways native plants can serve needs and functions in the local ecosystem, encouraging the inclusion and care for native plant species. It also provides information to visitors about how to care for the rare native plants in their own backyards, encouraging stewardship for species at risk in one's own life (ABOS, 2019b).

The inclusion of many different native species also provides opportunities for researchers interested in the rare and vulnerable tallgrass community species. Studies assessing seed dormancy, germination and other aspects of plant growth and cultivation can be conducted here to continue improving the efforts at the nursery (ABOS, 2019b). The Gitigaan will also act as a continuing source of native plants for the nursery, with each project supporting one another throughout the seed collection, cultivation, and growth processes.

Recognition For Their Efforts

The work of ABOS project has grown greatly since the early recognition of the rare tallgrass community remnants. Now an established ecological restoration site central to Alderville First Nation's land and the broader Rice Lake Plains community, the ABOS is the one of the largest tracts of tallgrass communities in the province, with over 800 documented species. It is a provincially recognized site of research,

education and sharing of traditional knowledge. All this is facilitated by the continuing expansion of ABOS projects to serve their mandate of restoration, education, research, and sharing the importance of the tallgrass ecosystem with the broader community.

These efforts have not gone unnoticed. In recent years, ABOS won the Lieutenant Governor's Ontario Heritage Awards in Community Leadership Award and one of 12 Excellence in Conservation Awards. They have further been awarded the Minister's Award for Environmental Excellence, recognized as a certified wildlife-friendly habitat by the Canadian Wildlife Federation, and were Esri Canada's monthly Ambassadors for March 2020 (ABOS, n.d).

These awards celebrate the important work being done at this site and the impact it is having on ecological restoration and cultural revival, an impact that could not have been possible without the ABOS' emphasis on engaging with the community and its Knowledge Holders, educating and providing opportunities to appreciate this ecosystem ecologically, historically and culturally.

6.4 Relationship Building to Support the Alderville Black Oak Savanna: Funding Support and Reciprocal Restoration Partnerships

Establishment as a natural heritage site is only part of the effort made to protect and restore the tallgrass communities in the region. Critical to work done at the ABOS today, are the connections made by the Alderville First Nation and ABOS with different levels of government and the large network of initiatives also dedicated to ecological conservation.

6.4.1 Government Support

The Alderville First Nation and the ABOS project have won support from several federal and provincial government ministries. The federal government supports the ABOS project primarily through funding from Environment Canada, through the Aboriginal Fund for Species at Risk and the Habitat Stewardship Program (Keller, 2016). Both programs aim to support conservation, protection and recovery of target species and habitats under the Species at Risk Act, with the Aboriginal Fund for Species at Risk fund specifically focusing on conservation initiatives on Indigenous lands (Environment and Climate Change Canada, 2021a; 2021b). In 2019, the ABOS received funding from the Aboriginal Species at Risk program, to be used over three years, for the Black Oak Savanna Stewardship of Pamitaashkodeyong for

Species at Risk project. This project aims to protect 28 federally listed species classified as special concern, threatened and endangered (Cobourg Now, 2019).

The provincial government supports the ABOS through the Ontario Ministry of Environment and Climate Change and Ministry of Natural Resources and Forestry, given tallgrass communities' classification as an endangered habitat and the ABOS being located within the boundaries of the Oak Ridge Moraine Conservation Plan and the Ontario Greenbelt (Rice Lake Plains, n.d.b; Keller, 2016). The ABOS is further tied to the provincial government given its classification as a natural heritage location. As a result, proposed land use changes must be cleared through the Ontario Ministry of Culture, Tourism and Sports and the Ontario Ministry of the Environment (Keller, 2016). Traditional and local knowledge is applied when the ABOS puts forward proposals to guide government decision making regarding funding or in public committee meetings meant to facilitate consultation according to the Political Accord signed in 2015 (Ontario Ministry of Indigenous Affairs, 2021).

However, it is difficult to determine the extent to which decision making on funding allocations for the ABOS by provincial ministries are impacted by the traditional knowledge and insights shared in committee meetings and proposals (Keller, 2016). Relationships with these provincial ministries are complicated by their ability to veto decisions or dictate where government funding should be allocated (Keller, 2016). This can mean that the provincial government does still impose some degree of colonial structural decision making, indirectly, to the operations of ABOS.

6.4.2 Organizational Connections: Nature Conservancy Canada and The Rice Lake Plains Partnership

Nature Conservancy Canada is a Canada wide non-profit land conservation organization, who partner with individuals, corporations, Indigenous communities and other non-profit organizations and governments to secure lands for long term conservation. The work of Nature Conservancy Canada includes engaging in conservation research, ecosystem restoration, partnering with governments through Natural Heritage programs and Parks Canada, supporting Indigenous conservation, and climate change supporting projects (NCC, 2023). Currently, Nature Conservancy Canada protects 15 million hectares of land across Canada, protecting several different ecosystems and species at risk, including the Rice Lake Plains region. The focus of working in this region is protecting and restoring the rare remaining intact tallgrass prairie and oak savanna ecosystems. A key part of this effort is partnering with the Alderville First Nation (NCC, 2023).

Nature Conservancy Canada's work in this region began with forming the Rice Lake Plains Joint Initiative, now known and referred to as the Rice Lake Plains Partnership, in 2002, bringing together several like-minded organizations working within the region (NCC, 2023). Much of the Rice Lake Plains Partnership's early work was funded by the Oak Ridges Moraine Foundation, as it was recognized the importance tallgrass communities could play in the health of the broader watershed system (Stabb, personal communication, November 2, 2021). The initial phase of this initiative involved inventory and assessments of the initial 6 partner's properties, to better understand the state of the tallgrass community remnants at the time. This included measuring tallgrass community boundaries, percent cover, tallgrass quality and restoration potential, all of which occurred in the early 2000s (Farell et al., 2006). This assessment of tallgrass communities would go on to help guide management and restoration plans for each partner while also providing the foundation for the conservation strategies and estimates of management success for the Rice Lake Plains Conservation Plan being developed by Nature Conservancy Canada (Farell et al., 2006; Stabb et al., 2007).

Beginning in 2004-2005, at the time of these initial assessments, different potentially interested landowners and partners were approached with the goal of gathering information on these sites. This initial engagement included approaching the ABOS (Farell et al., 2004; Farell et al., 2006; Stabb, 2015). Although the ABOS consulted and contributed knowledge to early efforts of the Rice Lake Plains Partnership, they did not initially join the Rice Lake Plains Partnership, as the community wanted a more in depth understanding of the partnership's purpose and intentions (Stabb, personal communication, November 2, 2021). However, Elder Rick Beaver and Dave Mowat, the current Alderville First Nation Chief, played a critical part during this time in welcoming the Nature Conservancy Canada to observe and begin work on maintaining the grassland and savanna site. This initial relationship helped lead to a collective understanding between the Alderville First Nation community, the Nature Conservancy Canada, and the growing Rice Lake Plains Partnership. All parties agreed that to achieve landscape grassland and savanna restoration, collaboration would be key (Stabb, personal communication, November 2, 2021).

Today, the Rice Lake Plains Partnership includes private landowners, including the Alderville First Nation community, who officially joined in 2007, local conservation authorities, Fleming College, several non-profit organizations, Northumberland County, and local volunteer groups (Farrell et al., 2014; Stabb, 2015; NCC, 2020). All these parties were brought together by their shared mission and vision of protecting and restoring the Rice Lake Plains, with a distinct focus on the endangered tallgrass

communities (Rice Lake Plains, n.d. a). Although specific motivations among the organizations varied, there was consensus that most involved parties, from government bodies to volunteer groups, had a genuine stake in restoring the land (Stabb, personal communication, November 2, 2021). Upon joining the Rice Lake Plains Partnership, ABOS now had connections and access to resources and knowledge from a series of like-minded organizations, many of which were based, or had local presence, the Rice Lakes Plains Region.

These connections through the Rice Lake Plains Partnership both directly and indirectly impact the ABOS. The partnership provides additional channels of funding to secure financial support for potential projects and encourages the overall success of restoration in the Rice Lake Plains region. Through this partnership, resources and knowledge on proper land management and ecological restoration practices, awareness, and community engagement campaigns, resources for public and private landowners and funding opportunities are shared among the different collaborative parties (Rice Lake Plains, n.d. a; Farrell et al., 2005; Stabb, personal communication, November 2, 2021). In the most current estimate, this collaborative initiative, having brought together numerous stakeholders, has resulted in 976 ha of significant natural areas in the Rice Lake Plains being secured for restoration (Stabb, 2015).

The ABOS is among the most unique and significant partners of the Rice Lake Plains Partnership, given the historical significance of the Mississauga Ojibway people and the Alderville First Nation in the Rice Lake Plains, their traditional knowledge, and their in-depth understanding of the land. The ABOS is especially recognized by other members of the Rice Lake Plains Partnership, particularly the Nature Conservancy Canada, for its educational contributions. Promotion from the Rice Lake Plains Partnership and Nature Conservancy Canada encourages members of the public to visit or engage with ABOS resources and projects and underlines the importance of collaborating with Indigenous communities on conservation efforts (Rice Lake Plains, n.d. a; NCC, 2020).

A further testament to this partnership is the fact that as part of the Mitigomin Native Plant Nursery project, some of the seeds that will be collected and cultivated are intended to be shared with members of the Rice Lake Plains Partnership. While many seeds will first go into supporting the capacity of the Alderville First Nation, members of the Rice Lake Plains Partnership have demonstrated their understanding and respect of the seeds and the purposes of the project (di Petta, personal communication, February 23, 2022). It is through these long-standing relationships with Rice Lake Plains Partnership

members that trust has grown, and reciprocity has been demonstrated, providing the mutual understanding that is necessary for successful partnership, particularly with First Nations communities.

This connection between the partnership is evident in a story detailed by M. Stabb (personal communication, November 2, 2021), in which a celebration was held for the addition of land to the Alderville Black Oak Savanna. A certificate of possession for land had become available for sale, a sports bar up on a hill that happened to be directly next to the Alderville Black Oak Savanna property. In part due to funding provided by the Nature Conservancy Canada, the land was acquired by the Alderville First Nations and added to the communally held Alderville Black Oak Savanna property, expanding the restoration area. To celebrate this addition to the Alderville Black Oak Savanna land, an outdoor celebration was held on the land, where Alderville First Nations band members as well as Nature Conservancy Canada representatives gathered. Reflecting on it now, M. Stabb (personal communication, November 2, 2021) states that it may have been one of the first times conservation organizations, Alderville First Nations community members working directly on the ABOS project and the broader Alderville First Nations community, including drummers and dancers, collectively came together to celebrate the Black Oak Savanna site. All in celebration of what it represented for the community and for what lay ahead. As M. Stabb (personal communication, November 2, 2021) said, it was an honour to be there that day and may have been a highlight of his career as it represented what the future could be of restoration and building relationships with local Indigenous communities.

What became of the former sports bar? It went on to become the Alderville Black Oak Savanna Ecology Centre, a hub for activities for the organization, including educational programming, volunteering opportunities and a communal meeting center for the Alderville First Nations community (M. Stabb, personal communication, November 2, 2021).

6.4.3 Greenbelt Foundation

The Greenbelt Foundation first provided a grant to the ABOS in 2019, specifically for the supporting the beginning stages of the Mitigomin Native Plant Nursery, allowing ABOS to create initial blueprints, preliminary research, and strategy for the nursery (Greenbelt Foundation, 2021b). The Greenbelt Foundation would then continue to provide grants to ABOS to support the Mitigomin Native Plant Nursery project. In 2021 for the early coordination of the project and later in 2022-2023 to support the operation and professional services of the Nursery to ensure its continuation and allow the greenhouse to be build incorporating sustainability designs to rely on renewable power (Greenbelt Foundation,

2021b; Greenbelt Foundation, 2023). These grants for ABOS specifically work towards supporting the Greenbelt Foundation's goal of increasing natural cover and supporting climate change mitigation efforts on Greenbelt Lands (Greenbelt Foundation 2023).

As indicated by Henry & Di Petta (personal communication, February 23, 2022), the support of the Greenbelt Foundation was impactful given the organizations large platform, providing greater visibility to the ABOS and demonstrating clear support for an Indigenous led restoration site. In advocating and supporting restoration of tallgrass ecosystems

6.4.4 Grow Wild! Native Plant Nursery

A recent partnership for ABOS has linked the Mitigomin Native Plant Nursery project with the Grow Wild! Native Plant Nursery based in Omemee, Ontario. f. Grow Wild! is a plant nursery for many North American native plants as well as a provider of biological and ecological restoration consultation services. Grow Wild! aims to enhance awareness of restoring native ecosystems and promote native biodiversity and environmental protection. Critically, as part of their seed collection process, only 10% of seeds from wild native plant populations are collected to ensure greater genetic diversity as well as maintain the health of collected plant populations (Grow Wild!, 2021).

As part of their partnership, Grow Wild! Native Plant Nursery is providing horticultural expertise and resources for plant growing techniques and operating the Mitigomin Native Plant Nursery greenhouse, especially as it grows in capacity. As discussed above, critical to engagement with the Rice Lake Plains Partnership is the establishment of reciprocity, respect and mutual understanding between the organizations and the significance of the ABOS in their work for the Alderville First Nation. Given their shared goals of promoting the stewardships of native plants, sustainable harvesting, and plans to continue moving forward, this may be indicative of the beginning of the foundation of a reciprocal and respectful working relationship (Greenbelt Foundation, 2021).

6.5 Current Challenges Faced by the Alderville Black Oak Savanna in Achieving their Vision and Mission

6.5.1 Funding Limitations

Organizing and maintaining long-term restoration initiatives and educational programs and developing upcoming new projects to respond to growing needs of the ecosystem and the community ABOS serves, entails winning funding support from external organizations and government bodies. As is

the case in all small-scale initiatives, including the GBFMN discussed in section 5.5.1, pursuing funding opportunities can be a significant challenge to ABOS's capacity. However, the challenge with funding is not limited to finding ways to support projects, it also involves developing suitable relationships between the Alderville First Nation and the government. While improvements upon historical relations have been made, the dynamic between the two parties still suffers from power imbalance, as described by R. Odolczyk, current Coordinator of Ecological Restoration of ABOS and D. Paszterko, former coordinator, in Keller (2016). This dynamic ultimately restricts the Alderville First Nation community's self-governance capabilities and the ability for community members, Indigenous and non-Indigenous alike, to make decisions regarding a land they are tied to restoring.

R. Odolczyk and D. Paszterko describe how funding for ecological initiatives does not always occur in a constant stream throughout the year, but rather it is often supplied at certain times of the year (Keller, 2016). Because of fixed schedules for proposal application, determination of eligibility and the approval of funding, organizations and governments tend to provide funding at certain times of the year (Gibson, personal communication, September 15, 2021). However, the funding schedules rarely align with the natural cycles, such as prescribed burning cycles and seed production and species life cycles at the ABOS site (Keller, 2016; Southern Ontario Nature Coalition, 2021). For the ABOS, the poor fit between the natural cycles of the tallgrass communities on the site and the timing of funding decisions can limit opportunities to address pressing needs.

Longer misalignment of timelines can also be an issue. Funders often require recipients to provide evidence that the support is being used effectively. Especially when the funding is short term (e.g., for one or two years), this can be a problem for natural restoration projects, which often require several years to deliver positive signs of restoration success (Keller, 2016). However, as addressed by Stabb (personal communication, November 2, 2021), multi-year grants help to build momentum for restoration projects, such as those undertaken at the ABOS and other related organizations. Additionally, support from organizations such as the Greenbelt Foundation and the Oak Ridges Moraine Foundation can help to bring greater attention and significance to the organizations they support, given these foundations' credibility and reach in sustainability and conservation work (Stabb, personal communication, November 2, 2021).

Funding expectations may also misalign with the needs of the organization. This issue is common throughout many similar sustainability and ecological initiatives and is illustrated in both the types of

projects that are funded and how the allocated funding is allowed to be used. When allocating funding for initiatives, especially at smaller scales, funders often prioritize for certain types of short-term (approximately year-long) projects or for planning stages, as these projects can provide short-term, easily measurable indicators of success for the organization or government ministry supplying the funding (Gibson, personal communication, September 15, 2021). Short-term projects can be beneficial for many ecological initiatives. However, if only the preliminary phases of a project are supported, the funding applications and funded work may not always be designed as well as it might be for the long-term viability of the project or the organization. Prioritizing of funding for short term or easily measurable successes can often be strong determinants of the types of projects that get funded and may limit potential for developing and pursuing long term restoration projects (Gibson, personal communication, September 15, 2021).

Effective restoration and outreach activities often entail a long process with continuing resources, research, building relationships, maintaining collaborations, associated visionary planning and investments in fund raising. Without viable commitments to long term or continued and consistent funding, or at least prospects for such funding, organizations can be discouraged from investing time and resources into long term restoration projects that would make valuable contributions to stewardship, restoration, and reconciliation (Gibson, personal communication, September 15, 2021).

Additionally, governments and other funders choose where to allocate funding and can effectively determine what projects can be pursued by the ABOS unless it has alternative sources of funding (Keller, 2016). For ABOS, being part of the Rice Lake Plains Partnership means they, in some capacity, must align ABOS projects they hope to be funded with the partnership with provincial objectives outlined for the partnership funding eligibility requirements. However, if the needs and goals of the ABOS misalign with provincial objectives, the ABOS team and Alderville First Nation community may not be able to pursue all desired projects to the time and scale that may have initially been planned (Keller, 2016). Furthermore, changes in political will and shifting objectives can make the ABOS and Rice Lake Plains Partnership vulnerable to changes in commitment and support for their efforts. Ultimately, with the structures set to support ABOS still based on colonial governance systems that does little to include or incorporate Indigenous ways of thinking, this relationship is not reflective of forming a true partnership (Keller, 2016).

6.5.2 Lack of Native Seeds

As mentioned above, the motivation for the Mitigomin Plant Nursery Project was in large part to address the local demand for native plant seeds in the area for restoration. The shortage of available native plant seeds, however, is a problem affecting not only restoration work at the ABOS, and in the Rice Lake Plains, but also across Ontario and even all of Canada (Southern Ontario Nature Coalition, 2021; di Petta, 2021; Stabb, personal communication, November 2, 2021). When restoring a site, it is most beneficial to plant native and local seed varieties, as they are most adapted to that specific region, more likely to not just survive but also thrive (Southern Ontario Nature Coalition, 2021). However, due to a limited seed supply, the amount of restoration work that can be done is limited, particularly for rare plants like tallgrass community species. The limited supply is further challenging because the expense of the available seeds can make supplies inaccessible to many smaller initiatives, such as ABOS. As Stabb observes, for restoration work to be conducted more effectively, more organizations need to be have access to native plant seeds to enable engaging in restoration, including smaller, localized scaled restoration (Stabb, personal communication, November 2, 2021).

Currently, Nature Conservancy Canada works with local seed suppliers to the extents possible; however, they are also focusing on seed collection for their own restoration sites so that seeds can be shared throughout the network for other restoration projects. The Alderville First Nation community have been part of this seed collection and sharing network. The community has shared native plant seeds with the Nature Conservancy Canada and has made seed collection an engaging activity for volunteers (Stabb, personal communication, November 2, 2021). While restoration initiatives from the Nature Conservancy Canada, ABOS and other seed sources are working to enhance local native seed supply, for large landscape scale restoration to take place, the network of native seed production and supply needs to grow (Southern Ontario Nature Coalition, 2021). The Mitigomin Plant Nursery Project is a significant example of the concerted efforts being made to address this field-wide challenge.

Enhancing the Local Native Seed Supply

While much more is needed to strengthen the local native seed supply system, there has been progress not just with the ABOS Mitigomin Plant Nursery Project, but also in other small but meaningful ways at other organizations. As told by M. Stabb, a dedicated Nature Conservancy Canada conservation biologist used to have to pull over on the sides of roads at any opportunity to grab what native seeds could be found when supplies were limited. However, with more thriving restoration projects, they can at least

collect seeds from their own sites now, instead of relying on roadsides (M. Stabb, personal communication, November 2, 2021).

6.5.3 Ensuring Understanding and Respect for the Goals of the ABOS

The work of ABOS focuses on the ecological restoration of rare tallgrass prairie and savanna communities, incorporating education, research, and outreach to share the importance of this ecosystem. However, ABOS is also significant as an Alderville First Nation initiative. It is being undertaken on the ecosystem is on the community's land, reflects their cultural ties, applies their traditional knowledge and is the product of their decisions. ABOS projects are designed with long term goals, applying Indigenous perspectives, and meant to expand opportunities for the Alderville First Nation community.

For both the Alderville First Nation and their partners in ABOS, establishing the foundations for effective collaboration has required serious commitment to building relations of trust and understanding. As described above, many organizations, including those in the Rice Lake Plains Partnership, have taken the time to develop respectful working relationships with the ABOS. They understand the leadership role of the Alderville First Nation, respect the importance of traditional ecological knowledge and support ABOS's intersectional goals.

Unfortunately, this understanding and respect has not been exhibited by all who engage or attempt to engage with the ABOS initiative. As described above, the historical and current impacts of colonization have led to a lack of understanding and respect for Indigenous communities and traditional ecological knowledge systems. Taking the time to form relationships is critical to ensure that Indigenous knowledge and perspectives do not continue to be marginalized and disrespected. This is particularly critical for research as Indigenous knowledge has historically been taken from the communities, and often misunderstood. The communities have been treated as subjects of study as opposed to genuine partners and beneficiaries. Too often, knowledge or resources generated from collaborative work has not been shared with Indigenous communities, including the Alderville First Nation (Henry & di Petta, personal communication, February 23, 2022)

Even organizations that have worked with Indigenous communities before sometimes fail to recognize that the processes of engagement and forming relationships differ from one community to another. Indigenous communities and their knowledge systems are highly diverse and so are their processes of engagement and deliberation. An approach to engagement that served well enough with one community may not be suitable with the Alderville First Nation. Specifics also matter. A community

may grant consent for one project but reject another (Henry & di Petta, personal communication, February 23, 2022). Despite the increased awareness of the importance and process of proper engagement, considerable gaps remain in practice, especially when settler organizations fail to take the time to engage meaningfully with Indigenous communities.

For the ABOS and the Alderville First Nation, the challenges of funding and resources that limit their ability to achieve intended goals may often rest, in part, on the failure of external, colonial structured organizations not taking the time to understand and respect the Alderville First Nation's leadership role for the ABOS as a contribution to their community's cultural revitalization. As on example, di Petta (personal communication, February 23, 2022) described how the Mitigomin Plant Nursery project respects seed sovereignty and understands seeds as autonomous beings with roles in cultural reconnection for the Alderville First Nation community. However, some external organizations seem unable to view seeds as anything other than tools or a commodity to meet market needs and deliver economic gain.

For the ABOS, it is important that visitors to the site, researchers, educators, potential partners, government bodies, etc., truly understand the significance of working with an Indigenous community genuinely and respectfully. While many still do not "get it," that does not mean they never will.

