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# Sacred harvest, sacred place: Traditional land uses and food in Wasagamack First Nation

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## Abstract

This paper tells a place-based story of food in the Wasagamack territory in Manitoba, Canada, through traditional land-use map biographies with 49 active Indigenous harvesters, video interviews with eight key informants, and input from community workshops. Although harvesters in Wasagamack First Nation do not depend solely on wild foods, map biographies show that traditional land uses remain important and occur throughout their ancestral lands. This land remains pristine, with

virgin boreal forests, natural flowing waters, and abundant wildlife, and occupied almost exclusively by Indigenous people who continue to harvest wild foods and speak their language fluently. All Wasagamack people interviewed ( $N=57$ ) regarded the land to be perfect as the Creator made it, and sacred; they did not want development interfering with their traditional practices of hunting, gathering, and fishing and with their land-based spirituality, despite the community economic and infrastructure poverty. In opposition, the province of Manitoba, which governs natural resources, favors mining and settler development and is unsupportive of traditional stewardship of the land. Mapping traditional land use enabled the exploration of the cultural and ecological dimensions of Wasagamack

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food over time and territory, providing an important tool for food researchers to explore food sovereignty, wild food access, and foodsheds.

### Keywords

Foodshed, Traditional Land Use Mapping, Wild Food, Food Environments, Food Sovereignty, Indigenous

### Introduction

The people of Wasagamack First Nation in Canada connect intimately with their ancestral land through food, as well as through history, environmental stewardship, culture, language, and ancestral knowledge. This fly-in community in northeastern Manitoba, like many remote Indigenous communities in Canada, obtained all their basic needs, including food, from their territory until the middle of the 20<sup>th</sup> century (Kuhnlein et al., 2006; LaDuke, 2002; Paci, Tobin, & Robb, 2002). But does harvesting wild food play into the continuing food story of the Wasagamack people? This paper is unique in mapping traditional land use of an Indigenous community to explore the cultural and ecological dimensions of food over time and territory.

Land-use mapping has been employed by Indigenous communities to tell “their ‘story’ of their use of land and resources” (Calliou Group, 2010, para. 9) but not by food researchers to describe foodsheds, food environments, and wild food access. Traditional land-use studies counter-map Indigenous territory in order to challenge industrial or settler development in courts of law (McIlwraith & Cormier, 2016). For example, the Inuit Land Use and Occupancy Project helped the Inuit reclaim sovereignty of the Northwest Territories, through comprehensive land claims (Freeman, 2011).

The possibilities for land-use mapping were explored to inform the Wasagamack vision of land-use planning and Indigenous food sovereignty. Indigenous food sovereignty involves First Nation people, including youth (Frouse, 2018), in defining their “strategies and policies and develop[ing] food systems and practices that reflect their own cultural values around producing, consuming and distributing food” (Coté, 2016, p. 8). Indigenous food sovereignty is not only contingent on the ecological

integrity of their lands and waters for the sustainability of wild foods but also demands that people have a strong cultural foundation of Indigenous knowledge (Cidro, Adekunle, Peters, & Martens, 2015). Indigenous knowledge is expert knowledge of animal, plant, and fish habitats to live sustainably on their ancestral territory through hunting, fishing, trapping, gathering, and gardening. Indigenous knowledge and practices are required for these activities, as well as ceremonies (Ballard, 2012). Indigenous knowledge is embedded in language and in *aki*, the *Anishinimowin* word for earth, inclusive of land and water (McLeod, 2014). Awareness of place shapes the knowledge, skills, and lifestyles required for sustainable wild food acquisition (Ballard, 2012).

For wild food to be harvested sustainably, the foodshed must have ecological integrity (Friedmann, 2014). Foodshed conservation protects the source of food, similar to how watershed conservation protects the drinking water supply (Friedmann, 2014). The foodshed encompasses the people engaged in harvesting, transporting, preparing, and eating, as well as the places these occur.

This paper tells the Wasagamack First Nation’s traditional food story, from precolonial times into the future, regarding their vision for their ancestral lands. After introducing the community and describing the study methods, this paper constructs a place-based story through interviews, traditional land-use mapping results, and research literature. A systematic literature review found only limited studies of food access and environments in rural and remote northern communities (Health Canada, 2013). In particular, wild food access by Indigenous peoples is rarely researched (Health Canada, 2013; Parker, Burnett, Hay, & Skinner, 2018). Viewing traditional land-use studies through a food lens has the potential to expand the literature in the under-researched area of Indigenous food sovereignty.