6.6 Alderville Black Oak Savanna: What Lies Ahead

The ABOS initiative is a uniquely notable contribution to the larger story of ecological restoration in the Ontario Greenbelt. It not only goes beyond ecological goals to engage in active outreach, education and research, but also exemplifies how decolonization practice can take place through partnership building for stewardship and restoration. That agenda, as discussed above makes the ABOS an innovative and creative initiative worthy of being highlighted. The biggest impacts, however, are those resulting from particular ABOS's projects.

Each of these projects incorporates the main elements of the initiative's mandate, emphasizes the importance of Indigenous knowledge, serves cultural revival, builds partnership networks, and demonstrates governing capacity to make positive change now and in the future. However, the best signs are small and incremental ones that reveal the wisdom of the approach and the positive trajectory ahead. A good example, recounted by Gillian di Petta (personal communication, February 23, 2022), involves a single plant.

Given the nature of ecological restoration, projects require long periods of time before a site can demonstrate signs of "success", in the sense that it is beginning to sustain itself. This was true for a particular site, a former agricultural field, being worked on by the ABOS team, led by Ecological Restoration and Stewardship Coordinator Radek Odolcyzk. But in the spring of 2020, after only a couple of years working on the site, Odolcyzk noticed a butterfly weed on the site. Butterfly weed is native to Ontario and welcome in ABOS. The surprise was that no one had planted it there. Somehow, perhaps through wholly natural processes and the availability of a newly suitable environment, a butterfly weed seed had sprouted and thrived. In the early years of the site's restoration process, the appearance of the butterfly weed was a small but easy and distinct indication that the ecosystem was now healthier and had great promise. Many more years of effort will be required at that site. Ecological restoration is very much a process for future generations and immediate results are rare. However, for the ABOS team, the butterfly weed was an encouraging sign. As di Petta (personal communication, February 23, 2022) observed, it was one of "those little moments of when you realize the work is actually making a difference". The land itself, in its own way, had expressed gratitude for the work the ABOS staff do with each planting, removal and cultivation of seeds.

6.7 Conclusion: What Can We Learn from the Story of ABOS Initiative?

The story of ABOS illustrates how by centering equity, working to connect communities to a shared place, and developing mutually respectful and trusting relationships, progress can be made to enhance community sustainability. Particularly for a community whose voices, knowledge systems and perspectives have long gone unacknowledged, the growing network of partnerships and collaborations and the expanding list of restoration projects and educational programs represent impressive accomplishments. The future of the ABOS appears to be bright. The initiative has taken important steps in restoring tallgrass prairie and savanna remnants first found on the land over 20 years ago. But it has also incorporated additional lands and is now not only restoring one of Canada's rarest ecosystems, but also investing in the cultural identity, traditional practices and knowledge of the Alderville First Nation and the Indigenous peoples that lived there before and sharing that knowledge and building partnerships to extend understanding, respect and stewardship for Indigenous and non-Indigenous people alike.

The traditional teachings of the Haudenosaunee and Anishinaabe peoples were developed and passed down hundreds of years ago, and remain relevant today (Bell et al., 2010). Rick Beaver shared his

knowledge, blending his unique and localized understanding of the land with his experience in ecology and biology to form the ABOS. Now, the ABOS team, volunteers, students, and researchers are carrying this on to re-establish more sustainable relations between the environment and those who share it, merging ecological sustainability and Indigenous revitalization in their community now and for future generations.

The most significant contributions to sustainability that make the ABOS initiative's story worthy of exploration and understanding are as follows:

- Moves towards greater equity for the Alderville First Nations community by empowering Indigenous knowledge and actively engaging in cultural revitalization through intersectional ecological restoration projects
- Fosters a deeper "sense of place" for the Alderville First Nation and surrounding communities through understanding and appreciating the complex, intersectional benefits of ecological restoration
- Emphasizes the importance of developing a network of likeminded organizations that genuinely understand, respect and engage in reciprocity
- Demonstrates small scale transformation combining ecological restoration and enhancement of Indigenous culture and community sustainability in action

A theme found throughout each of these main contributions of the ABOS initiative is understanding and appreciation of complexity. The foundational understanding of complexity – of tallgrass ecosystems and their inherent connection to the cultural revitalization of the Aldverille First Nations – that makes this initiative exemplary. Each sustainability contribution exhibited in this case rests on a rich understanding and appreciation of the complexity of viable human/environment relations.

6.7.1 Enhancing Equity and Community Capacity Through Indigenous Knowledge and Cultural Empowerment in Ecological Restoration

Central to the ecological restoration work of the ABOS initiative is empowering regional Indigenous perspectives and knowledge while creating lasting benefits for the Alderville First Nation. Voices of those historically disadvantaged in the field of restoration are being heard and their ways of knowing are prioritized. This is reflected in the Abos initiative's management structure, application, and embracement of traditional ecological, engagement with students, researchers and community members, close working

relationships within the Rice Lake Plains Partnership and promising projects like the Mitigomin Plant Nursery Project. With members of the Alderville First Nation community directly involved in overall management of ABOS, empowering, and amplifying Indigenous knowledge to support the Alderville First Nations community remains a central goal of the initiative. The Alderville First Nation has the authority and ability to choose how, where, when and with whom their knowledge is shared and who can be involved in the ABOS. Not just anyone can come to the ABOS to conduct research, partner with them, organize projects or know localized knowledge (Henry and di Petta, personal communication, February 23, 2022). Those working in and with the ABOS must understand that its goal of ecological restoration is interconnected with empowering and supporting Indigenous ways of knowing and practice. All the work being done on the site, whether it be restoration, education, cultural engagement, research, etc., applies Indigenous perspectives and ways of thinking and retains the community's ability to exert self-governance.

The ABOS initiative further enhances equity by demonstrating how restoration work, through Indigenous knowledge, can address current needs while also creating lasting benefits for the Alderville First Nation community. Beyond ecological goals, ABOS addresses social, cultural and livelihood needs of the community. It provides an opportunity for knowledge holders and Elders to engage with community members, particularly local youth, in cultural revitalization. Through research, engagement projects and the Ecology Center, community members can reconnect with their culture through immersion in traditional knowledge systems, learning their language and history, and building connection to their land. Community members can also gain valuable knowledge and skills due to the employment, experiential learning and other opportunities provided by the ABOS. Both Indigenous and non-Indigenous individuals can engage in education and research, as seen with the community science programs, the "Revitalizing Rice Lake" project, the Gitigaan Interpretive Garden and the Mitigomin Plant Nursery Project. All participants are encouraged to come together in stewarding tallgrass communities, respecting the land and respecting each other's research understandings and methods.

The ABOS's application of Indigenous ways of thinking through their restoration practices and initiative projects demonstrates how these concepts and practices can and are being more widely accepted and valued as credible and effective knowledge systems for future restoration work. Similarly, the ABOS's application of restoration practices that apply Indigenous concepts such as prescribed burnings, sustainable seed harvesting, and respecting plant and seed agency, demonstrate how these practices can be

effective and could be increasingly applied. As Stabb (personal communication, November 21, 2021) noted, some municipalities around the Rice Lake Plains region, are becoming more open to using prescribed burning. Furthermore, ABOS continues to demonstrate how collaborative efforts applying both western and Indigenous knowledge systems can be conducted in a respectful and effective manner, for the benefit of the ecological systems and communities of people. Both the Alderville First Nation and non-Indigenous communities can come together to steward of tallgrass communities and encourage braided methods of research and understanding. Not just in collaboration with, but through empowerment of Indigenous knowledge, restoration can address the complexities of ecological as well as social systems, with appreciation of the connections between them.

Enhancing equity and community capacity is best exemplified in the Mitigomin Plant Nursery Project. As detailed in section 6.3.4, the idea of the Mitigomin Plant Nursery Project came about among the ABOS team to address the native plant seed shortage in Ontario for native plant restoration. With the support of the Alderville First Nations Chief, the project could move forward with di Petta as the coordinator, supported by Greenbelt Foundation and Rice Lake Plains Partnership (di Petta, 2021). However, beyond this, the nursery works to enhance the resiliency of ABOS through on-going restoration and is a unique source of long-term opportunities for the Alderville First Nations. Growing their own seeds, sourced from their restoration sites addresses an industry-specific problem, while establishing a reliable supply of seeds for future restoration projects. The ABOS staff and the Alderville First Nations can also reliably ensure that the seeds' sovereignty is respected from collection, through propagation and to planting. The inclusion of food and medicinal plants serves simultaneous goals of cultural reconnection and providing a sustainable source of traditional plants for the community, contributing to the local food system and supporting community well-being.

Propagating seeds for restoration, food and medicinal uses involves a long process, which requires skills ranging from seed collection and plant growing techniques to operation management and community engagement. Members of the community engaging in this project have opportunities to engage in many knowledge systems and develop a diversity of skills that can be used to support the long-term operations of the greenhouse, as well as be taken back into their communities and careers. The results support the livelihoods of those continuing the work of the ABOS initiative and may enable and encourage participants to begin similarly innovative initiatives for their community or to pursue related fields as careers. Engaging in native plant propagation and agriculture further allows people to spend time

with the land, directly engaging with the conservation, restoration and stewarding processes that fuel future seed collection sites or nursery crops. Spending time on the restoration sites and witnessing the results of the stewarding practices can have a profound impact on developing greater connection with the land. Together these contributions work to enhance the capacity the ABOS initiative and the Alderville First Nation community.

6.7.2 Significance of Mutually Respectful, Understanding and Reciprocal Working Relationships

Forming relationships and building social capital to share knowledge, resources and skills are critical to any sustainability enhancing initiative. However, the ABOS initiative also exemplifies the special importance of forming a network built upon meaningful and respectful working relationships. By taking the time to understand and appreciate one another's goals and needs, all members of the network benefit from one another's reciprocity and increased capacity to work towards shared goals.

Respect and mutual understanding are particularly crucial given the context of ABOS ecological restoration work. While the ABOS initiative is engaging in ecological restoration work similar to that done elsewhere by partners and others in its network, the ABOS work is being done under the leadership, agency and on the land of the Alderville First Nations community. Relationship building is a critical process when engaging with Indigenous communities in any capacity, given the continuing influence of structures that have undermined Indigenous autonomy and rights (Bowie, 2013). As such, it is imperative that those who are welcomed to the site in any capacity, understand and respect the Alderville First Nation's authority in decision making affecting the ABOS land, the multiple purposes of the restoration work and the relationship-building process. Given the historical lack of genuine engagement and the importance of this relationship building process, the Alderville First Nations

As discussed above, the Alderville First Nation contributed to the Rice Lake Plains Partnership's early efforts, but did not initially join the network. The ABOS staff and the Alderville First Nation community required greater time to continue building trust and understanding between the organizations. A significant aspect of this relationship building was the reciprocal nature of their early collaborations and roles leaders played in building the relationships. the openness of the Alderville First Nations, led by Rick Beaver and Dave Mowat, to welcome the Nature Conservancy Canada onto the land began the process of fostering a trusting and respectful relationship with the Rice Lake Plains Partnership (Mark Stabb, personal communication, November 2, 2021). Over time, this enabled the ABOS staff and

Alderville First Nation to engage with and build relations with the Partnership to the point of genuine understanding and trust that enabled the ABOS initiative to join the Partnership officially.

This long process of relationship building demonstrates how all those involved – the Rice Lake Plains Partnership, ABOS, Alderville First Nations and the tallgrass prairie and savanna ecosystems – benefit from genuine trust, understanding and reciprocity. A key example is the Mitigonmin Plant Nursery's plan that some of the seeds collected on the site and from the nursery will go to those within their network. As di Petta (personal communication, February 23, 2022) explained, seeds collected from this project will only be shared with those who understand and appreciate the sovereignty of the seeds, deserving of respect for the role they play in the future of restoration work. Due to the longstanding relationship with the ABOS, the Rice Lake Plains Partnership will be part of the small network of sharing beneficiaries receiving ABOS seeds for use in their restoration projects in the future.

Through demonstrating their respect and understanding of ABOS's purpose, partner organizations can access the ABOS land as well as can engage with Indigenous knowledge and resources held by ABOS and the Alderville First Nation community. For ABOS, this network of partners who respect their work means that they can receive financial and resource support from higher capacity organizations that will continue to appreciate and emphasize the importance of their Indigenous perspective. These relationships increase opportunities for skill building, training, networking and, significantly, sharing historically disadvantaged knowledge on a greater scale. Given their larger platform, organizations such as Nature Conservancy Canada and the Greenbelt Foundation, can provide greater awareness to advocate for ABOS and its restoration goals. Outreach and advocacy that Greenbelt Foundation, Nature Conservancy Canada and particularly the Rice Lake Plains Partnership engage in indirectly support the goals of ABOS.

Importantly, by truly understanding and respecting ABOS's purpose, the broader network also understands Alderville First Nation's right to self-governance, actively supporting their leadership role in restoration work in the region. This allows ABOS to ensure Indigenous knowledge and perspective are respectively and actively being applied, with the community capacity-building aspects of the ABOS projects being shared with the Alderville First Nations community as well as with the broader network. While building social capital and partnerships is known to enhance capacities generally, the ABOS partnership features especially meaningful and reciprocal relationships. The partners' shared understanding of one another and commitment to respect and trust have allowed for the ABOS and Rice

Lake Plains Partnership to continue growing in capacity and accomplishments in ways that would not have been possible without the relationship building that took place.

6.7.3 Fostering Greater "Sense of Place"

A foundational element of community capacity building exemplified by the ABOS initiative, is its ability to foster a greater sense of place. This has been a direct result of the initiative's success in centring Indigenous knowledge and ways of thinking. Indigenous knowledge systems, while highly diverse, often share in a central concept of developing sustained, reciprocal relationships with nature, not divorcing the ecological dimension of the land from the human and social dimension (Bell et al., 2010). This perspective views humans as inherently tied to the land, sees land as something collectively shared, and assumes that all have the responsibility to share individual gifts to care for the land (Bell et al., 2010; Kimmer, 2013).

For those who come to research and those who work with or on the ABOS, there is a strong sense of connection to the land (Stabb, personal communication, November 2, 2021; Henry & di Petta, personal communication, February 23, 2022). As Henry (personal communication, February 23, 2022) explained, from actively working on the landscape, she has formed a kinship with the land, feeling connected to a place she knows is contributing to restoration in its own special way. For this initiative, the sense of place is directly tied to developing a relationship with the ABOS land itself, as well as the human and non-human elements and the communities that share in stewarding the land. The connections are linked – we are all in relationship with the land and because of that we are in relationship with each other as a community When young people visit the site for education programming, when researchers work on the land and when members of the network collaborate, all are encouraged to re-engage with a different and richer way of thinking about nature. Understanding these relationships with the land and shifting ways of thinking should encourage greater sustainability thinking and practice.

For the Alderville First Nation, this development of a greater "sense of place" is significant given the impacts of colonization, which included the intentional disconnection from their lands. As Indigenous knowledge, law and spirituality are rooted in a community's connection to the land, this resulted in a disconnect with their traditional ways of life (Bell et al., 2010; Kimmer, 2013). Actively being able to make decisions regarding the land, exercising agency over sharing knowledge, conducting prescribed burns, growing traditional native plants in the Mitigonmin Nursery, etc., all work to bring members of the

Alderville First Nations closer to their land in ways that also mean reconnecting with their culture and remediating critical relationships that have been weakened or lost.

A shared greater sense of place has collectively brought the ABOS team, Alderville First Nation, Nature Conservancy Canada, the Rice Lake Plains Partnership and Greenbelt Foundation together with the common goal of encouraging people to develop or deepen a sense of place with the land. While individuals' sense of place will vary, the core understanding may be that "community" is the people we engage with and the land that we collectively share. The ABOS initiative is encouraging reconnection with nature, seeing the environment as inherently part of one's community and therefore, part of one's identity. Though this way of thinking, understanding land as part of the community and identity, is rooted in Indigenous traditional knowledge, in western systems of thinking, this concept is still not widely understood. Therefore, ABOS's ability to foster connection to the land with the Alderville First Nation and surrounding settler communities is especially significant. Actively connecting communities of interest to a collective "place" they share as restoration lands can be a way to encourage greater commitment to one another and additional support for measures meant to enhance sustainability.

6.7.4 Small Scale Transformation of Ecological Restoration Practice in Action?

Sustainability transformation describes the fundamental shifts in the socio-ecological systems needed to progress towards a more equitable, sustainable future, usually accompanied by systematic changes to ways of thinking and doing in society (Lam et al., 2020). The ABOS initiative is engaging in restoration outside of typical structural parameters for most restoration practices and demonstrating transformation in restoration practice at a local scale. The Alderville First Nation community who live on, govern, and hold local, traditional ecological knowledge of the land, manage the site. They engage in self-governance, make decisions prioritizing their community and form partnerships with those that respect their rights. Furthermore, the ABOS initiative exemplifies how this model for restoration can work effectively, as it has been functioning for over two decades, and continues to grow in capacity and contributions. While the ABOS initiative is partnered with organizations working with typical western-dominated governance structures, the Alderville First Nation remains the central authority and stewards of the land. They also exercise agency over how their knowledge can be used and shared. Amplifying and empowering Indigenous governance and application of knowledge in restoration and conservation could represent the future standard practice. The ABOS initiative is an example of the potential for transforming exclusively

"western" restoration practices to ones that weave Indigenous and traditional science and recognize the leadership of Indigenous communities. The Alderville First Nation has been able to engage and manage this intersectional sustainability initiative due to their unique contextual capacity (Henry & di Petta, personal communication, February 23, 2022). Becoming an active leader in land management decision making for restoration has not often been possible for Indigenous communities. The ABOS initiative is one of the few of its kind in Ontario and Canada.

A Model for Restoration: Indigenous Protected and Conserved Areas

The Alderville First Nation's model for restoration, in which the local Indigenous community is not just a partner or co-leader but exerts self-governance and has decision-making power is not completely unheard of but remains relatively rare in practice. Emerging in the field of conservation and restoration are Indigenous Protected and Conserved Areas, which are protected lands and water systems where Indigenous governments have a primary role in their management. There are some examples of Indigenous Protected and Conserved Areas around the world and even several across Canada, notably in British Columbia, such as Tla-o-qui-aht Tribal Parks and Pacific Rim National Park Reserve (Indigenous Circle of Experts, 2018). However, these examples still represent exceptions to the usual practice of conservation. Indigenous-led conservation and land protection is still a relatively new concept and practice. The ABOS is much smaller than many current or proposed IPCAs; however, it applies the same idea at the community level. The Alderville First Nation's the ABOS initiative can be a model for Indigenous restoration practice at the local, community level in similar social-ecological system contexts. It represents a new way for restoration and community capacity building to be understood as interconnected with one another under the leadership of local Indigenous communities that are empowered to exercise self-governance and practice traditional ways of thinking.

The ABOS restoration initiative is undeniably special. Tallgrass prairie communities are as rare as ABOS' Indigenous-led structure. However, the restoration work led by the Alderville First Nation on this 160-hectare tract of land, is an impressive example for how restoration with Indigenous leadership can fulfill sustainability goals beyond the ecological. By empowering Indigenous governance, applying Indigenous knowledge in restoration and conservation, and entering a trustworthy and respectful partnership, the Alderville First Nation's initiative exhibits key characteristics of desirable future standard practice for the good of all those who share the lands that make up the social-ecological community.

Chapter 7- Shared Path Consultation Initiative: Reconciliation and Empowerment of Local Indigenous Communities through Consultation and Collaboration in the Greenbelt

Government authorities, from the municipal to federal level are legally obligated to engage in some form of proper land consultation on matters that will affect Indigenous land and rights. They are also responsible for any decision to delegate to third parties to carry out consultation. Although there is an increasing role of Indigenous engagement in in land use decision making processes, it does not mean that proper consultation regarding land use is always taking place (McLeod et al., 2015). Indigenous peoples and communities throughout Canada still face considerable challenges when engaging in land use planning and consultation processes, often because of continued power imbalances, lack of understanding by stakeholders of consultation procedures, or lack of appreciation for the importance of consultation (Bowie, 2013). As a result, Indigenous voices and perspectives are still not as equitably weaved into land use and resource management decision-making processes as they could be. This is true at all levels of government, although there are gaps in addressing the needs of Indigenous peoples at the local level, especially those in near urban areas (Bowie, 2013; McLeod et al., 2015; Weinberger, 2017).

The subject of this in-depth case, the Shared Path Consultation Initiative (SPCI) aims to address these challenges and the many more that arise in the continuous process of land use planning and consultation. The SPCI works to expand opportunities for connection and understanding through facilitating relationship building among Indigenous nations, municipalities, and planning professionals. Creating opportunities to engage effectively involves building mutual respect amongst one another and ensure that meaningful consultation, in which Indigenous perspectives and knowledge incorporation becomes standard practice in land use decision making processes across the GGH region (SPCI, 2023a). While some steps have been taken, much work needs to be done to establish a culture of mutual respect and understanding between people when deciding how land will be used to serve a community. SPCI participants believe such work is crucial in moving towards reconciliation.

7.1 What is the Shared Path Consultation Initiative?

The SCPI is a non-profit organization focused on addressing the challenges of and providing opportunities for Indigenous communities to engage in land use planning and land use change that intersects with Aboriginal and Treaty rights. Much of the work of SPCI is focused on Indigenous and

non-Indigenous relationship building within the field of land use planning throughout Ontario, most often working with communities at the municipal level. This focus on the municipal level is based on the understanding that building mutually respectful relationships leading to more meaningful collaboration can have a more direct impact at the community level (Shared Path, 2023a). The common goal is connecting and educating those involved in land use planning and municipal staff across the Greenbelt and GGH region. The set boundaries and protected landscapes of the Greenbelt region help to provide a foundation of municipalities and Indigenous communities connected by planning legislation focused on achieving sustainability goals.

The SPCI is in large part an Indigenous led organization. Almost all on the current Board of Directors identify as Indigenous and each board member brings important skill sets, life experiences, knowledge, and perspectives to this engagement work. The experience and expertise represented include Indigenous community engagement, Indigenous research, Indigenous rights acknowledgment and recognition, law, archeological heritage, consultation, community development and of course, involvement in planning processes. This diversity in expertise as well as the nations represented on the Board also reflects the transdisciplinary nature of their approach to land use planning and the ubiquity of its impact on all communities.

7.2 Why is the Work of SPCI so Important?

7.2.1 Land Use Planning Today and its Lack of Inclusivity

Land use planning should be the careful process of managing the land and resources within a community or region expected to foster community economic development, meet the social needs of the population, and ensure activities such as resources extraction maintain the integrity of local ecosystems. Planning is also expected to be a highly public process with individuals, developers, organizations, and Indigenous communities etc., collectively able to provide insight and expertise on the more pressing or current community priorities and perspectives (OMMAH, 2022). Therefore, land use planning is of great significance due to its direct implications on how we engage with the land we share and its role in shaping future of communities, in creating opportunity, bringing people together, and respecting ecological limitations – all foundational to enhancing sustainability. However, the historical impact and current practices of planning, including lack of consultation continue to play a critical role in Indigenous communities' marginalization.

Land use planning is the responsibility of both the province and municipalities. Through the Planning Act and the Political Policy Statement, Ontario provides the guidance and framework for how land use planning processes are to be conducted. Municipalities then utilize that policy framework and apply it to land use decisions that meet the specific needs of the community while remaining "consistent with" with the outlines of the Political Policy Statement (OMMAH, 2022b). The "duty to consult" and engage with Indigenous communities due to projects, including planning processes, is the responsibility of the Crown, which refers to the federal and provincial branches of government. Third parties in consultation processes do not necessarily have a legal obligation to consult Indigenous groups; however, the Crown can delegate aspects of the consultation to them (Brideau, 2019). However, due to this process being historically a federal and provincial responsibility, the responsibility of municipalities to consult and engage has been less defined (Archaeological Services Inc., n.d.). As a result, there remains considerable gaps in provincial and municipal legislation in Ontario regarding Indigenous consultation and engagement, reflecting this persisting inequitable relationship (Morris, 2018; McLeod et al., 2015).

This gap and historical exclusion are reflected in some of the major land use planning legislation for Ontario. The Planning Act (1990), the Places to Grow Act (2005), the Greenbelt Act (2005), the Niagara Escarpment Planning and Development Act (1990), and the Oak Ridges Moraine Conservation Act (2001), included very little mention of First Nations (McLeod et al., 2015). Even if Indigenous communities and rights were included, many of these plans referred to First Nations as "public bodies". This terminology frames Indigenous nations as mere stakeholders in land use planning, neglecting their unique knowledge, Treaty, and Inherent rights, and failing to acknowledge them as partners in land policy development (Porter, 2006; Barry & Porter, 2011). The lack of inclusion of First Nations consultation in planning legislation and associated provincial governance frameworks has been replicated in local level planning and policy development in Ontario (Porter, 2006; Morris, 2018).

Recent signs of policy change include additions to the Provincial Policy Statement in 2014 and 2020 to recognize the importance of adhering to Aboriginal rights and consulting with relevant Indigenous communities (Planning Act, 1990; Peters, personal communication, November 25, 2021). This has led to growing municipal moves towards Indigenous engagement (Peters, personal communication, November 25, 2021). However, it is not yet clear how well municipalities will engage in relationship building with local First Nations communities and how traditional knowledge and authority will be incorporated into planning processes and decision making. Part of the truth and reconciliation process is acknowledging the truth that planning has had a detrimental impact on Indigenous

communities. To move forward, those within the planning field must acknowledge discriminatory practices of the past and understand Indigenous history, especially at the local level, to build respectful working relationships (Canadian Institute of Planners, 2019).

7.2.2 Acknowledging the Role and Significance of Indigenous Communities in Land Use Planning

To truly respect Indigenous communities and collaborate effectively, governments and other organizational bodies must recognize Indigenous sovereignty and their rights to self-governance (von der Porten et al., 2015). This involves utilizing proper language that recognizes Indigenous rights, emphasizing that they are "working together" beyond a partnership and, importantly, that the engagement is meaningful. "Meaningful" in which the process is not simply ticking off a box, but rather Indigenous involvement is early, ongoing and continues beyond a single project, maintaining the relationship (Lukawiecki et al., 2021). Ultimately, those hoping to engage with Indigenous communities must possess an understanding of the historical, jurisdictional, cultural, and legal context for each engagement initiative (Lukawiecki et al., 2021). As such, engagement will differ community by community, as cultural context and capacity differences among communities will impact their ability or willingness to engage. However, what is a consistent lesson among all communities is the understanding that for any sort of meaningful engagement to take place, relationships need to be built, and these relationships require mutual trust and time to develop. For a relationship to be truly meaningful, they must be reciprocal, a key concept for many Indigenous worldviews (Kimmerer, 2014). Indigenous community members, most especially Chiefs, scholars, Elders, etc., are often sharing their time and traditional knowledge. As such, it is the responsibility of settler organizations and communities to value that relationship by putting time and effort into building relationships (Peters, personal communication, November 25, 2021).

7.2.3 Potential Contributions of Indigenous Planning Approaches

Indigenous approaches to land planning contrast with colonial perceptions and practices. Although each nation across North America possesses distinct, localized relationships with their cultural lands and newly assumed territories, there is a consensus among many Indigenous cultures that one's relationship to the land is one of reciprocity, not one of domination (Matunga, 2013; Kimmerer, 2014; Morris, 2018). Core to many Indigenous beliefs is that the land provides the necessities for all living things and thus, humans must respect and care for the lands we live and depend on. It is us who belong to the land, and we must take only what we need (Morris, 2018; Kimmerer, 2014). Many Indigenous knowledge systems kept the future in mind, caring and respecting the land to ensure it thrives for future

generations. An example is the “seven generations model”, a knowledge system that describes using lessons rooted in practices passed down from previous generations to care for future generations they will never know (Bell et al., 2010; Matunga, 2013; Walker et al., 2013).

Indigenous planning is fundamentally community/kinship and place based, in which each community’s traditions are rooted to the knowledge and experiences of their specific land, resources and people. Planning was meant to be conducted as a community, by those who were collectively tied to and held the greatest knowledge of the land, to improve their lives and maintain their mutually beneficial relationship with nature (Matunga, 2013). These ideas were rooted in Indigenous values, of their deep spiritual ties to their “place”, those who lived within it, the land and its resources. These resources were often seen as being communally owned, supporting the livelihoods of the community who occupied the land (Matunga, 2013).

Decision making processes among Indigenous communities varied, given their specific social structures, but were consistent in how decision making always kept in mind the needs of the environment, the relationships of community members and their connections to the land, (Matunga, 2013). Certain principles were consistently observed among Indigenous decision-making processes, include utilizing traditional knowledge, but drawing on other sources of knowledge for more informed decision making, valuing Elders and knowledge holders, choosing leaders that could effectively bring people together, conducting decision making according to cultural protocols to demonstrate respect and reciprocity. The values of protecting future generations, minimizing irreversible effects, reciprocity, and enhancing community well-being, were always at the core of decision making (Bell et al., 2010; Matunga, 2013). Though these values and ideas could be adapted or re-interpreted depending on the decision, they were never to be abandoned (Matunga, 2013).

The reality today is that Southern Ontario is a shared space with Indigenous and non-Indigenous communities. Applying one perspective of how to use this shared space may not be the most effective one to create equitable solutions. Rather, a more effective approach to solving current challenges could be through the joint application of western and Indigenous knowledge systems. Collaborative approaches to planning are reminiscent of principles and practices that can be consistently found across several different, diverse Indigenous cultures, from Canada, New Zealand, and Australia (Reid et al., 2021). Despite the great diversity in culture, geography and ways of life, there is a common principle found among these different communities that describes a way in which knowledge can be passed on.

Knowledge can be shared and interpreted through the "weaving" of diverse perspectives, whether it is between generations, cross-cultural relations or even differing knowledge systems (Reid et al., 2021). This principle is called something different from culture to culture, one example is the concept of "*Etuaptmumk*", Mi'kmaw for "Two-Eyed Seeing" (Bartlett et al., 2012; Reid et al., 2021). Two-Eyed Seeing, described by Mi'kmaw Elder Albert Marshall, views the strengths of western science through one eye and the strengths of Indigenous knowledge through the other, and learning to use both eyes together "for the benefit of all" (Bartlett et al., 2012, pg. 335; Reid et al., 2021). Both knowledge systems are to be understood and respected as different, but equivalent ways of understanding the world that can be complimentary to one another.

As stated by Matunga (2013), there is space for non-Indigenous planners in Indigenous planning systems, as planning processes are best conceived as collaborative approaches. Therefore, meaningful collaboration over land can be an avenue for moving towards reconciliation and Indigenous revitalization, as well as improve the overall field of community planning itself (Matunga, 2013).

Truth and Reconciliation Commission: Calls to Action

The mission and vision of SPCI goes beyond working to improve best practice for the sake of more effective land use planning decisions or just because municipalities should do so. This work is an important step in working towards reconciliation with local Indigenous communities throughout the Greenbelt. Actionable recommendations produced by the Truth and Reconciliation Council, center on gaining further respect for, collaboration with and education on Indigenous communities, cultures, and rights in Canada (Truth and Reconciliation Commission of Canada, 2015). While the Truth and Reconciliation Council Calls to Action do not address the planning profession specifically, planning is uniquely positioned as it directly shapes communities and regions, with implications on local economies, culture, health, education, law, governance and the environment (Canadian Institute of Planners, 2019).

The work of SPCI is specifically focused on Truth and Reconciliation Council Calls to Action 47, 57 and 92, which focus on Indigenous empowerment, education on Indigenous cultures and Indigenous right to land use and resources decision making (SPCI, 2023a; TRCC, 2015). Providing the resources and opportunities for those involved in land use planning can help municipalities to understand their local Indigenous communities' history, culture and knowledge and allow them to establish better relationships. Being more informed about local Indigenous communities, in their history, language, culture, laws, etc.,

can be an important steppingstone for municipal and regional planners to form community to nation relationships.

As stated by Clara Fraser (personal communication, November 30, 2021, 59:58), "this field of land use planning is probably one of the most important fields to be talking about when it comes to truth and reconciliation."

7.3 Formation of Shared Path Consultation Initiative

The SPCI organization was established in multiple stages. It began formally in 2015 with the formation of the Board of Directors. In 2017, SPCI was incorporated as a non-profit and in 2019, it received charitable status. However, the SPCI idea originated when co-founder and former executive director Clara Fraser was doing her master's research in urban planning at York University. Fraser was studying how urban heritage preservation fits within the broader planning system. She found a considerable gap in understanding how planning intersects with Aboriginal and Treaty rights, and how planners should act on the Crown's duty to consult with Indigenous people and accommodate their interest (Fraser, personal communication, November 30, 2021). Municipalities especially lacked guidance on proper consultation processes, especially given how municipalities and Indigenous communities had little established capacity for engaging with each other (Morgan Peters, personal communication, November 25, 2021; Fraser, personal communication, November 30, 2021).

7.3.1 Lack of Indigenous-Municipal Consultation and Relationships

As noted above, the province has taken small steps in the 2014 and 2020 Provincial Policy Statements under the Planning Act to encourage municipal consultation with Indigenous communities. However, provincial guidance for municipal policymaking did not set out expectations for consultation and collaboration with Indigenous communities, in part because Indigenous engagement was considered a federal responsibility. As a result of the lack of institutional practice and legislative precedent for municipalities to engage in consultation and engagement, Indigenous nations have mostly been left out of municipal land use planning processes (Morris, 2018). Most municipalities lacked established collaborative relationships with Indigenous communities, had little or no experience or allocated resources to engage in proper consultation practices, and oftentimes did not know where to start or with whom they should be engaging (Peters, personal communication, November 25, 2021; Fraser, personal communication, November 30, 2021).

In addition to lack of legislative precedent and clarification in the process, limited capacity concerning time and monetary support remains a considerable barrier for municipalities and Indigenous communities (Peters, personal communication, November 25, 2021; Fraser, personal communication, November 30, 2021). Municipalities across the Greenbelt vary in their capacity. While some may possess the skills and knowledge to engage effectively, others due to small size, staff and lack of resources may be less effective/ willing to engage or respond to emerging challenges (Caldwell et al., 2021). In many cases, neither the municipality or Indigenous nation may have the capacity to properly engage with one another effectively, often only interacting on a project-by-project basis, and as a result, not developing ongoing relationships (Morris, 2018; Peters, personal communication, November 25, 2021; Fraser, personal communication, November 30, 2021). This lack of an established relationship often then leads to poorly planned consultation processes on the part of municipalities, which often leads to Indigenous communities having to apply their already limited capacity to a process for which they may receive little in return (Peters, personal communication, November 25, 2021; Fraser, personal communication, November 30, 2021).

For Indigenous communities, the lack of understanding from municipalities on who should be engaged with often results in a "mountain" of consultation requests coming from well intentioned, but often unnecessary actions by uninformed planners and municipalities (Morris, 2018; Fraser, personal communication, November 30, 2021). Due to the "mountain" of notices Indigenous Nations must try and work through, often communities would not have time to properly prepare for each notification, not get to every application on time or must answer requests that were not relevant to their community. Unfortunately, if a First Nation community did not respond effectively or on time, planning decisions would move forward, with the excuse that they had reached out and simply did not receive any answer back. In this way, proper and meaningful consultation was not actively being fulfilled (Morris, 2018; Fraser, personal communication, November 30, 2021).

7.3.2 Making Important Connections

Through her research and internship opportunity in Mississauga and Hamilton region, where the City of Hamilton was developing its own archaeological management processes, Clara Fraser established important connections with Carolyn King and Ron Williamson, who would help to bring about SPCI. Carolyn King, a former Chief of the Mississaugas of the Credit First Nations, is highly influential due to

her work in community development and advocacy of Indigenous-led initiatives. For her work, she is recognized as an Elder of the Mississaugas of the Credit First Nations and was appointed to the Order of Canada in 2020 (Mississaugas of the Credit First Nations, 2020, December 30). Ron Williamson is the founder of Archaeological Services Inc., more commonly known as ASI Heritage, a company that provides consulting services for cultural heritage, conservation, and planning projects and is partnered with several local Indigenous communities.

In conversations with Carolyn King and Ron Williamson, Fraser learned about the need for planners to be better able to access information about how to engage in proper consultation processes with local Indigenous communities. At the time, not only were these concepts not being thoroughly explored as part of planners' education, in Fraser's experience, but there was also a lack of additional resources and events such as workshops to address duty to consult concerns. In many cases, planners did want to engage properly in consultation, but lacked the understanding and resources to do so, not even on how to engage in the consultation process, but even just knowing who and how to contact local Indigenous communities (Fraser, personal communication, November 30, 2021). As Fraser (personal communication, November 30, 2021) describes it, Ron Williamson often found that he was being asked to conduct workshops about engaging with Indigenous communities again and again for the same municipalities. He found it frustrating, that municipalities attempting to address their educational gap so often failed to develop institutional memory about meaningful Indigenous engagement.

Moccasin Identifier Project

Carolyn King, former elected Chief of the Mississauga of the New Credit First Nation and the first woman elected to the position, is notable in her contributions for First Nations community development. Through her work in public relations, economic development, the development of environmental planning policies working with community-based and government agencies, Carolyn King has extensive experience working to enhance the understanding and respect of Indigenous people in Canada. Doing this work, she has collaborated with the Greenbelt Foundation to work specifically on raising awareness of the diverse Indigenous communities within the Greenbelt region, including her involvement with SPCI. However, this is not the only notable example of working with the Greenbelt Foundation on enhancing local Indigenous cultural understanding.

Carolyn King and the Greenbelt Foundation partnered to develop the Moccasin Identifier Project. This growing initiative aims to educate and promote awareness of treaties and Indigenous culture through the different moccasins designs of the different linguistic Indigenous groups in Ontario. This program includes an educational toolkit for educators to share with students and school boards, becoming Moccasin Identifier Leaders, participating in Moccasin Identifier Experience Week, and installation of a Moccasin Identifier in the participant's community, public space, or work environment. The four moccasin designs included in the project represent the Indigenous linguistic diversity in Ontario, including Cree, Anishinaabe, Wendat and Seneca. Depending on the site of the installation, what treaty or cultural Indigenous community lives in the region, specific moccasin designs are used. These moccasin installations help to leave a mark on areas where Indigenous communities and peoples hold deep ancestral ties to the landscape, to ensure greater awareness and that their culture is not lost (Moccasin Identifier Project, 2023; Greenbelt Foundation, 2022).

The Greenbelt Foundation continues to support the Moccasin Identifier Project, with the project continuing to grow, through more installations, five completed in the year 2022, improvements made to the educational toolkits and increased partners joining the project (Greenbelt Foundation, 2022).

7.3.3 Planting the Seeds of SPCI

Around 2013, Fraser decided to go back to those she had initially interviewed during her research as well as new people, largely consultants working with First Nations communities, and ask them what they believed they needed to address this gap. Many interviewees recommended greater clarification of the planning system, which was consistent with Fraser's observations during her research. However, many also wanted to address the unnecessary consultation requests coming the First Nations communities from planners and municipalities who did not know when to seek consultations, who to contact, and how to consult. An initial step to create a database of all the local Indigenous communities and their contacts seemed useful. However, the next steps would demand a huge undertaking beyond anyone's capacity at the time (Fraser, personal communication, November 30, 2021).

Frasers' participants did, however, realize that they had the knowledge and experience to conduct workshops for municipal planners – to clarify the law surrounding duty to consult and accommodate, educate planners about the realities of working with First Nations, and help consultants better understand the engagement process. Although small in scale and influence, these workshops were a starting point to

educate planners and consultants about how to do proper consultation and engagement and how to avoid burdening Indigenous communities with unnecessary requests (Fraser, personal communication, November 30, 2021).

7.3.4 Roundtable Where It All Began

In 2015, Fraser partnered with another researcher to develop a 2-day workshop event, which brought together a group of people, including First Nations Chiefs, planning professionals, consultants, GIS technicians, lawyers, legal scholars, archaeologists, etc. all of which represent the transdisciplinary nature of land use planning and consultation work. The purpose of this workshop was to discuss the various issues and the considerable gaps within land use planning, with the discussion culminating to the question of "what we could do about this?" (Fraser, personal communication, November 30, 2021). From this roundtable came the idea for an organization that would specifically focus on the issues facing the intersection of land use planning and Aboriginal and Treaty rights, through outreach and awareness, educational workshops (Peters, personal communication, November 25, 2021; Fraser, personal communication, November 30, 2021; SPCI, 2021).

The goals of the organization were to *transform* the land use planning process so that one day Indigenous perspectives would inform how we plan (Fraser, personal communication, November 30, 2021, 9:10). This objective eventually led to the formation of SPCI, officially founded by Clara Fraser and Carolyn King. Ron Williamson also played a critical role in SPCI's founding, providing insights and expertise, as well as the contributions of his company, ASI Heritage, which supplied seed funding for the early workshop events (Fraser, personal communication, November 30, 2021). Many roundtable participants would later join the SPCI Board of Directors. In this way, the formation of SPCI came about through a highly collaborative process, driven by Fraser's search for understanding and King's extensive experience and awareness of the steps needed to support Indigenous engagement in planning. The goals, objectives, and vision established at that initial interdisciplinary roundtable, and perspectives that spanned disciplines as well as Indigenous and non-Indigenous foundations (Fraser, personal communication, November 30, 2021).

7.3.5 Indigenous Leadership

Being Indigenous led was and is an integral aspect of the work of the SPCI. The SPCI founders understood the need for this organization to be led by Indigenous leaders, as this would be critical to establishing trust among Indigenous communities to progress municipal-Indigenous relations (Fraser, personal communication, November 30, 2021). The inclusion of Indigenous board members from different Indigenous nations meant that many shared personal experiences and localized knowledge gained from their connections to their communities. Key to any relationship building is establishing mutual trust, understanding and respect for both parties involved. This is especially true with Indigenous communities who have likely experienced ineffective attempts at consultation, have been excluded from decision making or have not seen effort from the government in building relationships in the past (Peters, personal communication, November 25, 2021; Fraser, personal communication, November 30, 2021). Additionally, with Indigenous leaders, traditional knowledge concepts, practices and values are more likely to be respectfully applied. It will be noted that the Board and staff of SPCI do include those of settler decent, providing their support and expertise in supporting the initiative.

Purposes of the Shared Path Consultation Initiative
• Address the continuing lack of Indigenous representation and engagement in land-use planning practices brought about by the impacts of colonialism and legislative planning policy gaps • Help to navigate the long, continuous, and often convoluted process of land use planning for all involved to develop a greater understanding of how to properly and effectively engage • Support the trust and relationship building processes between Indigenous communities and local municipalities to develop institutional memory and capacity to engage in proper engagement processes and improve local land use planning decision making • Bring people together across transdisciplinary sectors, planning, government, law, archeology, ecology, etc. to build meaningful relationships and mutually understanding of one another's role, rights, responsibilities in land use legislation and policy • Support greater respect and application of Indigenous planning approaches and traditional ecological knowledge to develop more sustainable planning processes at the municipal level

- Improve land use planning processes to make proper engagement standard practice, leading to greater self-governance and agency for Indigenous communities to contribute to Indigenous cultural revitalization and work to decolonize the planning process

7.4 How Shared Path Consultation Connects with Local Indigenous, non-Indigenous Communities and Stakeholders in Municipal Land Use Planning

As will be explored, SPCI's approach to engagement occurs through collaborative workshops, educational webinars, consultation with municipalities and collaboratively developing resources. In the time of SPCI hosting engagement activities, over 200 individuals, across the interconnected field of land use planning, including municipal leaders, planners, archeologists, lawyers, researchers, educators, community leaders, consultation workers and land managers, both Indigenous and non-Indigenous have participated (SPCI, 2021). Consistently, SPCI's engagement efforts work to emphasize Indigenous voices and perspectives by actively incorporating Indigenous leaders and individuals in the development and coordination of these activities, as well as highlight Indigenous speakers and their stories.

7.4.1 Improving Municipal Engagement Program

To begin, SPCI developed the Improving Municipal Engagement Program in 2018 in large part due to one of the organization's most impactful grants from the Greenbelt Foundation. This program was developed in partnership with People Plan Community, an organization that provides First Nations, Métis, Indigenous communities, levels of government, government agencies and non-governmental organizations support in planning processes (People Plan Community, 2021b). It was directly inspired by the Community Economic Development Initiative, a collaborative effort of the Federation of Canadian Municipalities and the Council for the Advancement of Native Development Officers that was launched in 2016 (Shared Path Consultation Initiative, 2019, p. 4; Shared Path Consultation Initiative, 2021, p. 8-9). The Improving Municipal Engagement Program works to form partnerships among Indigenous communities and land use professionals, to work towards effectively including and centring Indigenous voices into Ontario, municipal and Greenbelt land planning processes (Greenbelt Foundation, 2018; People Plan Community, 2021d). The project intended to form relationship agreements, an adaptable toolkit, a strategic plan that includes planning resources and approaches that can be adapted for differing communities, and a network of practitioners and experts involved in land use planning (Greenbelt Foundation, 2018).

It should be noted that due to the COVID-19 pandemic, important milestones, such as the 2020 relationship-building workshop among several communities and partners were prevented, whichdelayed projected progress of the Improving Municipal Engagement Program (Shared Path Consultation Initiative, 2019, p. 4; Shared Path Consultation Initiative, 2021, p.8-9). The Improving Municipal Engagement Program project acted as SPCI's launching point for forming partnerships and connections with Indigenous communities, local professionals, and municipalities throughout the Greenbelt to begin growing the initiative's capacity.

The Improving Municipal Engagement Program included the Indigenous Perspectives Shaping Planning workshop series that took place in 2019. The first workshop provided the opportunity for Indigenous professionals in different fields of land management, planning and consultation, etc. the ability to share their experiences about local and regional government engagement. The following workshop then invited managers, municipal planners, staff, and heritage representatives from the Greater Golden Horseshoe to discuss Indigenous consultation in municipal planning. This workshop also included a representative from Community Economic Development Initiative, who highlighted the Indigenous-Municipal partnerships that had been built up from the program. Both workshops included presentations, followed by break-out discussions, in which key themes were discussed, which helped to illuminate gaps in funding, knowledge and communication across departments that act as barriers to long-term Indigenous-municipal relationship building (Shared Path Consultation Initiative, 2019, p. 4).

From feedback surveys taken during the event, it was clear that municipal and Indigenous attendees valued the opportunity to share their different perspectives and learn from each other. Both emphasize the need to communicate more effectively (Shared Path Consultation Initiative, 2019, p. 4). Furthermore, it was consistently found among both Indigenous and municipal respondents, that there was a greater need for collaboration across their communities. It was clear that information shared from educational events, on planning, consultation, Indigenous knowledge, treaties, traditional territories, law, legislation, and relationship building, etc., needed to be more accessible and centralized (Shared Path Consultation Initiative, 2019, p. 4). Such lessons from these workshops clearly indicated to SPCI the next steps that needed to be taken by the organization moving forward. To continue working towards addressing the perceived gaps in communication among these communities, continue reviewing current practices and making knowledge more accessible.

Lessons Learned in Engagement Processes: Learning from Mistakes in Cross-Cultural Engagement

Often, a significant hurdle for engaging with Indigenous communities for those of settler descent is the fear and nervousness of making mistakes when participating in engagement events, especially for those in professions who have little prior knowledge or experience. For those within Indigenous communities, the hurdle largely lies with a history of frustration and disappointing attempts at meaningful engagement. However, to create opportunities for relationship building, there often must be a mutual understanding that mistakes and misunderstandings will happen. It is part of the relationship building process, even for organizations as dedicated to meaningful engagement as SPCI (Peters, personal communication, November 25, 2021; Fraser, personal communication, November 30, 2021). As Clara Fraser (personal communication, November 30, 2021) discussed, she had her own experience during her time at SPCI when hosting a workshop in which she herself learned that difficult lesson. Despite trying hard to create the space and facilitate communication with Indigenous individuals at the workshop, the SPCI staff still misinterpreted an Indigenous woman's cultural display of communication, not understanding it as an intention to ask a question. This woman later expressed frustration and anger that they had not been acknowledged.

It was a moment that Clara Fraser reflected upon being a moment of disheartenment that despite all their efforts, they had missed something important, they had made a mistake (Fraser, personal communication, November 30, 2021). However, they kept on going, working to engage with that woman more throughout the rest of the workshop, understanding that you must keep moving forward. Especially for those of settler descent, there is a "responsibility to go the extra mile", to acknowledge mistakes and work to ensure they can move forward with continuing with building relationships. Mistakes can and do happen, but they must not be an excuse to hold people back from engaging with one another (Fraser, personal communication, November 30, 2021).

7.4.2 Engagement with Planning Professionals in Ontario

In an effort to network and build connections with professionals, SPCI connected with large organizations within the field of land use planning, including the Federation of Canadian Municipalities, the Canadian Institute of Planners and Ontario Professional Planners Institute. Each of these organizations are representatives of thousands of individual planners and municipalities and were critical to reach out to give their direct connection to several people and organizations within the field. Additionally, the

Canadian Institute of Planners and Ontario Professional Planners Institute expressed a need to engage Indigenous communities more effectively, especially in response to the Truth and Reconciliation Commission Calls to Action (Canadian Institute of Planners, 2019; Ontario Professional Planners Institute, 2019; Federation of Canadian Municipalities, n.d.).

The SPCI initiative worked directly with each of these organizations to review existing best practice tools, resources and structures and consult how these can be used more effectively to engage Indigenous and municipal partners. This collaborative work with SPCI has been most notable with the Ontario Professional Planners Institute. The SPCI consulted on the Ontario Professional Planners Institute's Indigenous Planning Perspectives Task Force final report as part of its advisory committee, alongside other Indigenous organization representatives, planning organizations and academic institutions (Ontario Professional Planners Institute, 2019). This consultation and liaison with Ontario Professional Planners Institute allowed for SPCI to promote the report's findings to their network of organizations. SPCI resources are also included in Ontario Professional Planners Institute's Indigenous resources list for member planners to access. Additionally, products of this partnership have included collaborative communication and media pieces for both organizations to engage with and share (Caldwell et al., 2020; Shared Path Consultation Initiative, 2021, p. 9).

In partnership with planning students from the University of Toronto, SPCI conducted research to gather more information about how Indigenous communities are being incorporated or even acknowledged in land use planning processes in Ontario (Caldwell et al., 2020). The results of this report demonstrated the considerable gaps in Indigenous inclusion in several Official Plans in Southern Ontario municipalities. Of the 322 examined, 37 did not have a plan, 156 contained one key word relating to local Indigenous peoples, that being Indigenous people, First Nation, Aboriginal, Métis, Treaty, Treaties, Indian, while the remaining 129 had no mention of them at all (Caldwell et al., 2020). Most mentions of Indigenous community involvement were related to archeological, cultural sites and cultural planning. However, there was often very little mention of the actual Indigenous community that would be impacted by land development or discussions of the steps that would be taken to engage local Indigenous communities in future planning and decision-making processes (Caldwell et al., 2020; Ontario Professional Planners Institute, 2019b).

In response to this research, webinars were organized to educate municipalities and planning professionals about the results and the subsequent need to encourage more Indigenous involvement in official municipal plans (Caldwell et al., 2020). This included the "Setting the Baseline: To what extent

are Indigenous communities recognized in Official plans?" webinar as well as the development of the "Mapping Collaboration: An Evaluation Framework to Assess Municipal Government Responses to PPS 2020" report. This report worked to develop an evaluation framework to assess official plans incorporation of Indigenous rights in accordance with the Provincial Policy Statement 2020 in the (Caldwell et al., 2020). The results indicate that many municipalities are still limited even in their acknowledgment of Indigenous engagement and consultation in their Official plans and as such the report also provided several recommendations for moving forward (Caldwell et al., 2020).

In a similar effort to engage with planning professionals, with those specifically in the GTA area, SPCI collaborated with the Urban Land Institute Toronto, developing a series of educational webinars. Together, those at the Urban Land Institute Toronto and SPCI developed a webinar series focused on discussing GTA Land Acknowledgement: Indigenous History and Issues and Trends in Indigenous Engagement (Urban Land Institute, 2020a; Urban Land Institute, 2020b). Led by SPCI members, including Carolyn King and Ron Williamson, t the webinars aimed to educate those in the planning sector, specifically in the GTA and broader GGH region, about Indigenous history, rights, importance of consultation and accommodation. An important role of the webinars was to discuss and clarify governments' "duty to consult and accommodate" the interests and rights of Indigenous peoples, in terms of how and when it is triggered, who is responsible, why the process can be confusing, why it can largely be inadequate in many cases, and how to move beyond it to enhance Indigenous self-determination. These webinars were steps taken by the SPCI to move forward with outreach and educational events despite COVID-19 restrictions, connecting and engaging with professionals in the planning field virtually.

Providing Planners with New Opportunities

In one notable case of engagement, a workshop hosted by Carolyn King and David Stinson, SPCI Board member and now Director, was held on reserve. For many planners, that was the first time they had ever been on a reserve. Many expressed their fear about attending the workshop and being on the reserve but found the experience impactful and educational, given that they could spend time with the Indigenous community members on their land (Fraser, personal communication, November 30, 2021). In this way, the SPCI can bring people together in a unique way due to the connections of their leader's experience and connections. Allowing planners to come onto Indigenous land and into their community and have the opportunity to start establishing a relationship and build trust with their local Indigenous communities. For this kind of work to be effective, "it requires planners to go out of their way and be brave and go and ask to meet someone." (Clara Fraser, personal communication, November 30, 2021, 0:45:10). There must

be a willingness from planners to take a chance, understand there may be mistakes, but to keep engaging and learning to ensure consultation and engagement is meaningful.

7.4.3 Central Source of Resources for the Network

The SPCI, in addition to engagement events, provides a centralized figure for their network of organizations, Indigenous community collaborators and individuals. This is done mainly through its staple features of its membership program, resources library, and newsletters. To start, key to growing SPCI's network is through its membership program, which provides members with increased accessibility to research, resources in the library and educational programs, opportunities to engage in special events and volunteer opportunities, connect directly with other members, receive weekly newsletters with updates on current events and important resources, etc. The purpose of this membership is to provide additional resources and networking opportunities for both individuals and organizations beyond what is publicly available. Currently, the membership directory is representative of various individuals, Indigenous and non-Indigenous alike, students, corporate and non-profits organizations whose experience and expertise span across several fields involved in planning. Importantly, members also include representatives from many local governments and Indigenous communities throughout the GGH region. This membership allows the relatively smaller organization of SPCI to develop and grow its own network, with increased connections among various individuals across the transdisciplinary sphere of land use planning.

Next, SPCI has developed a resource library, a database containing a curated collection of relevant documentation and resources. The purpose of this database is to provide a centralized place to access information for those interested in developing a deeper understanding of intersection of Indigenous peoples and land planning. This database includes resources regarding topics such as: the diverse Indigenous communities in Ontario, Indigenous knowledge systems, a primer on Treaties, local Treaties, governance systems, duty to consult, general land use planning concepts, notable court cases between Indigenous communities and the government/ corporate entities, collaborative approaches, and reconciliation. Such resources on consultation cases and toolkits can provide municipalities with important information on how to proceed with consultation, what approaches should be incorporated and what lessons of the past can be avoided (SPCI, 2023d). In addition to a collection of resources, the database also contains collaboratively conducted research by the SPCI organization or notable work from its Board members and staff, including the report from SPCI's partnership with the University of Toronto.

Lastly, SPCI works to mobilize and share information through newsletters and posting news and blog posts to their website, keeping interested members of the public and SPCI members updated on current or planned projects, important milestones occurring within the field of planning or in Indigenous rights. In SPCI's newsletter, *Path Matters*, in addition to discussing organization work, regularly includes interviews with and articles written by local Indigenous leaders and features local First Nations communities that work with SPCI. Weekly newsletters and the SPCI news and blog post are utilized to share up to date information on current SPCI events, as well as sharing learning opportunities from other organizations, news of important decisions regarding Indigenous communities across Canada and includes recommended reading and viewing resources (SPCI, 2023e). In this way, SPCI provides relevant and up to date information on significant events regarding Indigenous land and Treaty rights through the perspectives of Indigenous communities being impacted.

7.4.4 Shared Lands Interactive Map

One of SPCI's most recent projects is the Shared Lands Map, an online, interactive map that aims to provide greater insight on local land and Treaty rights. The map contains locations of local Indigenous land reserves as well as other relevant landmarks, including municipal boundaries, the Greenbelt and watershed boundaries (Shared Path, 2023b). Data for these layers were each sourced from publicly available geographic mapping data. These sources included OpenStreetMap, Government of Canada database of Indigenous Lands of Canada boundaries, geographic information system (GIS) data from the Greenbelt Plan and Ontario watersheds from the Ontario GeoHub, sourced from the Government of Ontario (Shared Path, 2023b). The purpose of the Shared Maps project is to be a tool to identify important boundaries, this map can also be used to streamline municipal consultation processes and help to support greater participation in local land use planning decisions (Greenbelt Foundation, 2021c; Garrick, 2021). Recognizing the Indigenous nations whose lands settlers are currently occupying is a small but integral step in acknowledging and respecting the rights of local Indigenous nations in land use decision making processes. This project is in fact the more fully fledged project idea Clara Fraser had even before establishing SPCI (Fraser, personal communication, November 30, 2021).

This map is based on a similar model used in Arizona, a part of the Government-to-Government Consultation Toolkit, which includes the Consultation Map that includes the locations of current Tribe reserves as well as contacts for consultation in the state of Arizona (Arizona State Historic Preservation Office, n.d.; Garrick, 2021; Greenbelt Foundation, 2021c). This Government-to-Government toolkit was

developed by Arizona State Historic Preservation Office and Salt River Pima-at as a tool to facilitate more meaningful consultation processes for local Tribes and government agencies (Arizona State Historic Preservation Office, n.d.).

This tool comes as a direct response from those within the industry, expressing to SPCI at engagement events the need for a tool to help understand who that should be consulting with and the need for greater access to information. For many in the planning profession who are willing and open to engagement with Indigenous nations, the first hurdle is identifying who they should talk to and the difficulty in initiating connections. Most often, planners simply do not know where to start (Fraser, personal communication, November 30, 2021). This map can help to simplify this process and reduce the likelihood of land use planning decisions moving forward without local Indigenous nation' inputs (Greenbelt Foundation, 2022). With this tool, the common excuses heard by Indigenous communities in the GGH for why engagement, consultation or even contact did not take place, "we didn't know where, "we didn't know who" will no longer be understandable or acceptable. By addressing a considerable early hurdle in the industry, it encourages connection with Indigenous communities early in land use planning processes and to start building long lasting relationships.

This map intends to differ from other similar models in that the data and information about each Indigenous nation that contributes to the map will be provided and controlled by that nation. Indigenous nations have historically and continue to be excluded from land use decision making, subject to the misuse of Indigenous knowledge or lack of reciprocity in sharing their knowledge and data. As such, it was critical to SPCI that the Indigenous nations who contributed to this project would be respected as sovereign nations and land holders. Therefore, each nation will hold an agency over the data, they own their own data and thus are able to control how it is being used, protected, and shared with external sources. All this is to respect the agency and sovereignty of the nations that are sharing their data with the Shared Lands Map and encourage those who wish to engage with these nations to respect their data and not use it without their consent. Initial contributors included Aamjiwnaang First Nation, Moose Deer Point First Nation, Saugeen Ojibway Nation and Wasauksing First Nation, created profiles to contribute data to the map.

7.5 Collaborations, Partnerships and Relationship Building to Fund and Support the Shared Path Consultation Initiative

Among the most significant characteristics of SPCI is its transdisciplinary nature. Working with organizations across several disciplines, planning, urban development, community building, etc., corporate, academic stakeholders and the communities themselves, the SPCI tries to bring all those involved in planning together to begin addressing the gap in planning left after decades of exclusion, neglect, and limited capacity. Much of the work of SPCI could not be undertaken without the willingness of several organizations within the field of planning to take the step of engaging with an organization like SPCI. While many in the field do understand the gap that exists between municipalities and Indigenous communities, some organizations, like the ones that will be discussed, have taken the first steps in beginning to address these gaps.

7.5.1 Foundational Supporters of SPCI

Given the nature of SPCI's mission, the initiative worked to form several partnerships to collaborate on events and increase their network among transdisciplinary professions (SPCI, 2021- mission). In the beginning, as will be described more in detail below, it was difficult to gain funding support for the initiative. Often SPCI would get one time funding, which would be impactful, but made it difficult for long term planning for the organization. This included grants from Ontario Tech University's Humanities Department. The Law Foundation of Ontario also helped to sustain SPCI in its earliest years as well. Early support from the McLean Foundation and ASI Heritage helped to provide seed funding for the early workshop events that were the precursors for SPCI. Both organizations would continue to support SPCI as it started to grow and continue to provide funding and collaborative support (Shared Path Consultation Initiative, 2021, p. 13).

The most substantial and impactful support came about in 2017, with an initial two-year partnership with the Greenbelt Foundation to get the organization off the ground (Fraser, personal communication, November 30, 2021). The relationship between the SPCI and the Friends of the Greenbelt Foundation began through the Foundation's initial funding of the Indigenous Municipal Engagement Program through the Prosperous Greenbelt stream (Greenbelt Foundation, 2019a). While other organizations had found their work difficult to categorize and fund, the Greenbelt Foundation clearly saw potential in the intended work of SPCI. Under the Foundation's Prosperous Greenbelt stream

description, the work of SPCI can be considered applicable, given its contributions to providing educational experiences, facilitating relationship building among communities and building a sense of "place" and connection to the Greenbelt region itself.

Ever since this initial funding for the Improving Municipal Engagement Program, the Greenbelt Foundation continues to remain among SPCI's main funders, alongside it's growing network of supporters and collaborators (Path Matters, 2021; Greenbelt Foundation, 2021c). Fraser describes this initial and continued support from the Greenbelt Foundation that Clara Fraser describes as being one of the most influential events for the SPCI, as it was from this funding towards the Improving Municipal Engagement Program that sustained SPCI and allowed the organization to continue growing with some renewed stability, especially in a time when leadership was transferred to Morgan Peters (Fraser, personal communication, November 30, 2021). As an indication of the Greenbelt Foundation and SPCI's continued partnership, the Foundation has continued to renew their funding for SPCI, as indicated in their recent annual reports (Greenbelt Foundation, 2021a; 2022a; 2023).

Additionally, as of 2020, private corporations Dillon Consulting, Capital One and Hackworks Inc. each have provided funding as well as helped to organize, provide resources, and support engagement events for SPCI. These partnerships continued into 2021 and demonstrate a promising future for SPCI as support from private corporations can provide additional financial and resource support to continue enhancing the organization's capacity (Shared Path Consultation Initiative, 2021, p. 13). As seen with GBFMN and local Line's partnership, see section 5.3.3, collaboration with private corporations can be beneficial given their often-greater resources and capacity, helping to support innovation and engage in work that would otherwise be difficult for not-for-profits, like SPCI, to engage in on their own.

7.5.2 Funders and Program Partners in the Planning Field

The SPIC's first partnerships of note were with its early collaborators, who provided funding as well as collaborating on engagement events, like workshops, writing letters of support, providing professional expertise, and creating networking opportunities (Shared Path Consultation Initiative, 2019, p. 3). To start, SPCI partnered with The City Institute at York University (CITY) between 2017-2019. The CITY Institute works to bring together academics across different disciplines to facilitate transdisciplinary, collaborative research of urban areas to support greater quantity and quality of urban research (York University, n.d. a). Both SPCI and CITY share the collective goal of building sustainable and resilient urban communities through building networks, although they focus on different avenues. This

opportunity for connection was facilitated by Clara Fraser, the SPCI co-founder. Soon after forming SPCI, Clara Fraser, received a grant to complete a Ph.D. at York University, studying the intersection of Indigenous and Treaty rights with land use planning. Fraser bridged her interest in engaging Indigenous communities with her academic expertise and workplace experience to gain greater resources and support for her initiative and helped to form a partnership between SPCI and CITY (Shared Path Consultation Initiative, 2019, p. 9; York University, n.d. b). As Clara Fraser has stepped back to focus on completing her research, SPCI is no longer currently partnered with this organizations directly, but their shared historical working relationships could be continued in the future.

Other partnerships facilitated by Clara Fraser included Evergreen, an organization working towards helping cities adapt to issues related to climate change, housing accessibility and access to natural spaces. Clara Fraser represented SPCI as a speaker for partnership building with Indigenous communities for events hosted by Evergreen (Fraser, 2018; Shared Path Consultation Initiative, 2019, p. 9). Additionally, she developed a resource for Evergreen on Municipal-Indigenous relations, discussing key concepts to further improve Indigenous relationship building in land use planning (Fraser, 2018). Next, Level, a charitable organization made up of legal professionals that provides legal services and outreach programming to enhance equitable justice in the legal system and the Southern First Nations Secretariat (Shared Path Consultation Initiative, 2019, p. 9). The Southern First Nations Secretariat was an early Indigenous association to partner with SPCI, an organization which helps provide several programming, projects, and services to its member nations (Shared Path Consultation Initiative, 2019, p. 9).

The partnership with People Plan Community for the Indigenous Municipal Engagement Program plan also brought SPCI together with a notable leader in the Indigenous engagement and planning community, Susan Robertson, the founder of People Plan Community. With her years of experience in watershed planning, community engagement and Indigenous partnership and as a member of Canadian Institute of Planners and a Registered Professional Planner in Ontario, she provides the planning expertise that continue to support SPCI (People Plan Community, 2021d). Sharing their gifts as notable leaders Fraser, Carolyn King and Ron Williamson have in shaping SPCI and its project development. As a result of this partnership, Susan Robertson continues to work with SPCI, currently as a SPCI Board member, supporting Carolyn King's Moccasin Identifier project and providing her planning expertise for SPCI projects.

In 2019, during the period of a change in leadership from Clara Fraser to Morgan Peters, SPCI also grew in its partners, many of whom continue to be prominent collaborators with SPCI. This includes the previously discussed, Urban Land Institute Toronto and Ontario Professional Planners Institute (Peters, personal communication, November 25, 2021; Fraser, personal communication, November 30, 2021). The Urban Land Institute Toronto focuses on building transdisciplinary planning and development expert networks to work towards building sustainable communities, primarily in urban communities. The idea of urban communities and Indigenous engagement may appear to be separate at the surface. However, through an understanding of Indigenous history, duty to consult and the intersectional impact of land use decision making, urban land use decision making can have a significant impact on Indigenous communities, particularly in Southern Ontario (Shared Path Consultation Initiative, 2021).

The Urban Land Institute Toronto's interest in collaborating with SPCI and having Carolyn King host webinars was largely in response to the recent Truth and Reconciliation Commission reports, acknowledging the considerable gap between Indigenous communities and planners. However, like many in the planning field Fraser had spoken with, those at Urban Land Institute Toronto were unsure of how to proceed and feared making missteps or mistakes that would ruin the potential for further engagement (Peters, personal communication, November 25, 2021). In fact, previous engagement events hosted by Urban Land Institute Toronto had been cancelled for this very fear (Shared Path Consultation Initiative, 2021).

With the clear need for engagement support and the shared goal of enhancing awareness and education among planners on meaningful Indigenous engagement in the field, SPCI and Urban Land Institute Toronto collaborated on an event, initiating their partnership. The SPCI and Urban Land Institute Toronto would then officially partner in 2020 (Path Matters, 2021). The collaborative effort between the Urban Land Institute Toronto and SPCI focused on helping to get the institute started with the right knowledge and resources, such as the GTA Land Acknowledgement webinar series. Due to the positive reception of these webinars, more collaborative seminars were planned. Although the pandemic halted these plans, SPCI and Urban Land Institute Toronto hope to engage in more events in the future (Shared Path Consultation Initiative, 2021). Carolyn King continues to participate Urban Land Institute Toronto events.

The Ontario Professional Planners Institute's is the representative body for the planning professionals in Ontario. This institute provides Registered Professional Planner designations, governs the

rights and responsibilities of its members, sets requirements for its membership and hosts events, exams, and mentorships for planners (Ontario Professional Planners Institute, n.d.). This consultation provided the opportunity for SPCI to illuminate the considerable gaps in municipal-Indigenous relations with planning professionals of Ontario. As mentioned above, SPCI consulted with the Ontario Professional Planners Institute's Indigenous Planning Perspectives Task Force report, as part of their response to the TRC Calls to Action and the United Nations Declaration on the Rights of Indigenous Peoples. Insights from this report helped to illuminate the connections between land use planning and reconciliation with Indigenous communities as well as the considerable gaps and challenges in moving forward. This then helped the Ontario Professional Planners Institute to begin moving forward in forming the Indigenous Planning Advisory Committee (Ontario Professional Planners Institute, 2019 b).

The collaborative opportunities are significant given both the Urban Land Institute and Ontario Professional Planners Institute's considerable capacity, access to resources and influence on the Ontario planning sector. While SPCI, possesses less capacity and a smaller platform, the organization has secured connections and accessibility to Indigenous leaders, knowledge, and perspectives that the Ontario Professional Planners Institute institutionally lack. By engaging with an Indigenous led organization on how to begin addressing institutional challenges, these organizations are helping to enhance SPCI's capacity and improve institutional practices of more effective Indigenous engagement. It is a small, but critical step in pushing institutional planning processes to include meaningful Indigenous engagement as a necessary and beneficial step moving forward.

7.5.3 Indigenous Community Partners and Collaborators

Finally, the most significant of SPCI collaborators is the local Indigenous peoples and communities themselves. Effectively conducting any of the work being done at SPCI requires mutually respectful partnerships with the very Indigenous communities that are being impacted by local planning policies. Much of the relationship between SPCI and the First Nations discussed below is represented in features in SPCI's newsletters, their resource library, which contains documentation regarding their history in the region, nation specific consultation protocols and their involvement in engagement events. Engagement activities such as annual general meetings, workshops, webinars, networking events, etc. are regularly attended, and often led by Indigenous leaders, as panelists or featured speakers, from differing First Nations communities (Shared Path Consultation Initiative, 2021; Shared Path Consultation Initiative,

2021, p. 13). This is not meant to be an exhaustive list of all Indigenous representation with SPCI, but rather highlighting nations that have partnered and collaborated with SPCI in an official capacity.

The Mississaugas of the New Credit First Nations was among SPCI's initial partners, starting with a 2-year partnership to get SPCI "off the ground" (Fraser, personal communication, November 30, 2021). The Mississaugas of the New Credit First Nation are part of the Ojibway (Anishinaabe) Nation, with the name of their nation deriving from "Missisakis", Anishinaabemowin for "many river mouths". This refers to the understanding from mid-nineteenth century Mississauga peoples that they had obtained their name from the mouths of the Trent, Moira, Shannon, Napanee, Kingston, and Gananoque rivers (Mississaugas of the New Credit First Nation (MNCFN), 2008; MNCFN, 2022, MNCFN, n.d.). The Mississaugas of the Credit First Nations traditional territory is located in south-western Ontario, between Toronto and Lake Erie, initially consisting of an estimated four million acres of land and water (MNCFN, 2022). Today, Mississaugas of the New Credit First Nation reserve near Hagersville, Ontario, is only around six thousand acres with a population of just over twenty-five hundred people. While two thirds live off reserve, many express a desire to live on reserve (MNCFN, n.d.).

The SPCI's relationship with the Mississaugas of the New Credit First Nation was facilitated by the connection Clara Fraser made with Carolyn King during her research internship. The early support from Mississaugas of the Credit First Nations was highly influential in sustaining the organization and providing the critical social connections needed to organize engagement events, particularly in the first few years of the organizations' formation. It is from establishing relationships and SPCI demonstrating their intentions for the organization to fill a clear gap in planning that paved the way for SPCI to reach out to other Indigenous communities. The Mississaugas of the New Credit First Nation continue to be an influential partner of SPCI, as the community and several of its leaders collaborate on as well as attend engagement events and develop sharable resources.

In the case of Alderville First Nation, their official partnership with SPCI was largely facilitated through Alderville First Nation Chief, Dave Mowat's involvement and contributions to the SPCI Symposium in 2019, speaking about the Williams Treaties Settlement Agreement (Shared Path Consultation Initiative, 2019, p. 4). Dave Mowat would become a SPCI board member in 2021, again demonstrating his dedication to engagement work for Alderville First Nation as was explored with his involvement with the ABOS (Shared Path Consultation Initiative, 2021, p. 1). Alderville First Nation supports the work of SPCI as an official collaborator, consulting on SPCI's resources and engagement

events. Chief Dave Mowat, in particular, provided knowledge and insights on SPCI's resources on and understanding the Williams Treaties Settlement Agreement and the role of planners and municipalities regarding treaty rights (Shared Path Consultation Initiative, 2019, p. 4).

Similarly, the Saugeen Ojibway Nation became an official SPCI partner as of 2020/2021 and was even the first "Featured Community" in the *Path Matters* November 2019 edition (Shared Path Consultation Initiative, 2019, p. 13; Shared Path Consultation Initiative, 2021). The Saugeen Ojibway Nation consists of the Saugeen Ojibway First Nation and the Chippewas of Nawash Unceded First Nation. The people of Saugeen Ojibway Nation currently reside in their traditional territory known as "Saukiing Anishnaabekiing", which extends along the shores of Georgian Bay and Lake Huron from the Bruce Penninsula to south of Goderich and east to Collingwood. The land consists of around 2 million acres of land as well as the surrounding lakebed (Shared Path Consultation Initiative, 2019, p. 13; Saugeen Ojibway Nation, 2022). Due to their traditional land's location, the nation's identity is closely tied to their relationships with the lands and the waters surrounding it (Shared Path Consultation Initiative, 2019, p. 13).

Each community has played a significant role in SPCI, given that their consultation, insight and knowledge work to produce well informed resources and engagement events. Without the contributions of these Indigenous partners, SPCI could not have the impact that they intend to in the field of planning. Only Indigenous Knowledge Holders, including Indigenous leaders, scholars, chiefs, planners, etc., willing to share their knowledge can ensure that what SPCI offers is truly genuine and actually contributes to enhancing Indigenous perspectives in land use planning. Through attending and helping to organize engagement events, the Indigenous collaborators contribute directly to developing resource material, and providing material to be included in the research database. They also contribute indirectly through consulting on projects alongside one another, such as the Indigenous Perspectives in Planning report, and SPCI's official comments on current land use planning impacts on local Indigenous communities (Shared Path Consultation Initiative, 2021).

7.6 Current Challenges and Limiting Factors to Shared Path Consultation Initiative's Impact

7.6.1 Funding Limitations: Challenges with Intersectional Nature of SPCI's Work

For non-profit organizations, funding is often a significant limiting factor, especially for small scale grassroot initiatives. Both Morgan Peters (personal communication, November 25, 2021) and Clara Fraser (personal communication, November 30, 2021) stated how funding was and continues to be difficult to

secure in large part due to the difficulty in categorizing the work of SPCI. The work of SPCI is highly intersectional, incorporating several diverse disciplinary perspectives. To address the highly complex challenge of Indigenous revitalization and greater incorporation of Indigenous ways of thinking across several different sectors, there is a need for incorporation of diverse disciplinary perspectives. Unfortunately, what this also means is that the work of SPCI is highly diverse and does not fit into specific categories when applying for funding or grants.

The inability to properly categorize the work of SPCI made it difficult to meet the requirements for grants and funding after its formation. The work of SPCI is not strictly environmental; it does not focus exclusively on Indigenous cultural promotion, nor it is only focused on sustainable land use planning (Peters, personal communication, November 25, 2021; Fraser, personal communication, November 30, 2021). Moreover, certain foundations did not understand the need to support land use planning work, considering it is a government responsibility (Fraser, personal communication, November 30, 2021).

Politically, municipalities were largely unable to provide adequate funding, as they are often already considerably limited in their capacities. While many officials in several provincial departments supported the initiatives' objectives, they did not feel they could financially support the initiative as it could be perceived as trying to instruct municipalities on what to do regarding a municipal responsibility. Essentially, providing funding could be viewed as a provincial level department indirectly interfering with municipal affairs (Fraser, personal communication, November 30, 2021). Even when there were promising prospects for financial support within the government, the change in provincial government in 2018 dissolved many of those processes. While the was some moral and financial support expressed from municipal and provincial representatives, this support could and did change when political parties and interests shifted (Fraser, personal communication, November 30, 2021).

7.6.2 Strong Moral Support, Lack of Financial Follow Up

Frustrating challenges to securing funding were also attributed to the lack of financial follow-through, despite moral interest and support for the intended work of the initiative. Fraser (personal communication, November 30, 2021) reports that around the time of the SPCI's formation, when talking with various representatives from different disciplines involved in planning, many understood the gaps in Indigenous engagement in planning processes. In the experience of SPCI, it was not the lack of interest or acknowledgement that was the challenge in the planning field. The main challenge was that planning

professionals largely lacked an understanding of the steps to proper consultation, possessed limited capacity to engage meaningfully and had no experience in relationship building. Due to this limited capacity or education, many in the industry fall back on the "checkbox" approach to consultation (Fraser, personal communication, November 30, 2021). As such, many were supportive of the idea of SPCI, as a resources to provide greater clarity to the consultation process and facilitate connections with local First Nations was needed.

However, the challenge came with government agencies not following up with the financial support needed to operate SPCI in a more effective capacity, despite the clear need for and interest in the intended work of SPCI. Ultimately, while there was clear moral support among planning, governance, and law systems, traditionally colonial systems, for this type of work, there lacked financial commitment to supporting SPCI. The promise of financial support from those involved in land use planning decision processes was difficult to rely on as these systems often lacked the political will or ability to prioritize this kind of work (Fraser, personal communication, November 30, 2021). Frustrations around securing funding are best summed up by Fraser (personal communication, November 30, 2021, 19:00), "It was frustrating because everyone we spoke with said this is a great idea, this really needs to happen, this is a gap. But we couldn't find people or organizations that would fund it." Despite the clear need and support for greater clarification in the consultation process and building relationships with local First Nations that SPCI was facilitating, there was a lack of commitment to support the organization.

7.6.3 Further Challenges to Engaging in This Kind of Work

Beyond challenges directly tied to funding, there remains considerable challenges when attempting to encourage greater collaboration with local Indigenous communities. What cannot be overstated is the issue of capacity, the demands on Indigenous communities themselves and the continuing impact of colonialism (Peters, personal communication, November 25, 2021).

In many circumstances, Indigenous peoples and communities are limited in capacity to engage. In the form of limited financial support, lack of adequate resources for education, transportation, accessibility to technology, addressing their own community challenges, such as accessing clean drinking water, or time to properly review and prepare for engagement opportunities. While greater attempts to engage with Indigenous nations have been welcomed, this increased demand for engagement can put a strain on communities, especially for Elders and other Indigenous leaders. Demanding time and resources from Knowledge Holders and Elders have the potential to pull them away from engaging with their own

community (Peters, personal communication, November 25, 2021; Morris, 2018). To expect or demand too much of a community's time, especially from Knowledge Holders, can be damaging for forming relationships, further impacting the ability to engage properly (Peters, personal communication, November 25, 2021). Furthermore, these engagement requests are often not reciprocal in nature, where Indigenous communities are only engaged with because colonial structures want these communities' time, knowledge, resources and land. Given many Indigenous nation's history with colonial systems, it is unsurprising that many do not view engagement attempts as genuine or meaningful if there is not a willingness to engage in reciprocity.

Fraser (personal communication, November 30, 2021) points to the continuing unwillingness to take the time to engage with Indigenous communities properly or meaningfully, due to systemic barriers (Peters, personal communication, November 25, 2021). Although many systemic barriers are being acknowledged, that does not mean that the field has suddenly changed or that those barriers are actively being deconstructed. Persistent systemic barriers include lack of education on Indigenous knowledge, culture, and their historical oppression, misaligned Western vs. Indigenous approaches, little Indigenous representation in these fields, racial stereotyping, and environmental racism (Bowie, 2013; von der Poten et al., 2015; Weinberger, 2017). Indigenous representation is inadequate; western perspectives take dominance over Indigenous approaches; Indigenous communities are considered "stakeholders" rather than governing partners and engaging parties too often fail to acknowledge Indigenous cultural identity and self-determination (McLeod et al., 2015; Morris, 2018). If these barriers are not actively being addressed by outside organizations or government action, or from within, Indigenous collaboration will continue to not be viewed as a priority or best practice in the field (Morris, 2018).

Oftentimes, in this space of Indigenous collaboration, even when small actions are taken, they need to be applauded to continue with the long, slow and hard process of encouraging collaboration. This is in the hope that with these small accomplishments, they will continue to move forward with the process of Indigenous engagement, increasing in scale and commitments along the way. Although for proper reconciliation to take place more substantial actions are needed, the reality is that colonial systems are still not actively taking the necessary measures. While it is difficult and frustrating, sometimes there needs to be an acceptance of where relationships currently stand to continue moving forward and bring relationships to where they are truly meaningful and reciprocal (Peters, personal communication, November 25, 2021).

7.7 Epilogue: Where Shared Path Consultation Initiative Stands Today

In the winter of 2022, Shared Path Consultation Initiative announced that they would be suspending operations for the foreseeable future, suspending memberships, not undertaking new commitments and not further publishing of their webinars, blog posts and the *Path Matters* newsletter. During this time, the organization stepped back to reorganize and re-structure how operations can be run in a different capacity. SPCI underwent changes to their Board, including the resignation of some and the addition of another, and the resignation of Peters as executive director. However, projects that were underway at the time were completed, with Peters continuing to work on the Shared Maps project in a volunteer capacity and their research database still being made available.

Happily, in April 2023, SPCI reemerged with a new issue of their newsletter, "In the Know", announcing the organization would be coming out of suspension with plans. Contributing to the organization's emergence from its period of "hibernation" was a grant from the Ministry of Housing, Diversity and Inclusion from the Community Support, Multiculturalism, and Anti-Racism Initiatives Program. As detailed in the newsletter, during this time of suspension, SPCI and its leaders continued with impactful projects. Leaders in SPCI, Chair Carolyn King and Director David Stinson, assisted the City of Richmond Hill with the development of a new Land Acknowledgement, passed on March 29, 2023 (Shared Path Consultation Initiative, 2023c). Additionally, SPCI organized and carried out three workshops, the Indigenous Relations in Real Estate Development series, with organizational partner Urban Land Institute Toronto, with plans to host a final session in the Fall. These workshops detailed how leaders in the real estate industry leaders could improve Indigenous engagement and collaboration.

Uncertainty about the ability of an initiative to sustain itself is not an unusual hurdle in the story of sustainability enhancing initiatives. As seen with all the cases subject to analysis, finding support for an initiative is no easy feat, often taking years of persistent work, with change being made little by little to grow larger in capacity. Even with growth and a supportive network, initiatives of this nature are not guaranteed to continue growing. Many initiatives come and go. Some that cannot continue are picked back up at a better time or provide the foundation for future initiatives. For now, it appears that through the continuing efforts of notable Indigenous leaders, SPCI staff, volunteers, and important institutional connections, SPCI will be able to continue operations.

In this case study, the research framework sets out criteria that the initiatives studied must exemplify to be worthy of analysis. The SPCI, despite its suspended operations, still meets the criteria.

Its works within the Greenbelt, with the support of the Greenbelt Foundation, reflects the foundations of sustainability, It has even survived a first test of resilience. The initiative's period of suspension does leave uncertainties about its continuing resiliency and the long-term lasting benefits of their work. However, its reemergence and continuing plans for engagement events do show the institutional value and need of an initiative like SPCI. While there is uncertainty for what the long-term future holds for SPCI, its ability to overcome great challenges in its formation, growth and its emergence from suspension demonstrate continued promise.

While the status and uncertain future of SPCI differ from the other cases, the period of suspension does not diminish the lessons that can be taken from this story. The SPCI initiative provides unique contributions to sustainability and there are important lessons in enhancing sustainability that can be taken from the story of SPCI, particularly given it is the initiative that has underwent the greatest uncertainty of all the case studies. What SPCI has been able to achieve, the ability for it to have grown, gain recognition and continual support from the Greenbelt Foundation is worth exploring. Insights from this case study, the initiative's growth, and reduced capacity, contribute to developing a comprehensive understanding of how such initiatives can enhance sustainability and where they are limited. Success is great for verifying results and learning how to do things effectively, but setbacks, challenges and hardships can also teach important lessons too.

> "Spring is not only a time of revival, but also to acknowledge the efforts it takes to get through a frigid winter." (Shared Path Consultation Initiative, 2023c).

7.8 Conclusion: What Can We Learn From the Story of SPCI?

The SPCI initiative began out of collective understanding from Fraser, Carolyn King and Ron Williamson that there was a significant gap in knowledge and capacity for those who should be engaging in consultation with Indigenous communities, notably municipalities and planners. These issues may not have always been acknowledged or prioritized, many in the planning field understood the gap and wanted better resources to engage in consultation effectively. While the goals of SPCI are ambitious, the organization understood that the best place to start would be to bring people together to start building relationships. Through their efforts, SPCI worked to bring Knowledge Holders, Indigenous community members and planning representatives together to engage in knowledge sharing and find greater understanding in the consultation process. The formation of these relationships could then lay the foundation for more effective and meaningful engagement practices, with the hope of legislative reform.

The SPCI also worked to develop an accessible database of resources for those they engage with. Including resources that are sourced from Indigenous scholars, provide Indigenous perspectives and history and SPCI's collaborative work with planning institutes. In this way, SPCI aimed to become a centralized source of resources for all members of their growing network to access and contribute to as organizations and individuals moved forward in their respective engagement or consultation processes.

The challenges faced by SPCI may reflect the difficulties many intersectional sustainability initiatives face and the inherent challenges of enhancing sustainability. However, that does not exclude SPCI's sustainability contributions and the lessons that can be learned from what it accomplished in its time. The SPCI's most significant contributions to sustainability that make this story worthy of exploration and understanding are as follows:

- The rare and unique approach of empowering and amplifying Indigenous voices and perspectives to enhance the equity of the planning field, given the significance of land use decision making in engaging in reconciliation
    - Appreciating and accounting for the complexity of intersectional impacts of land use planning and Indigenous community development
- Emphasizing the role of relationship building as a foundation for meaningful engagement, collaborative approaches and enhancing sustainability practice
- Embracing complexity and challenges of intersectional sustainability through perseverance and revealing what setbacks can tell us about the limits of sustainability enhancement
    - The importance of leadership in creating initiatives where gaps are apparent and driving the initiative forward

7.8.1 Significance of Empowering and Amplifying Indigenous Voices to Enhance Equity in Land Use Planning

The SPCI is worthy of recognition due to the uniqueness of focusing on planning as an effective pathway to achieve greater equity and meaningfully engage in reconciliation with Indigenous communities. Land use planning is an effective and meaningful avenue for enhancing Indigenous self-determination and engaging in reconciliation due to the significance of land to Indigenous communities. Indigenous knowledge, law and ways of living are directly connected to the land (Matunga, 2013). Reconnecting Indigenous communities to their land plays a critical role in reconciliation and cultural revitalization (Matunga, 2013). Decision making around land use has always been a core aspect of many Indigenous

knowledge systems and practice (Matunga, 2013; Fraser, personal communication, November 30). Indigenous knowledge systems often include concepts of collaboration, respect for nature, long term planning, reciprocity, etc., all concepts that are fundamental to sustainability and thus can lead to more sustainable land use planning decisions and processes.

Furthermore, land use planning's impact is highly intersectional given its connections to all aspects of a community and the interdisciplinary nature of the field. Planning can determine how land will be used, if the ecological limits will be respected, what economic opportunities will be created and for whom, if they will provide long term solutions or address short term issues and whose needs and interests are being served. Planning is meant to be a democratic and collaborative decision-making process. How equitable and sustainable those decisions are can depend on how inclusive and diverse the process of decision making. Land use planning can reflect a community's relationship to nature and to one another, in who and what is valued. Planning's impact is further key given the significance connection to land, and agency over land use decision making has to Indigenous knowledge and communities. Understanding the complex role of planning to community, specifically Indigenous community enhancement, is a key example of SPCI's unique and innovative approach to addressing a key problem that can have intersectional impacts.

However, planning is a professional practice by which Indigenous peoples have and continue to be marginalized and disconnected from the land. As such, there is great responsibility for this field to engage in reconciliation and meaningfully engage with Indigenous ways of knowing to develop more equitable and representative land use planning practices. It is precisely this that Matunga (2013) as well as Fraser (personal communication, November 30) says, presents an opportunity. By facing the past of land use planning practices, we can move forward to utilize new planning approaches to "aid the recovery and re-inclusion of Indigenous communities in what is now largely 'shared' though nonetheless misappropriated space." (Matunga, 2013, p. 9). To put it simply, "If Indigenous peoples were planned into oppression, equally they can be planned out of it" (Matunga, 2013, p.31). The work of SPCI is unique and significant as it is actively working towards this concept. Using planning as an opportunity to acknowledge the past, adapt practices and perspectives for the present and hopefully transform planning practices to develop a sustainable future.

Ensuring Indigenous engagement and respectful application of knowledge into land use planning contributes to reconciliation and self-determination while simultaneously enhancing the field itself. It also builds the foundations for hope that land use planning processes shift away from colonial-driven structures that continue to disempower the marginalized and become more equitable. With a greater voice and capacity to engage, Indigenous communities can exert self-determination in managing their own land, use planning processes through their own governance processes. Ultimately, the significance and impact of SPCI using land use planning to enhance equity of Indigenous voices and perspectives is put best by Fraser (personal communication, November 30, 2021, 1:01:30),

> "Land is at the heart of the matter. Land is where Indigenous peoples' language is directly connected to, to the earth, the land. The fact that settlers are even here is because we were welcomed to this land and welcomed in with the understanding that we would enter into relationship respecting Indigenous laws."

Critically, this initiative is operating through Indigenous leadership and applying Indigenous frameworks for their projects and engagement events to ensure the rights, needs and interests of Indigenous individuals and communities are included and respected. The creation of this initiative and its continued leadership included Indigenous professionals and leaders, ensuring that an initiative meant to amplify Indigenous voices and adhere to indigenous framework for designing engagement projects is led by Indigenous leaders who understand their communities, the rights of Indigenous peoples and the best approaches for moving forward.

Through their engagement work, knowledge was shared by Indigenous individuals and communities themselves through the workshops, resource database and webinars, allowing them agency over their knowledge and engage in traditional practice. This is evident in the Improving Municipal Engagement Program, which amplified Indigenous voices and approaches in discussions around local municipal planning and workshops with planning professionals, including Ontario Professional Planners Institute and Urban Land Institute Toronto. The resource database also includes documentation from Indigenous nations and professionals, provides relevant information developed and shared by Indigenous leaders in the field. The Shared Lands Map demonstrates the respect for Indigenous knowledge sharing agency, as data for the map is being shared and controlled by Indigenous nations themselves, respecting sovereignty over the data they share. All these efforts work to encourage participants to understand and

value the rights of Indigenous peoples to engage in decision making over how shared land is shaped and how their knowledge can be applied respectfully.

7.8.2 Relationship Building as a Foundation for Long Term, Lasting Benefits

Key to the SPCI initiative's contributions to sustainability is its ability to bring people together and demonstrate the significance of building relationships to addressing complex community challenges. The SPCI initiative exemplifies the importance of relationship building by emphasizing it as the best way to move forward when bringing together diverse, different ways of understanding to enhance sustainability. Relationship building is the focus of the initiative not just because it is something that is "nice to do", but rather, should be an essential practice for genuine engagement (Fraser, personal communication, November 30, 2021).

As acknowledged by Indigenous leaders, communities, planners, municipalities, etc., the lack of relationships with one another was a significant contributor to the lack of Indigenous engagement in planning throughout Ontario. Fraser, Carolyn King and Rob Williamson all understood that to address this gap, bringing people together would be the most effective way to start to begin the process of building relationships. As acknowledge by Fraser (personal communication, November 30, 2021), SPCI's most significant contribution as an initiative was creating the opportunity to bring those working in planning, municipalities, and Indigenous communities together. Providing a starting point to start conversations, better understand one another, learn how to engage meaningfully, and build relationships to ensure more collaborative approaches to planning in the long term.

Through SPCI's work, planning professionals and Indigenous community members and leaders had the opportunity to engage with one another, in some cases on Indigenous land, to begin establishing relationships. Many who attended these workshops and webinars expressed verbally and in feedback surveys that they found these events valuable and educational, gaining insights that they would have otherwise not had the opportunity to, given the nature of the organization running them, SPCI (Shared Path Consultation, 2019; Fraser, personal communication, November 30, 2021). The creation of a small network through their membership, organizational partners and database allows for further connectivity opportunities and accessibility to resources to support learning and understanding. While this process of meaningful engagement with Indigenous communities is still in its early stages, SPCI is working to begin creating spaces to bring planning professionals and Indigenous knowledge holders and community

members together. With this opportunity to come together, establish relationships, build trust and mutual respect, Indigenous and non-Indigenous planners can increasingly learn the skills to engage and navigate one another's knowledge systems. The more people learn about each other, the more they can learn from each other. This process over time can lead to more collaborative approaches to land use planning that can have long term impacts for all in the community, including Indigenous communities who's lands or people will be impacted in some capacity.

This approach to focus on building relationships to enhance the initiative's impact is effective not only because it works to bring people together and build social capital, but also because it adheres to Indigenous frameworks and law. As Fraser (personal communication, November 30, 2021) notes, one of the main roots of Indigenous law is relationships, being in relation with one's community and nature. Anishinabe law is rooted in the understanding and respect for Creation, interdependence with one another as people, with our community and that "we are our relationships" (Mills, 2012, p. 80). These relationships include relations with plants, animals, spirits, and physical beings like rocks or rivers, many of whom are considered persons (Mills, 2012). This is the concept of radical interdependence, understanding that by being part of creation, we cannot separate ourselves from the rest of creation. Our sense of self includes a sense of interdependence and connection to all life and creation (Mills, 2012). From this understanding of interdependence, we must recognize that we all have gifts, gifts that we must share with one another, whether they be material, knowledge, emotional, or spiritual, to sustain interdependence. In the case of SPCI, this sharing of gifts is through that of sharing knowledge, sharing time, resources to support one another in the planning process, building trust, and respect.

For enhancing sustainability, in the form of meaningful engagement and in the planning approaches, SPCI illustrates the importance of creating the space for and focusing on building relationships for genuine engagement. Relationships that can lead to friendships, mutual trust, respect and understanding, allowing both sides to gain capacity to engage in increasingly meaningful collaboration. Relationship building is a long process, requiring considerable patience, trust, and effort. However, it is foundational to sustainability, encouraging individuals to look beyond themselves, to value one another, other communities, what they value and the environment we all share and engage with.

7.8.3 Embracing Complexity and Challenges of Intersectional Sustainability

The story of SPCI illustrates the challenges faced by sustainability initiative that are intersectional and complex in their approach, while further demonstrating the unique factors faced by initiatives working to amplify Indigenous voices. The intersectional and interdisciplinary approach, while accounting for complexity, made it difficult to categorize their work and adhere to typical structures for funding and support. All initiatives explored faced challenges with funding for different but related reasons. Sustainability work is not adequately funded, misaligning funding timelines, lack of long-term decision making, etc. However, SPCI's difficulties were exacerbated by specific characteristics given the nature of the organization. The gap in knowledge about Indigenous engagement in planning processes, lack of understanding of who responsible, Indigenous engagement not being prioritized, and the commitment needed to do things differently, outside of convention. Furthermore, the goal of relationship building and amplifying Indigenous voices is not a tangible or easily measurable goal. It is a long, slow process, with its impacts more apparent in the long term.

As a result, SPCI struggled to gain greater support to grow in its capacity, impact and these consistent challenges contributing to the initiative's period of suspension. There is greater acknowledgement and awareness of the need for genuine Indigenous engagement, amplifying Indigenous voices and applying Indigenous knowledge. However, as the journey of SPCI shows, there is much further to go. Greater support and willpower are needed from external institutions to prioritize amplifying Indigenous voices and support initiatives like SPCI that pursue goals that are intersectional and require long term commitments for more impactful change.

Sharing the story of SPCI and its mission is especially important because of its uniqueness. SPCI is an initiative that is addressing an aspect of building sustainable communities that is challenging but necessary. It applies an intersectional approach that includes several disciplines, bridging different communities, and focusing on relationship building to address systematic issues that undermine Indigenous communities throughout Ontario. Moreover, it addresses these issues while being directed by Indigenous knowledge leaders and supported by notable organizations in the field. As such, SPCI is a model for how to move forward in sustainability sphere of Indigenous engagement, with an understanding of the significance of relationship building, respect for differing knowledge systems and perspectives, and a focus on the intersectional impact of land use planning. Also, the SPCI initiative's resiliency in the face

of continuing challenges illustrates how working in these intersectional spheres of sustainability can be challenging, but worth pursuing.

7.8.4 Importance of Leadership

The perseverance demonstrated throughout the story of SPCI highlights the significance of effective leaders in pushing forward initiatives, especially ones like SPCI that are attempting to address complex challenges that are less understood or prioritized. This initiative emerged out of Fraser, Carolyn King and Rob Williamson's understanding and experience with the gaps among Indigenous communities, planners, with the underlying understanding of planning's intersectional impact. Each of the main founders contributed their unique gifts in different ways. Fraser brought her research, knowledge and experience of planning and meaningful engagement, Carolyn King brought her breadth of experience with Indigenous development, community connections, credibility and Ron Williamson provided expertise and the initial seed funding. Each formed and supported this initiative understanding that its goals were needed in the planning field and that Indigenous communities and planning representatives would be receptive to their mission.

Together they had a deep understanding of the complexity of their communities as well as the challenges due to the nature of the initiative. However, leaders in SPCI, Fraser, Peters, Carolyn King, Rob Williamson, and many others on the Board, are considerable driving forces in pushing this initiative forward. A clear example being the organization's emergence from a period of suspension with continuing plans, SPCI gaining continual support from the Greenbelt Foundation, growing in capacity to engage in new projects and the smooth transition from Fraser to Peters. It is from the efforts of SPCI's leaders, working to build social capital, through relationship building, trust and reciprocity, collecting resources, engage in collaborative projects that pushed the initiative forward. It is due to their understanding of the initiative's significance, intersectional potential and the clear need from involved communities that pushed the initiative further.

This story also illustrates the importance of organizational leaders in sustaining and providing capacity to innovative and unique sustainability initiatives. While they are diverse in capacity, community and impact, their support demonstrates belief in the initiative's mission and they each bring unique contributions to supporting SPCI. The Mississauga of the New Credit First Nation provided critical support in the initiative's first two years, helping SPCI get off the ground and continued to be a valued partner for many years. Participation by the Mississauga of the New Credit First Nation provided the

social connection, Indigenous leadership and knowledge needed to design initiative projects, demonstrate trust, credibility, and the initiative's genuine desire to engage meaningfully.

It is significant that planning institutions, such as Urban land Institute Ontario and Ontario Professional Planner Institute, recognize their gaps in capacity and willingness to engage with SPCI. This is especially so given their capacity and impact in Ontario's local planning field. Collaborating, making space for, attending engagement events with Indigenous leaders and communities demonstrates an important beginning stage in the effort to shift planning processes. Finally, the Greenbelt Foundation further demonstrated its role as a leader in the sustainability space by providing continuing funding as well as awareness and credibility to the initiative. With large organizational leaders demonstrating their support, especially for initiatives that are unique in their approach and intersectional the way SPCI is, it shows that the work is valued and needed. While the work of SPCI is difficult to categorize, the Greenbelt Foundation understood its potential and the need for greater Indigenous engagement within the Greenbelt.

"Land is what connects us."

~Morgan Peters, Former Shared Path Consultation Executive Director

Chapter 8- Discussion: What do the insights from each case study tell us about enhancing sustainability within a community?

8.1 Insights From Case Studies: What They Tell Us About Enhancing Sustainability Effectively?

Three successful sustainability initiatives have been reviewed in this paper – the Greenbelt Farmers Market Network, Alderville Black Oak Savanna and Shared Path Consultation Initiative. They contrast in many ways, taking place in different community contexts, are led by different kinds of community actors and focus on different sustainability priorities – sustainable food systems, Indigenous ecological restoration, and Indigenous engagement in municipal land use planning respectively. Nevertheless, all three embody the four characteristics featured in the framework set out in chapter 4. Their stories, from formation, growth, change in capacity, working relationships, and current operations all confirm and illustrate the importance of understanding and appreciating complexity and interconnectivity, supporting community capacity, networking, and forming respectful relationships, and centering equity. The following discussion will summarize how the three cases reflect each of these four keys to successful sustainability initiatives.

Each section will include excerpts from the leaders of each initiative found in the chapters above, either direct quotes or discussion points, to illustrate how each discussion point is demonstrated in their story and allow for each participant's own voices to be heard. Ultimately, it is through their insights that the stories of each initiative's came to life, illustrating how sustainability can be enhanced despite varying experiences, communities, and capacities. For clarification, each excerpt will be italicized to differentiate it from the discussion section text.

8.1.1 Understanding Interconnectivity of Sustainability Complexities and Challenges of the Community

First, all cases demonstrate a high degree of understanding and appreciating complexity. The context of this research, understanding and appreciating complexity is explored through the initiative's understanding of the sustainability challenge they aim to address, the community they work within and applying holistic, intersectional approaches. Evident in each case is a deep understanding of the sustainability challenge as complex and understanding that sustainability-related impacts are intersectional and interactive in the ways they affect the social, economic, environmental, and cultural aspects of their community. Participants in all case studies understood the need to apply holistic approaches to developing solutions when organizing their initiative and associated projects. The cases

involved diverse approaches to the sustainability challenge, and projects and programs designed to encourage multiple net benefits. These holistic approaches are consistently expressed in the uniqueness of the initiatives, identification of the root sustainability challenges, understanding of community needs, design of projects and partnerships to account for differences in knowledge and capacity.

For the GBFMN, this complexity is apparent in the core concept of fostering network building and connectivity – working directly with farmers on what they needed to encourage multiple benefits, share knowledge, form working relationships, connect rural and urban communities and encourage greater diversity within food markets.

> *Farmers and markets did not have to see themselves as competition, but rather, be allies in the market space, as all collectively shared the same thing, more developed local food systems (Anne Freeman (personal communication, November 16, 2021).*
>
> *~Anne Freeman, former Coordinator of the Greenbelt Farmers' Market Network*

Accounting for complexity is evident in directly connecting with farmers and market managers and in initiating the micro-grants project, the pandemic response, and the Neighbourhood Food Hub project. The GBMFN initiative recognized and understood that to enhance livelihood opportunities for farmers, bring communities together, and help people appreciate the Greenbelt, connectivity and fostering a network would be a key place to start.

For the ABOS, the goal is ecological restoration, achieved through engaging in education, outreach and research, to encourage connection to place and actively work towards cultural revitalization for the Alderville First Nation while understanding the complex nature of Indigenous ecological restoration. The interconnected nature of the initiative's ecological restoration work, research and outreach demonstrates how the process of restoration can be about appreciating the land as well as the communities who historically, currently and in the long term will steward the land. Key project components including the Mitigomin Native Plant Nursery, the citizen science programs, and the ABOS Ecology Center all support social, ecological, and cultural goals for the Alderville First Nations, non-Indigenous communities and partnering organizations.

The SPCI at its core reflects an intersectional understanding of the interconnectivity of challenges within land use planning and how solutions can work to engage effectively in Indigenous reconciliation and revitalization. Land use planning impacts how we live, how people engage with one another and what

is valued by a community. This approach to Indigenous reconciliation is unique. It relies on understanding that, to engage with one another more effectively, improve land use planning practices and encourage the use of different knowledge systems, initiatives must begin by forming relationships and appreciating the complexities of the community. The SPCI accounts for transdisciplinary nature of land use planning through their leadership and membership, accounting for the various fields that impact land use planning, in addition to Indigenous perspectives and knowledge.

> *"Land is what connects us."*
>
> *~Morgan Peters, Former Shared Path Consultation Executive Director*

An emerging pattern throughout each case study is the integral role of initiative leaders in fostering understanding and appreciating complexity. Leaders' connection to their communities can contribute to their in-depth understanding of complexity, informing their holistic approach. It can also drive the initiative forward, especially during periods of challenge and change. Leaders and founders of initiatives, including Anne Freeman, Rick Beaver, Carolyn King, and Clara Fraser, all exhibited a deep understanding of their community and its unique challenges. This understanding, plus their own expertise and time spent with their respective community, allowed them to shape the initiative to serve community needs more effectively, within the capacity of the initiative.

The success of early efforts to develop the GBFMN into a functioning intiaitve is in large part due to Anne Freeman's leadership and expertise,

> *In the words of Daniel Taylor (personal communication, November 22, 2021), "Anne definitely blazed the trail", a sentiment echoed by Burkhard Mausberg (personal communication, November 14, 2021), who describes Freeman as a "great leader".*
>
> *~Daniel Taylor, Co-Director of Greenbelt Markets, current Executive Director of the Neighbourhood Food Project*

The Rice Lake Plains Partnership came together through the welcoming of leaders in the Alderville first Nation, Rick Beaver and Dave Mowat to the ABOS land, as well as through Mark Stabb's efforts to ensure mutual respect to achieve collective goals of tallgrass ecosystems restoration throughout the region,

> *Elder Rick Beaver and Dave Mowat, the current Alderville First Nation Chief, played a critical part during this time in welcoming the Nature Conservancy Canada to observe and begin work*

> *on maintaining the grassland and savanna site. This initial relationship helped lead to a collective understanding between the Alderville First Nation community, the Nature Conservancy Canada, and the growing Rice Lake Plains Partnership. All parties agreed that to achieve landscape grassland and savanna restoration, collaboration would be key (Mark Stabb, personal communication, November 2, 2021).*
>
> *~Mark Stabb, Nature Conservancy Canada's Program Director for Central Ontario*

Leaders are also critical drivers for their initiatives, pushing forward through times of significant challenges. Each initiative explored underwent significant changes, challenges with funding, changes in leadership, taking on larger projects, etc., and leaders were instrumental driving the initiative forward and continuing support. The role of leaders emerging in the story of each initiative suggests the importance of their role in building a sustainability-enhancing initiative's ability to appreciate the complexity of a social-ecological system and associated challenges.

Even when mistakes happened, Clara Fraser reflected on the importance of pushing forward, especially given the importance of their work,

> *However, they kept on going, working to engage with that woman more throughout the rest of the workshop, understanding that you must keep moving forward. Especially for those of settler descent, there is a "responsibility to go the extra mile", to acknowledge mistakes and work to ensure they can move forward with continuing with building relationships. Mistakes can and do happen, but they must not be an excuse to hold people back from engaging with one another (Clara Fraser, personal communication, November 30, 2021).*
>
> *~Clara Fraser, Co-founder and Former Executive Director of the Shared Path Consultation Initiative*

Importantly, even when the SPCI struggled through its period of suspension, leaders within the organization pushed through, understanding its unique contributions that, while often unappreciated, are necessary and worth supporting,

> *"Spring is not only a time of revival, but also to acknowledge the efforts it takes to get through a frigid winter." (Shared Path Consultation Initiative, 2023c).*

8.1.2 Contributions to Community's Identity and Creating Diverse Opportunities

Next, each case demonstrates a distinct contribution to community capacity building through engaging directly with their respective community's identity, from which they support diverse livelihood and connectivity opportunities. With their underlying understanding of their communities and their appreciation of complexity, leaders of each initiative actively engaged with and embraced their communities' unique identity. By connecting with their communities' identity to connect people, each initiative creates unique opportunities to serve their community, supporting livelihoods and forming important social ties.

For this research, community "identity" refers to the characteristics that make up the collective socio-ecological aspects of the community the initiative serves. The key elements that distinguish their identity include the common interests and shared values of the members, historical significance of the land, the community's capacity, and resources. For GBFMN, the community's identity refers to the community of farmers' markets, connecting to the cultural association with agriculture and value of supporting local food systems the initiative connected with to engage farmers, urban and rural communities. The ABOS engages directly with their community's identity through their work on the land and its cultural and historical connection to the Alderville First Nations. Finally, the SPCI connects with the planning community and Indigenous communities through their shared values of engaging in sustainable land use planning.

Embracing their communities' unique identity is evident throughout the story of the GBFMN, from its formation to its current iteration under Greenbelt Markets. In the beginning, the approach for the GBFMN was to encourage markets and customers to be more closely engaged with farmers and the agricultural landscape of the Greenbelt. The Greenbelt, while a protected area, is culturally associated with agriculture, including the long record of local farming that supports their local communities. Daniel Taylor even referred to the Greenbelt and adjacent region as a "*cultural landscape of agriculture*" associated with small scale food production that people value. Building the network provided greater opportunity for knowledge sharing and access to resources. Market Manager Days provided specialized resources for managers in strengthening their markets and micro-grants supported unique ideas to improve farmers' operations. Under Greenbelt Markets, the initiative is further exploring how to support diverse opportunities, aiming to open farmers markets to more communities, including BIPOC farmers, underserved communities, and participants in online markets. All these opportunities are meant to support

new avenues for farmers' livelihoods and spur greater recognition of the significance of sustainable food systems.

Connecting to a community's identity is strongly evident with the ABOS initiative. A unique aspect of ABOS's approach is how the initiative renews and deepens cultural and ecological connections to the land, demonstrating the impact of fostering "sense of place" to encourage stewardship by those who visit and reconnection to culture for the Alderville First Nation. The work of this initiative further contributes to the collective shared values of protecting rare tallgrass prairie ecosystems in the Rice Lakes Plains region.

> *As Julie Henry (personal communication, February 23, 2022) explained, from actively working on the landscape, she has formed a kinship with the land, feeling connected to a place she knows is contributing to restoration in its own special way. For this initiative, the sense of place is directly tied to developing a relationship with the ABOS land itself, as well as the human and non-human elements and the communities that share in stewarding the land.*
>
> *~Julie Henry, Manager and Lead Biologist*

All the research, education and outreach that takes place on the land and through the ABOS initiative is rooted in reconnecting with nature, encouraging further stewardship and valuing Indigenous traditional ecological knowledge. They also support the Alderville First Nation's cultural revitalization, reconciliation, and engagement with non-Indigenous communities. Many ABOS programs and restoration steps create important new opportunities; however, the Mitigomin Native Plant Nursery best exemplifies ABOS' capacity for creating diverse community benefits and further openings for the Alderville First Nation, its partners, and the broader community. The greenhouse also addresses the larger challenge limited seed supply by providing a sustainable source of seeds for the initiative and potentially for other restoration projects in the region. Also significantly, it provides the opportunity for engaging in and applying Indigenous knowledge, practice and concepts regarding seeds, food, and medicines, and is self-supporting with long term, continuing benefits for the initiative.

> *However, for the ABOS team, the butterfly weed was an encouraging sign. As Gillian di Petta (personal communication, February 23, 2022) observed, it was one of "those little moments of when you realize the work is actually making a difference". The land itself, in its own way, had expressed gratitude for the work the ABOS staff do with each planting, removal and cultivation of seeds.*

~Gillian di Petta, Native Plant Ecologist, Nursery and Outreach Coordinator for Alderville Black Oak Savanna

The work of SPCI is not specific to a cultural landscape or a specific tract of cultural land. Instead SPCI is aiming to re-engage non-Indigenous communities, specifically planners and municipalities, with the value of land and connect Indigenous communities with current land use planning practice. The community identity SPCI is engaging with is the collective value planners, municipalities, community members and local Indigenous communities have for the unique land they share and their critical role in shaping social and ecological communities. Bringing people together through these shared values and knowledge of land use planning provides opportunities for all those involved to form the relationships needed to reconcile and collaborate.

> *Land is at the heart of the matter. Land is where Indigenous peoples' language is directly connected to, to the earth, the land. The fact that settlers are even here is because we were welcomed to this land and welcomed in with the understanding that we would enter into relationship respecting Indigenous laws (Clara Fraser (personal communication, November 30, 2021, 1:01:30).*

Planners are given the opportunity to meet with local Indigenous community members and Elders, to learn directly from them about proper engagement, consultation, and ways to develop better policies and practices. Indigenous communities are given a platform to share their knowledge and experiences, along with resources to engage with local municipalities and advance the public understanding of the intersectional impact of planning. For SPCI, the opportunities created are both social (mainly knowledge sharing, relationship building) and ecological (valuing land and connection to local ecosystems, addressing the gaps felt by all communities).

As is demonstrated by the three cases, community identity is expressed in many ways – as a group of people, a cultural landscape, an area of special ecological or agricultural lands, or a set of shared values and goals. While each initiative contributes to its community identity differently, all demonstrate the importance of creating unique, diverse opportunities for a community to further contribute to that identity and serve the needs of the community. Creating diverse opportunities allows for the initiative to increase capacities, to be more self-sufficient and to build social capital, further contributing to long term support of itself and the community being served. Understanding a community's complexity is the

foundation, as illustrated above. However, what this pattern illustrates is that actively designing the initiative around the community's unique identity can allow for opportunities to be created that serve the specific needs and values of a community.

8.1.3 Significance of Respectful, Deeper Relationships and Forming Networks

A prevalent theme throughout all cases is the significance of relationships, working partnerships, collaborations, and networks, to an initiative's ability to contribute to enhancing sustainability. These case studies further reinforce the understanding of social capital's beneficial role in facilitating contributions to sustainability. Support from partnerships and collaborators provides greater access to resources, new opportunities, and knowledge sharing, contributing to growing capacities. The research findings also reveal that establishment of respectful, deeper relationships is more significant than the number of social ties or what resources partners or collaborators can provide. In the three cases, the relationship-building processes differed, but all illustrate how taking the time to build stronger relationships can be more impactful to the work of a community initiative. These strong relationships emerged from a consistent effort from initiative leaders to take the time to build trust, understand one another's goals and shared values and create respectful partnerships. This consistency illustrates the significance of relationships to community initiatives, as they provide the foundation for initiatives to grow, seek out connections, understand their community and provide resiliency in times of challenge.

The GBFMN initiative needed to earn the trust of farmers and market managers before their work could be impactful. That meant taking the time to demonstrate their support and provide opportunities specifically for those communities. Over time, the network developed projects to create unique openings and resources for market managers and farmers, facilitating greater connectivity and now focusing on establishing connections among diverse communities to engage with farmers markets and their local food system. For ABOS, organizations like Nature Conservancy Canada and other organizations needed to build trust and demonstrate their respect for ABOS as an Indigenous-led restoration site. The Alderville First Nation weas open and welcoming to Nature Conservancy Canada in conducting research and work on their land. However, it took years of collaboration and understanding one another's shared values before ABOS would join the Rice Lakes Plains Partnership. In taking this time to build mutual respect and trust, those within the partnership benefit from the uniqueness of the ABOS, access to the site, seed sharing and project collaboration, while they continue to support the ABOS's continual growth, valuing the site as a model for restoration. Finally, for SPCI, the very basis of the initiative has been to build

respect and long-term relationships among municipalities, planners, and local Indigenous communities. In creating the space and platform to bring these communities together, SPCI facilitates growth of trust and respect, leading to long term relationships that can facilitate better engagement and decision making. While the impact may be small, at least initially, the approach is solidly rooted in Indigenous approaches to governance and decision making, which understand that relationships are foundational for planners and municipalities to learn and engage meaningfully.

As illustrated by ABOS and SPCI, when engaging in Indigenous-led sustainability efforts, there is an added responsibility of taking the time to understand and respect the special contributions of Indigenous leaders and communities. This lesson is especially critical as sustainability initiatives and research increasingly seek out partnerships with Indigenous communities. Indigenous leaders and communities are not merely stakeholders or partners on a project-by-project basis. Collaborating with Indigenous-led initiatives involves respecting Indigenous governing authority and understanding that the relationship should be long term, with time to demonstrate patience and earn trust. Meaningful engagement means understanding and valuing the Indigenous community, their history, culture, traditional knowledge systems, approaches to decision making and rights to self-governance.

The significance of relationships for community sustainability is further exhibited in the formation, building, and maintaining of an initiative-based network, best exemplified by the GBFMN at a broader scale, with ABOS and SPCI building smaller networks. The GBFMN was created to bridge a significant connectivity gap and facilitate a more efficient way of delivering resources, opportunities, and knowledge. This network helped to build connections among farmers, markets, managers and address the urban/ rural divide. The resiliency that networks provide was made most apparent in the pandemic pivot project, where access to online markets and technical information to operate them were made accessible through the network, connecting farmers and markets to customers, one another, and new livelihood opportunities. This broader network fostered the creation of “micro-networks”, where knowledge sharing took place within specific communities connected through the broader network.

For ABOS, its network is the interconnected organizations that make up the Rice Lake Plains Partnership, all brought together through the shared vision of protecting tallgrass prairie and oak savannas in the Rice Lake region. Participants in this small network share in resources, learning and outreach opportunities, funding, and collective action to engage in long-term regional stewardship. This network

demonstrates how First Nations and non-Indigenous bodies can work together to respect Indigenous knowledge, leadership and agency and achieve collective goals effectively.

> *As di Petta (personal communication, February 23, 2022) explained, seeds collected from this project will only be shared with those who understand and appreciate the sovereignty of the seeds, deserving of respect for the role they play in the future of restoration work. Due to the longstanding relationship with the ABOS, the Rice Lake Plains Partnership will be part of the small network of sharing beneficiaries receiving ABOS seeds for use in their restoration projects in the future.*

SPCI's network is specific to its members but, like ABOS', it connects likeminded individuals and organizations with a shared vision of improving Indigenous land use planning and engagement practices. This smaller network provides access to resources, important documents, facilitating knowledge sharing and connection across different disciplines. Whether broader across different communities, specific to a region or within the initiative, each network helps to enhance capacity through greater connectivity, supporting knowledge sharing, and providing resiliency.

An emerging lesson on the importance of relationships is the role high-capacity organizations play in supporting creative community initiatives. In the story of each initiative, the support of a higher capacity organization, often through funding and official partnerships or collaborations, facilitated significant growth of the initiative. The most notable organizations observed through this research were the Greenbelt Foundation and Nature Conservancy Canada. Given the nature and focal setting of this research, it is understandable the Greenbelt Foundation would feature prominently. However, beyond funding, the support from the Greenbelt Foundation was specifically identified by each initiative as being notable for their contributions to the initiative. The Greenbelt Foundation directly organized and continues to support the GBFMN to engage with farmers, provided greater awareness of the ABOS and added greater recognition to the role of Indigenous revitalization to the goals of the Greenbelt. The Greenbelt Foundation was specifically indicated as the boost SPCI needed during a period of significant challenge.

> *Fraser describes this initial and continued support from the Greenbelt Foundation that Clara Fraser describes as being one of the most influential events for the SPCI, as it was from this funding towards the Improving Municipal Engagement Program that sustained SPCI and allowed the organization to continue growing with some renewed stability, especially in a time when*

leadership was transferred to Morgan Peters (Clara Fraser, personal communication, November 30, 2021).

The Nature Conservancy Canada is more specifically relevant to the story of ABOS, playing an important leadership role in supporting the ABOS, working to establish trust and respect, and organizing the Rice Lake Plains Partnership.

All in celebration of what it represented for the community and for what lay ahead. As Mark Stabb (personal communication, November 2, 2021) said, it was an honor to be there that day and may have been a highlight of his career as it represented what the future could be of restoration and building relationships with local Indigenous communities.

These organizations provided necessary financial support, opportunity, access to greater resources, connectivity to like-minded organizations, experience, credibility, and a platform for sharing their message. Taking the time to seek out these initiatives and develop long-term working relationships benefits the smaller initiative's own growth, resiliency, and capacity. For the larger organizations, they benefit by supporting creative and innovative approaches that benefit diverse communities more directly who share in the same sustainability values and goals. These supporting relationships between smaller capacity and higher capacity organizations that are leaders in their field, are just as critical as those within a community to the success of community sustainability.

8.1.4 Ensuring Equity Through Amplifying and Empowering Diverse Voices, Knowledge, and Distribution of Benefits

Finally, the leaders of each initiative have focused their efforts on enhancing intragenerational equity within their respective fields, with the goal of enhancing prospects for widely shared long-term well-being in their community. At the core of each of the community initiatives explored in this research is a commitment to address a sustainability gap by contributing to social, ecological, economic, cultural, and other inequities within their community. The role of enhancing equity is approached differently in each initiative, whether as an area of focus to achieve its broader goals, or as an embedded aspect of the initiative. The value of equity is demonstrated through the inclusion of a greater diversity of perspectives and voices, initiative leadership and decision-making processes reflecting the needs of communities being served, and multidimensional lasting and shared benefits created by the initiative.

For GBFMN, the focus of equity enhancement is primarily economic and social, with the long-term impacts aiming to contribute to ecological and broader community capacity building. Efforts under Anne Freeman focused on creating greater livelihood opportunities in the agricultural industry for local, small-scale farmers and rural communities. Programs and tools were developed to serve farmers, managers, and markets, ensuring benefits were going to those who needed the support. Through Greenbelt Markets, the initiative began to take more direct measures to enhance social equity by increasing diversity among farmers, markets, and consumers, through the Neighbourhood Food Hub program, Equity in Farmers' Market Working Group and LaunchPAD initiative. All specifically aim to increase accessibility to farmers markets, addressing the visible gap Freeman and Taylor observed in farmers markets.

> *As Daniel Taylor (personal communication, November 22, 2021, 25:45) puts it best, "we're never going to grow sustainable food systems to the place they need to be if we are only serving one tenth of the population that can afford it."*

The GBFMN leaders recognized how their goal of supporting local food systems would not be truly sustainable without those systems reflecting the communities they aimed to serve and understanding the intersectional impact access to food can have on a community. Furthermore, they recognized the significance of going beyond acknowledging inequity within your field, to making enhancing equity a core part of the initiative's work.

The ABOS initiative best exemplifies embodying equity enhancement when engaging in socio-ecological sustainability. The complexity of enhancing social, ecological, cultural, and economic equity is reflected in the initiative's management and leadership, applying Indigenous traditional knowledge to restoration, and creating multi-dimensional benefits from their partnerships and programs. The leaderships and management of the site ultimately lies with the Alderville First Nations, exerting self-governance through decision making, restoration techniques, approval of programs, employees, and partnerships. This is significant given that, historically and currently, Indigenous communities have been excluded from engaging in restoration on their own land. Ecological restoration, informed by traditional ecological knowledge and stewardship of the Alderville First Nations and the Mississauga Ojibway peoples, are now actively practiced on the site, most especially through prescribed burnings. This initiative, while supporting broader conservation goals for the Rice Lake Plains region, restoration research and community outreach, ensures that benefits empower the Alderville First Nation. Given

ABOS's role in cultural revitalization, the initiative's net benefits first and foremost serve the ecological land and the community capacity of Alderville First Nation, best exemplified through the Mitigomin Plant Nursery Project.

> *Just as Knowledge Holders maintain the community's sovereignty over traditional and cultural knowledge, the traditional tallgrass food and medical plant seeds being collected represent community sovereignty in respect of seeds. Recognizing their autonomy as living beings with significant historical and cultural value to the Indigenous communities with the knowledge of how to collect and care for traditional native plants (Hill, 2017; Gillian di Petta, personal communication, February 23, 2022).*

The continuing success of the restoration site and growth of the initiative further amplifies and empowers Indigenous knowledge, practices, and leadership in ecological restoration, providing credibility and greater respect for their practice.

Amplifying and empowering voices of Indigenous communities in land use planning processes is the goal of SPCI, making their work most explicitly focused on equity enhancement as a contribution to sustainability. Encouraging meaningful engagement among the planning field and Indigenous communities is especially important given the role of land use planning in shaping long term sustainability goals, reconciliation, and Indigenous cultural revitalization. Reflecting the communities SPCI serves, Indigenous leaders and knowledge holders make up the leadership of the initiative. These leaders then shape the relationship building approach taken by the initiative, informed by Indigenous ways of thinking and engagement. Programs and partnerships specifically aim to amplify Indigenous voices and perspectives while encouraging knowledge sharing and relationship building, with the long-term goal of more meaningful engagement and effective land use planning processes. While the impact of SPCI has been limited by its funding challenges, what this initiative does exemplify is the importance of pursuing equity enhancement and the intersectional impact it can have on contributing to sustainability.

When enhancing equity is a central focus and better yet, an embedded aspect of an initiative's structure and mission, it provides greater richness and depth to the initiative's contributions to sustainability. With the recognition, respect and inclusion of voices, perspectives, and ways of understanding a community, each initiative demonstrated an enriched understanding of their community, those who were disadvantaged or excluded, what specific supports they needed and how their work could fill those gaps. Each initiative developed creative and unique programs, resources, and connectivity

opportunities whose net benefits could be shared with those in their respective community the greatest need of support. These efforts demonstrate a foundational understanding of sustainability – to be truly sustainable, the net benefits created must be shared equitably within the community, must serve current needs as well as those in the future, and must supporting those that conventional structures cannot serve effectively. Sustainability initiatives must often work outside conventional structures that further disadvantage communities within the socio-ecological system. With a more enriched understanding of the sustainability challenge and the community, greater capacities for finding creative solutions and approaches can be developed and applied.

Furthermore, the equity enhancements demonstrated by each case study can be understood as genuine and meaningful because equity is reflected in the initiative's leadership structures, long-term partnerships, and approaches to developing solutions. Leaders of ABOS and SPCI reflect the Indigenous communities they hope to serve. Their approaches to sustainability adhere to Indigenous ways of knowing, observed in the respect and use of traditional ecological knowledge for restoration, respect for long term goals, and relationship building as a basis for engagement. For GBFMN, acknowledgement of the need for diversity has led to the initiative centering diversity, and engaging in projects that push farmers markets into tools for community capacity building. Partnerships and collaborations in each initiative include perspectives and voices from diverse communities, ensuring that their needs are incorporated when developing solutions or programs. Genuine equity enhancement cannot be performative or on a project-by-project basis. As these cases illustrate, genuine equity enhancement is reflected in how equity is embedded in an initiative, in their actions, structures, partnerships and long-term goals for contributing to sustainability. Meaningful engagement and equity enhancement takes time, understanding and respect, but it is a process worth engaging in to enrich an initiative's contributions to sustainability overall.

8.2 Unique Lessons for Enhancing Community Sustainability

In addition to consistencies in contributions to sustainability apparent throughout each story of the case studies, there are also unique lessons that arose from the specific case that are important lessons to take away from this research. Given each of the case study's different sustainability typology, socio-ecological context, and experience, each initiative exhibited characteristics of enhancing sustainability that were unique to their story. While these lessons were observed in each case, they can still be insightful for how

community initiatives can contribute to sustainability, particularly if other initiatives share contexts or challenges.

First, throughout the story of the GBFMN, organizers and leaders of the initiative strongly exhibited innovative thinking. This was expressed through developing creative solutions using available resources, seeking out impactful partnerships, and openness to adaptation and change, for example, in projects like the Manager Market Day events, micro-grants program, the pandemic pivot, and the Neighbourhood Food Hub.

> *For Anne Freeman (personal communication, November 16, 2021), the micro-grants were among her favorite projects while working at GBFMN. This was in large part due to the diversity of farmers she was able to interact with, the number of projects that could be supported and how it encouraged innovative thinking from those engaged in their respective projects.*

Whether the available resources were the limitations of a farmers' capacity or equipment, ability to connect, physical spaces, GBFMN took the time to develop an understanding of the specific needs of farmers and markets and design projects to fit those needs. Additionally, GBFMN embraced technological innovation through their work with Local Line developing online markets for the pandemic pivot project, enhancing the resiliency of markets, and creating a new tool for supporting livelihoods. Community sustainability-enhancing initiatives can be innovative in their approach by following the example of GBFMN: understand what resources are available and making the most of them, take the time to understand the specific needs of their community, reach out to partners for support, including being open to new partnerships, embrace change and use it as an opportunity for something new to support the community.

Secondly, the case of the ABOS is exemplary in its potential for engaging small-scale transformation. Specific to the sustainability typology, the ABOS models community Indigenous restoration and land management in practice. Respecting Indigenous leadership, applying Indigenous traditional knowledge and fostering sense of place to encourage connectivity, the ABOS shows how this approach to community restoration is effective and delivers complex benefits to their socio-ecological community. The ABOS creates opportunities for the enhancing research, engaging local community and most significantly, supporting the Alderville First Nation through exerting self-governance, engaging in cultural revitalization and practice traditional ecological knowledge. The ABOS continues to show its success in their continual growth and enhancing capacity, taking on larger projects like the Mitigomin

Plant Nursery Project, becoming increasingly self-sufficient and creating new opportunities that reflect its Indigenous identity.

> *Julie Henry & Gillian di Petta, (personal communication, February 23, 2022) indicated how the ABOS initiative is one of the few of its kind in Ontario and Canada.*

Community initiatives, future restoration efforts, municipalities and larger capacity organizations can look to the ABOS and the Rice Lakes Partnership as an example for supporting Indigenous leadership and embracing traditional knowledge approaches in restoration and broader sustainability spheres. Embracing unconventional approaches and actively supporting Indigenous leadership and ways of knowing can push community sustainability forward, and even small, scaled sustainability can have a substantial impact.

Finally, the story of SPCI best exemplifies the importance of perseverance in continuing to push forward through times of significant challenge or transition. All initiatives examined continue to face challenges that limit their capacity, often related to funding and perhaps also to the nature of sustainability-related work. However, SPCI faced considerable challenges throughout its story, finding significant difficulties in securing funding and committed support, and even undergoing a period of suspension. This case best highlights the challenges many sustainability initiatives face, particularly those that are intersectional, Indigenous-led, and working on matters that existing authorities do not see as political priorities.

> *Frustrations around securing funding are best summed up by Clara Fraser (personal communication, November 30, 2021, 19:00), "It was frustrating because everyone we spoke with said this is a great idea, this really needs to happen, this is a gap. But we couldn't find people or organizations that would fund it." Despite the clear need and support for greater clarification in the consultation process and building relationships with local First Nations that SPCI was facilitating, there was a lack of commitment to support the organization.*

However, the leaders of SPCI recognized the importance of the initiative and its approach, having themselves experienced the problems caused by the considerable gap in knowledge engagement between Indigenous communities and municipal planners. Understanding the initiative's value and importance, leaders continued to push forward, supported by partners like the Greenbelt Foundation, despite continuing challenges. The initiative emerged from suspension, its resiliency attributable to some government support, SPCI's network and push by leaders including Carolyn King to continue its work.

An important lesson is clear, sustainability “success” is not always about the tangible impact made. Important successes can be achieved even by reducing gaps in communication and engagement on sustainability matters. While the absence of immediately tangible accomplishments can make the journey more difficult, process changes can ensure that the right voices are heard, resources are more equitably distributed and societal gaps are being closed.

8.3 Foundation for Contributions to Sustainability

Throughout the three case stories, understanding of complexity provided the foundation for the other success factors. Also, by understanding each community initiative worked directly with and the intersectional impacts and potential their work could have on the community and was able to design community-appropriate holistic projects, pursue diverse partnerships and ensure that the net benefits were being equitably shared. The strength of each sustainability contribution across the cases demonstrates their richness of understanding and appreciation of complexity and community. This is understandable given that complexity and appreciation of context are core concepts for sustainability and underpin understanding interconnectivity and the dynamics of system change and resiliency. It is this foundational understanding that has facilitated all the other contributions to sustainability in the three cases. Appreciation of complexity and context is reflected in how each initiative worked to understand the identifying character, needs and potentials of its community, and to build suitable social capital, livelihood opportunities, partnerships, and respectful network relationships with like-minded organizations within the and beyond the community needed for progress towards widely shared and lasting well-being.

Table 1: Summary of Case Study Initiative Insights and Lessons Observed through the lens of the Conceptual Framework

How Initiatives Can Effectively Enhance Sustainability					
Case Study Initiatives	**Framework for Contributions to Enhancing Sustainability**				**Unique Case Specific Insights**
	Understanding and Appreciating Complexity	Contributions to Community Sustainability	Community Engagement- Social Capital Building	Enhancing Multidimensional Equity	
Greenbelt Farmers Market Network- Greenbelt Markets - Developing and Supporting Local Food Systems	-Holistic approach to understanding the complexities and needs of farmers' markets collectively in the Greenbelt region -Reaching out to impactful stakeholders in local agriculture and embracing new partners to enhance capacity -Importance of having leaders who understand a community's needs to design and drive an initiative, especially Anne Freeman	- Re-engaging with the Greenbelt as an agricultural landscape, encouraging communities to value protecting farmland - Greater recognition of the role of sustainable food systems in urban communities -Connecting urban and rural communities through shared interests and experiences -Providing unique livelihood opportunities for local producers in agricultural field	-Importance of building networks to enhance connectivity, sharing information and resources to grow in capacity -Network building to enhance social capital and build connections among diverse communities -Forming broader networks can foster the formation of micro, informal knowledge sharing networks through increased connectivity among participants	-Enhancing livelihood and economic opportunities for those in agricultural field through expanding markets and customers for Greenbelt farm products -Engaging in projects aimed at enhancing diversity and representation within farmers' markets -Enhancing accessibility to farmers' markets and locally produced food	-**Innovative thinking throughout the initiative's story**: new ideas, projects, partnerships; making use of limited available resources through creative tools and projects (e.g., Micro-grants Project, Neighbourhood Food Hub Project, and partnership with Local Line
Alderville Black Oak Savanna	-Embracing and applying multiple perspectives and knowledges for	-Significance of fostering "sense of place", working to foster deep	-Significance of forming a network of like-minded organizations through	- The ABOS initiative, staff and projects are led and directed by the	-**Small scale transformation model for community ecological and cultural**

- Ecological Restoration of Rare Tallgrass Prairie and Savannas	designing projects and engaging in ecological restoration -Holistic approach to ABOS projects, ensuring multiple, interconnecting goals -Understanding and appreciating the interconnections among ecological restoration, cultural revitalization and community enhancement	connections to land to enhance social ties, re-connect those of the Alderville First Nation with traditional knowledge and encourage stewardship - Providing opportunities for the Alderville First Nations community through application of traditional knowledge, a gathering space, and projects to engage with traditional plants and medicines, especially the Mitigomin Plant Nursery	trust, mutual respect and reciprocity, especially the Rice Lake Plains Partnership seed-sharing with Mitigonmin Plant Nursery -Engaging with the community through holistic approaches through education and research -Importance of leaders being open to new connections with higher capacity organizations supporting unique initiatives -Importance of supporting Indigenous knowledge, leadership and agency in partnerships linking Indigenous initiatives/ First Nations and non-Indigenous bodies	Alderville First Nations community -Amplifying and empowering local Indigenous knowledge and culture through ecological restoration practices and projects -Diverse and lasting net benefits of projects designed to serve the land and Alderville First Nation community	**restoration:** multiple linked components of project and practices emphasizing Indigenous leadership, decision making, culture and use of traditional ecological knowledge
Shared Path Consultation Initiative - Indigenous Engagement in Land Use Planning	-Embracing and amplifying the intersectional impact of land use planning and Indigenous engagement for reconciliation -Uniqueness of initiative, directly	-Contributing to developing relationships among local Indigenous Nations, municipalities, and planners for long term benefits	-Significance of relationship building for long lasting meaningful engagement, collaboration and the importance of creating the space for this to occur	-Amplifying and centring Indigenous voices and knowledge in land use planning processes for more inclusive and equitable policy and decision making - Significance of Indigenous leadership,	-**Small scale transformation model for community ecological and cultural restoration:** multiple linked components of project and practices emphasizing Indigenous leadership, decision

	addressing a complex challenge within communities and across fields of application (regional planning, land and water management, education, consultation, etc.) -Emphasis on needs for greater institutional support for genuine Indigenous engagement and reconciliation	-Providing opportunities to bring people together from different fields, organizations, and Indigenous nations to discuss shared challenges and goals in planning and genuine Indigenous engagement	-Respecting and adhering to Indigenous ways of thinking by emphasizing relationships as a foundation for decision making -Providing a central source of resources for network members to access resources and facilitate knowledge sharing	ways of thinking and decision making applied when engaging with First Nations and other partners	making, culture and use of traditional ecological knowledge
Discussion Insights from Case Studies: What These Factor Tell Us About Enhancing Sustainability					
	Understanding Interconnectivity of Sustainability Complexities and Challenges of the Community	**Connecting to a Community's Identity and Creating Diverse Opportunities**	**Building Respectful, Reciprocal Relationships and Forming Networks**	**Centring Equity Through Amplifying and Empowering Diverse Voices, Knowledge, and Distribution of Multidimensional Benefits**	**Summary of Unique Lessons for Community Sustainability**
Summary of Contributions to Sustainability	-Initiatives designed with holistic approaches, understanding interconnectivity of the sustainability challenges and their community -Integral role of leaders in understanding complexity through	-Contributions to community identities in relationships to one another, the land and the opportunities -Providing greater opportunities for building social capital within and across communities	-Forming relationships with partners and collaborators built on trust, mutual respect and reciprocity leads to stronger working and long-term relationships that can enhance capacity, depth and forming networks	- Centering equity as an embedded aspect of their initiative's work- reflected in initiative leadership, community's that are being directly supported, sharing of resources, and maintaining ecological integrity -Amplifying and empowering diverse	-Innovative thinking in making the most of available resources, seeking unexpected partnerships, openness to change - Small scale transformation model for community ecological and cultural

Consistent Across All Case Studies	their in depth understanding their communities and as drivers for initiatives (in their creation, times of change and overcoming challenges)	-Creating and supporting diverse livelihood opportunities for their community-economic opportunities, social connections, connections to nature	-Impact of networks in encouraging connectivity, inter-learning, sharing resources and providing resiliency (growing in capacity, sustaining initiative) -Importance of high-capacity organizations in forming relationships with unique, but lower capacity initiatives	voices and perspectives provides greater richness and depth to understanding how sustainability can be enhanced across all dimensions (socially, ecologically, economically, culturally, etc.) -True sustainability recognizes how net benefits are to be shared equitably	-Unique approaches, outside of conventional sustainability practice: leadership representation, gaps in community needs, connecting communities together, etc. restoration- fostering sense of place and connectivity to the land and community -Perseverance through times of challenge and transition

Chapter 9. Conclusion: The Value of Exploring the Stories of Sustainability Initiatives in the Ontario Greenbelt

9.1 Research Objective and Summary of Findings

The purpose of this master's research paper is to examine how community scaled sustainability initiatives in and around the Greenbelt region are effectively enhancing sustainability within their communities. The broad aim is to contribute positive stories of sustainability enhancement, in response to the predominantly negative framing in the environmental and sustainability field. This objective is guided by the work of Bennett et al. (2016), in their exploration of possible pathways towards a "good Anthropocene" through finding positive elements of existing practices to provide guidance towards enhancing sustainability. The research has assessed three sustainability initiatives on the community and regional scale and has explored consistencies in their character and positive contributions. The following research questions have been addressed:

- How are community level sustainability enhancing initiatives in and around the Greenbelt region successfully achieving local social-ecological sustainability goals, with the definition of success being informed by concepts in literature that describe what is considered sustainable?
- What can these stories tell us about how characteristics of social ecological sustainability can be enhanced in local communities and what is the value of exploring these positive stories?

A literature review was conducted to develop a foundation of key sustainability concepts, complexity, resilience and transformation, the socio-ecological systems perspective, the role of equity and the understanding that Indigenous worldviews precedes Western science's more recent understandings. Concepts more specific to community sustainability were explored, including social capital, sense of place, and community engagement. These concepts provide the foundation for the criteria that would be developed for case study selection and conceptual framework. Additionally, literature into how community sustainability initiative "success" or effectiveness is achieved or evaluated was reviewed. However, this exploration highlighted the gap in knowledge in which research has been conducted and the need for further exploration.

The case studies explored were selected through criteria based upon proximity to Greenbelt, insights from the literature about what to expect from sustainability, uniqueness in their approach, resiliency, and available documentation. This resulted in the selection of the Greenbelt Farmers Market

Network, the Alderville Black Oak Savanna and the Shared Path Consultation Initiative. Given that sustainability is inherently complex in scale, range of interacting components, and community and social-ecological system contexts, the initiatives were diverse. A conceptual framework was developed to assess how the selected sustainability initiatives are enhancing sustainability in their given communities and region. This framework integrated insights from the literature on how community sustainability is effectively enhanced. Throughout the research, the conceptual framework was adjusted to achieve a more holistic, interconnected structure, reflecting insights that emerged when exploring each initiative's story. The presentation of each case study followed a storytelling structure, detailing the formation of the initiative, its programming, collaborative efforts and partnerships, growth in capacity as well as challenges throughout the journey. Storytelling was applied to communicate sustainability progress more effectively with a broader audience outside of academia and account for the interpersonal experiences of individuals involved in the work of the initiative.

Four key characteristics about how community initiatives were contributing to sustainability emerged:

1. Understanding Interconnectivity of Sustainability Complexities and Challenges of the Community
2. Connecting to a Community's Identity and Creating Diverse Opportunities
3. Significance of Respectful, Reciprocal Relationships and Forming Networks
4. Centering Equity Through Amplifying and Empowering Diverse Voices, Knowledge, and Distribution of Multidimensional Benefits.

All are detailed in Table 1, seen above in section 8.3.

The research results align with and reinforce insights from literature. Contributions to sustainability must account for complexity, connection to a community's specific context, use and build social capital, and distribute net benefits equitably. However, the research highlights the richness and depth of these sustainability contributions and their interconnectivity to one another. The sustainability-enhancing factors present throughout each of the initiatives are highly interdependent; the strength of each factor has relied deeply on the strong presence of the others. These real stories illustrate how sustainability is actively being achieved in our own local community. They show otherwise abstract processes function on the grounded and enriched our understanding of contributing to sustainability. Each initiative has contributed to enhancing sustainability by including all four of the factors listed above,

while appreciating their complex interdependencies. This research confirms that enhancing community sustainability is most effective when taking a holistic approach, embedding diverse perspectives to develop diverse, multidimensional opportunities. The most positive contributions resulted where clear sustainability gaps observed were closed through creative, community-specific approaches that embraced connectivity and community identity, built respectful relationships and distributed benefits equitably.

An unexpected insight from this factor is the critical role of leaders. They have been crucial contributors to consistency of vision and appreciation of community complexity, forming relationships, sharing expertise, and driving initiatives forward in times of challenge.

All three initiatives connected with their respective community's identity to establish diverse opportunities for supporting livelihoods and encourage people to care for one another, the broader community, and the lands through shared values. All initiatives also emphasized building respectful relationships and forming networks of trusting and respectful long-term partnerships and collaborations for sharing resources and knowledge. Especially important in these networks is the combination of communities with larger scale and capacity organizations that can support, add credibility, and provide a platform for small scaled, community initiatives.

All the initiatives also included contributions to equity in their mission. They embraced diverse perspectives and voices, including in initiative leadership. Amplification and leadership of Indigenous voices and perspectives was central to the ABOS and SPCI initiatives. The GBFMN placed more emphasis on expanding participation of usually underrepresented communities, but in each case, the effects strengthened capacities and ensured more equitable distribution of opportunities and other benefits.

In addition to the shared strengths, the accomplishments of each initiative merit recognition. The GBFMN applied impressive adaptive capacity and creative thinking, especially in helping the markets through the pandemic pivot through collaboration in the use of available resources and technical innovations and reaching new markets. The ABOS has demonstrated the process of gradually expanding a restoration and Indigenous empowerment initiative – from small-scale ecological restoration with Indigenous leadership and traditional knowledge to establishment of the Mitigomin Plant Nursery Project, which applies Indigenous knowledge systems, supports Indigenous cultural revitalization, creates unique livelihood opportunities and is poised to expand from supporting local restoration goals to serving as a regional source for restoration projects needing native seeds and plants. Lastly, SPCI has not only

established a viable approach to including Indigenous voices in municipal planning but also showed how to persevere through times of challenge and transition, continuing to push forward and support sustainability goals t and fill a necessary gap. The journey of SPCI is not uncommon from many sustainability initiatives, especially for those that are innovative intersectional.

9.1.1 Limitations of Research

It is important to account for the limitations of this research. The results of this research are specific to the Greenbelt context, the methodological process, and the conceptual framework used. Furthermore, this research was undertaken within the scope of a master's research paper, which provides flexibility in the exploratory nature and storytelling writing structure of the research but is less ambitious in methods, data collection and analysis than thesis research.

The research and its results are qualitative and exploratory, as is appropriate given the subjective nature of the research question to understand how an initiative contributes positively and effectively to sustainability. However, the research lacks the use of quantitative methods to support the research process and deliver measurable results that might be more credible. Use of quantitative tools could have included identifying measurable indicators of success for each initiative, and associated criteria for assessments of changes within the broader community as a direct response to the initiative's presence and work, such as community satisfaction, policy changes, living conditions, etc.

Additionally, this research is limited to the community initiatives selected for exploration. Inclusion of more cases could have illuminated new patterns or additional relevant factors, revealed more inconsistent results, or supported more confident findings. have shown a lack of consistency. Interviews were conducted with current or previous organizers of the initiatives, as they provided in-depth insight of how the initiative came to be, how projects and partnerships were designed and pursued. However, insights from program participants, general staff, volunteers, etc. could have provided further insights and a more complete range of perspectives on the impacts of initiative projects and partnerships. While this was an intention early in the process, it proved to be unrealistic, since the interview process was conducted during the height of the COVID-19 pandemic, which limited availability and connectivity of potential interviewees.

Furthermore, this research is specific to the work of community sustainability initiative efforts, but it must be acknowledged that pathways to sustainability require integrated efforts of all aspects of a community, including governance systems, economic institutions, and ongoing public engagement. The

cases in this research illustrate sustainability being enhanced within very specific community contexts, often within their specific sustainability typology. In contrast, sustainable transitions require the integrated efforts of actors in all systems that shape a community to genuinely engage with one another and commit to new, unconventional approaches. The results of this research could be insightful for people in other systems engaging in sustainability enhancing efforts, but they do not represent adequate guidance for engaging in sustainability in other contexts.

9.2 Areas for Future Research and Implications of Research on Literature and Understanding of Assessing Sustainability Enhancing Initiatives

This research contributed in-depth case studies of community sustainability enhancing initiatives, exploring the story of each initiative to illuminate consistent sustainability-contributing factors across diverse socio-ecological contexts. The methodology was guided by similar research in the literature that applies case studies to understanding sustainability, including Bennett et al. (2016) and Forrest & Wiek (2015). This method provided greater depth and an enriched understanding of the initiatives explored. The interdependent sustainability-contributing factors support the literature's continuing emphasis on exploring integrated, holistic approaches to enhancing sustainability. Much of the sustainability pathways literature focuses on achieving global or large-scale sustainability goals. The research reported here shows that the broader agenda can be complemented by exploring the contributions of community-led initiatives, given their more direct impact and ability to engage in unique approaches. Community sustainability can provide valuable learning opportunities and help to fill gaps in understanding what makes community-scaled initiatives effective.

Much remains to be learned about the factors that contribute to effective sustainability, most specifically factors that lead to long term, transformational change. The results of this research are insightful, but as discussed above, are limited to the impacts of three initiatives within a small-time frame and do not illuminate long term impacts or within a transition context. Future research should continue with more diverse and longer-term explorations of how community initiatives can contribute to lasting contributions to transformational change within their communities. Results of this research emphasize interconnections among factors in contributing to community sustainability. Future research should continue to better understand and account for interdependencies and complexities of contribution to sustainability. Unexpected patterns emerging from the cases studies, the critical role of leaders in community initiatives, the contribution of "sense of place", the foundational role of trusting relationships

and the support higher capacity organizations provide to community scaled initiatives are also worthy of future exploration.

The application of the conceptual framework used in this research also suggests potential areas of further research. This framework could be used to assess other initiatives within the Greenbelt region and supported by the Greenbelt Foundation. Initiatives with different sustainability typologies and themes not subject to this research, such as technological innovations, climate change mitigation and adaptation, renewable energy-based initiatives, etc., could be explored. Following such initiatives over time could allow for insights into promising means of reaching long-term goals, could provide a more credible understanding of each initiative's resiliency, impacts on their community and changes in capacity. Initiatives no longer in operation could provide further insights into persistent challenges that limit the growth and capacity of sustainability enhancing initiatives.

The framework and storytelling structure for case studies could additionally be applied in different regions that, like the Greenbelt, are dedicated to land preservation and dedicated to achieving sustainability goals. and have support from higher capacity organization(s) and the public. Applying this framework to different initiatives with similar contexts could provide further insight into whether the consistent factors seen in this research are observed in other initiatives with different sustainability themes but broadly similar contexts. Another area of interest for further exploration would be applying this framework to assess community initiatives that do not share a similar context to the Greenbelt, such as initiatives in regions not adjacent to protected areas, or areas with lower capacity or public will to support sustainability goals. Such applications could illuminate new factors contributing to sustainability, reinforce the factors observed in this research or further highlight challenges that limit initiative potential.

Furthermore, the conceptual framework constructed for this research could be adapted or improved upon for future research applications. The framework is relatively broad to account for the diversity of sustainability initiative typologies, lending itself to being adaptable. The framework was itself adapted during the process of this research to be more holistic to account for the interdependence of sustainability-enhancing factors that became clearer through exploration of the three cases. For the research reported here, the framework placed greater emphasis on complexity, parameters of a sustainable community, relationships, enhancing equity, to reflect insights from the literature, researcher interests and accounting for the interdependence of factors that emerged after exploring each case study. Potential adaptation could include greater emphasis on other sustainability factors that are categorized within the

broader aspects of this framework, such as technical innovation, governance, and economic opportunities. Adaptations of the framework could account for different socio-ecological contexts or sustainability themes of focus for future research and improvements to account for limitations in this research.

Beyond academic implications, the framework and results of this research could be useful for participants in enhancing sustainability, including other community sustainability initiatives and their organizers, larger capacity organizations, and municipalities. The framework can provide guidance for selection and design of potential sustainability initiatives, including deliberations on what to incorporate when organizing initiative projects and forming partnerships. The key insights for this research – the importance of encouraging appreciation of complexity, understanding one's community, respecting relationship building processes and embedding equity, as well as encouraging innovative, unconventional approaches – would be broadly applicable but would need to be elaborated and adjusted for particular contexts. Potential partners, including high-capacity organizations, private sector stakeholders, and municipalities could use the framework and insights from the research as criteria to guide decision making for providing support and engaging meaningfully with community initiatives. Initiatives that incorporate attention to the four key sustainability-enhancing factors could be considered for partnerships, funding, and long-term support.

9.3 Implications for the Role of the Greenbelt for Sustainability

Stories like the ones explored in the case studies can happen in any community. However, it is important to acknowledge the critical role the Greenbelt and the associated Greenbelt Foundation provides in supporting community initiatives and their contributions to enhancing sustainability. The Greenbelt provided the focal setting for this research due to its unique context as a protected region, dedicated to fulfilling provincial sustainability goals, cultural association with agriculture and proximity to a large, urban population. As described by Mausberg (personal communication, November 5, 2021), the Greenbelt as a protected land works to support provincial sustainability goals, while enhancing the idea of investing in local, small, scaled communities. The Greenbelt Foundation further provided a starting point for exploring unique sustainability stories.

As expressed by each organizer for their respective initiative, the Greenbelt as a protected land and the Greenbelt Foundation as an organization, contributed positively to their respective goals. Each initiative benefited from the foundation's support, sustaining them during times of challenges, allowing

them to grow in capacity, engage in more ambitious projects and gain credibility and recognition within their communities because of the backing of an established organization.

Through the Greenbelt Foundation, initiatives were provided financial support, accessibility to greater resources, connections to other organizations and networks, awareness, and a platform for sharing their message. This suggests that the Greenbelt, as a protected land and associated sustainability region with associated organizations, can foster sustainability and innovative regional thinking, supporting unique and creative community initiatives that contribute to enhancing sustainability through complex approaches. The protected Greenbelt lands provide a foundation for communities and leaders to engage in sustainability-enhancing initiatives, addressing local sustainability challenges for their community, while contributing to broader goals of the Greenbelt. The Greenbelt Foundation acknowledged the unique and creative approaches of these initiatives, providing support to help enable these initiatives to grow and better serve their specific goals for their communities.

This is not to say that the existence of the Greenbelt and Greenbelt Foundation is the only reason for these sustainability initiatives or their successes. While the GBFMN was formed as a direct response to the Greenbelt, the ABOS and SPCI initiatives were responses to unique challenges identified by community leaders and were later supported by the Greenbelt Foundation. However, what this does suggest is that the Greenbelt, as a regional example of enhancing sustainability, can foster and support sustainability thinking on the community scale. It can be considered an important contributing factor to the initiative's effectiveness and ability to contribute to sustainability. Ultimately, this research illustrates how caring for regions like the Greenbelt is important for achieving broader goals as well as for their immediate contributions to community sustainability. At this scale, more unique, unconventional approaches to sustainability can grow, be supported, and succeed, serving communities in ways current systems or higher capacity organizations cannot.

The Ontario Greenbelt is understood to be beneficial for the province, protecting significant ecological and viable agricultural land, protecting the wellbeing of its communities, and providing livelihood opportunities across several sectors as well as playing a role in urban transformation from sprawl to density. However, that has not shielded the region from potential threats of limiting its ability to protect land and serve long term sustainability goals. The Greenbelt, and the associated Greenbelt Foundation, is still subject to shifting political and public will. It has overcome many challenges since its establishment. An evident example from 2022-23, is the eventually positive result of many months of

advocacy and investigation organized by public, experts, journalists, and high-capacity organizations, to get the provincial government to reverse a decision to allocate Greenbelt lands to development (The Canadian Press, 2023). However, there continue to be proposals for policy changes and projects that will negatively impact Greenbelt lands and likely will be further challenges to the Greenbelt in the future. Therefore, telling more positive stories from this region will be important – to demonstrate the Greenbelt's contributions, reveal the unique ways in which community sustainability is being enhanced, and the interconnected multidimensional benefits that are result when they are given the space and support to thrive.

Finally, it is worth exploring further the contributions land protected areas, like the Greenbelt, have for fostering sustainability-enhancing initiatives within and adjacent to the region. Enhancing sustainability is a highly complex process and there are likely multiple factors contributing to Greenbelt's ability to support unique initiatives that may not be applicable in other socio-ecological contexts. This research is just one example of this correlation; however, understanding the potential contributions of these protected regions could provide insight into supporting sustainability pathways at and beyond the community and regional scales.

9.4 Why We Should Tell Positive Stories

Ultimately, the overarching purpose and motivation for this research has been to understand why we should tell positive stories of enhancing sustainability in exploring possible pathways to a more sustainable future. The most significant contribution to the literature this research hopes to provide is the value of telling positive stories of community sustainability, to illustrate how sustainability can and is actively being enhanced. This paper ends with the hope that sustainability research will continue to explore positive stories, to apply the lessons from these stories developing solutions for sustainability challenges, and foster optimism in working towards sustainable futures.

The value of telling the stories of GBFMN, ABOS and SPCI, from exploring the origins of their formation to where they stand today, lies in their unique insights and guidance for enhancing sustainability. Through this storytelling narrative and exploring the complexities of their respective community and sustainability challenges, the richness and depth of each initiative's experience is more holistically accounted for. Understanding these complexities provides further insight into the motivations for forming the initiative, the approach to designing multidimensional projects to serve their community, the partnerships and collaborations made throughout their journey and the challenges they had to face

along the way. The stories illustrate different approaches to enhancing sustainability across diverse socio-ecological contexts, capacity, sustainability themes and goals. Despite these differences and complexities, consistent factors of contributing to sustainability as well as unique lessons are exhibited, providing key insights for understanding how initiatives can effectively enhance sustainability.

The stories of the three initiatives further show how despite their creative approaches to sustainability, many still face significant challenges, largely due to difficulties with funding issues as well as the hesitations of established institutions, best exemplified in the story of SPCI. All the initiatives have struggled with limited capacity, relying on support from their community, municipalities, and higher capacity organizations. These stories and the experiences of their leaders highlight the challenges sustainability initiatives often face and why they need support to grow and enhance their capacity. Many initiatives, like those explored here, largely go unappreciated or unnoticed outside of their immediate communities, despite their contributions. Telling these stories more often should bring greater recognition to GBFMN, ABOS and SPCI, as well as encourage partners in sustainability to seek out initiatives like these in their own communities and provide the necessary supports, whether they be funding, resources accessibility, public support, and political will.

Enhancing sustainability at all scales involves highly complex and dynamic processes, requiring the integrated efforts of governance, economic and social systems to push institutional change that will allow for systematic shifts toward sustainability. The work of non-profit community initiatives is a small aspect of the systematic shift needed to enhance sustainability at all scales. However, they are significant in that they can engage in approaches that are creative and unconventional, being outside of typical structures. Community initiatives and their stories provide guidance for understanding potential sustainable pathways. Such bottom-up approaches will not always be applicable to all communities or larger scales, but they provide insights into navigating the complexities of sustainability transition and the key contributing factors to enhancing sustainability.

Aligning with the approach applied in Bennett et al. (2016), the approaches and lessons applied in these stories demonstrate grounded pathways to enhancing sustainability. Telling the stories illuminates approaches for other sustainability leaders, communities, municipalities, and partners in contributing to sustainability. With more of these positive stories, the narrative of sustainability can shift from bemoaning the problems to moving with optimism towards community sustainability in ways that are innovative, engaging, effective and actionable.

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Appendix A

Interview Guide

Interview Guide for Interviewees

Introductory Statements

- Review Purpose of the Research**:**
    - The purpose of this research is to examine examples of successful, sustainability enhancing community level sustainability initiatives to highlight creative and forward-thinking approaches being conducted in our local communities, specifically within the Greenbelt region of Ontario. Each of the case studies and their associated broader networks focus on a different element of sustainability present in the Greenbelt, local food systems, ecological restoration and Indigenous collaboration, with a focus on municipal planning
- Reviewing permission to record interaction
- General interview guide approach
    - Format will largely be semi-structured, I have a list of questions to provide us a guide for the information needed for the interview, but they will largely be open ended, provide all the information you want
- Indicate that interview will be scheduled for an hour
- You have my email in case you have any questions later
- Do you have any questions for me before we get started?

Main Interview Questions:

1. What was your role at *name of initiative*? (*Intro question*)
2. What was the motivation for forming the *name of initiative*?
    a. What was the culture like in the early days of forming the *name of initiative*, in terms of support or lack thereof, opposition/ support for its goals of supporting local agriculture systems, pushback from farmers?
    b. How did this evolve throughout your time with the initiative?

3. Did *name of initiative* have any notable partnerships or collaborations with other organizations doing similar work in the region to support the initiative and grow in its capacity?
    a. If yes, who were they and how did they contribute to the work of this initiative?
4. How did the *name of initiative* go about engaging with the community or potential partners/collaborators within the field or those outside the field?
    a. What did you consider the most challenging aspect of building relationships?
5. Having directed the *name of initiative*, observing the initiative's capacity and grow over time, what would you consider to be:
    a. the main **strengths** of *name of initiative*
    b. the main **limitations** of the *name of initiative*
6. In response to some of the limitations of the initiative or challenges you identified, what would you say are some of the more common tradeoffs that this organization needed to make to account for such limitations?
    a. Follow Up: What are some strategies/ approaches used by organizations in this field to best avoid these trade-offs, or adapt to them to fulfill initiative/ organization goals as effectively as possible?
7. Are there factors or characteristics specific to the Greenbelt region– the planning regime, the people, the resources available, the culture, etc. – that you feel has helped to facilitate the work or growth of the initiatives?
8. Are there any experiences from your time working with the *name of the initiative* you feel demonstrates the impact this work has on individuals and communities involved in the associated initiative/ project?

Closing Remarks:

- Is there anyone that you think I should reach out to next who would be beneficial to speak to, especially concerning the *name of initiative*?
- Do you mind if I contact you again if I have any follow-up or clarification questions?
- Thank you for your time in speaking with me!