### The *Anishiniwuk* of Wasagamack

Oji-Cree is the term used by settlers and the government to describe the Island Lake dialect spoken in Wasagamack First Nation and its people (Statistics Canada, 2016). However, *Oji* is considered a derogatory word, meaning a fly or its offspring, the

maggot, so this term does not appear in this paper. *Anishinivuk* is used for Island Lake people in line with a recent press release from the Chiefs of the four First Nations in Island Lake: “We are not part Cree or part Ojibwe, we are *Anishinivuk*, a distinct and sovereign nation with rights that deserve to be respected” (*Winnipeg Free Press*, 2018, para. 5). This paper applies *Anishinew* for the communities in Island Lake and *Anishinimowin* for their language (Froese, 2018). Most people (64%) in Wasagamack identify *Anishinimowin* as their mother tongue and as the primary language used at home and some workplaces. As *Anishinimowin* names say a great deal about the history and geographical attributes of the location, name origins were sought out as part of this research.

Wasagamack is one of four *Anishinew* communities in the Island Lake area within the vast swath of roadless communities on the east side of Lake Winnipeg near the Manitoba-Ontario border. Wasagamack means “bay” in *Anishinimowin*. Island Lake was described as being as remote as the North Pole before air transport (Fiddler & Stevens, 2003), with 30 portages on the canoe route from Norway House to Island Lake making motorboat travel impossible (Hallowell, 1938). Wasagamack remains roadless today and is only accessible by winter road, plane, or canoe. By ice-road to Winnipeg, the largest urban center in Manitoba, is approximately 1500 km (930 miles), taking 17 to 20 hours, or, by plane, approximately 610 km (380 mi), taking 1.5 hours and CA\$370 one-way. Plane travel is further complicated and expensive as Wasagamack lacks an airport, requiring 12 kilometers of open water travel from the airport at St. Theresa Point. During freeze-up and break-up, getting to the airport requires a helicopter trip, costing as much as CA\$700 one-way. A connecting road to an urban center or even the other reserves is not expected to start construction until 2050.

Subsistence harvesting provides a mixed economy in Wasagamack, augmented with money from government social programs. Social services available in the community consist of a federally operated nursing station, one school for K-12 students, a band office (the band is the basic local unit of government in the Canadian First Nation system), and a postal station. The community has a gas sta-

tion, and in 2019, as part of this research, a housing and sawmill enterprise was formed, Mitik 299 Corp. However, Wasagamack has neither a grocery nor any other store, nor any bank, restaurant, hotel, etc. The only grocery store in the area, the Northern Store, is located on a separate island away from Wasagamack, requiring a CA\$5 boat trip to buy costly food, much of which is ultra-processed.

The Wasagamack First Nation reserve spans 80.9 square kilometers and is home to a population of 1,403 people, residing in 285 houses (Statistics Canada, 2016). At 4.9 people per house, the average household is more than twice as crowded as the Canadian average at 2.4 people (Statistics Canada, 2016). The median income in Wasagamack is CA\$11,499, which is only one-third of the average Canadian’s income of CA\$34,204 (Statistics Canada, 2016).

### **Methods for Telling the Place-Based Food Story of Wasagamack**

This study started with a request in 2011 by the Wasagamack Chief and Council to Dr. Thompson to assist with a traditional land-use and occupancy study. In response, Dr. Thompson with Wasagamack and the other Island Lake communities applied successfully for funds for the *Mino Bimaadiziwin* Land-Use Project. Funding was obtained through both the Social Sciences and Humanities Research Council (SSHRC) and Wabanong Nakaygum Okimawin (WNO, “East-Side Planning”) to employ two local community coordinators as well as graduate students to research traditional land use. A partnership grant further developed this work.

Two approaches were employed to explore the place-based food story of Wasagamack: documenting the story of Wasagamack in Island Lake, and mapping traditional land uses on ancestral territory. Emma and Victor Harper, with Dr. Thompson, developed the historical timeline for Island Lake, verifying drafts with many Elders and in community workshops. Without a recorded, written history available for the region, interviews provided oral histories of events, augmented by references to Island Lake and Indigenous food in the literature (Fiddler & Stevens, 2003; Hallowell, 1938; Hughes, 1979; Indian & Northern Affairs Canada, 1969;



Sinclair, 1999; Thapa, 2018; Tough, 1997; Wasagamack First Nation, 2010). Eight key informants from Wasagamack (chiefs, councilors, Elders, researchers) consented to share their interviews about land-use planning on video and disclose their names. Participatory research (mapping, videos, workshops, etc.) involved the University of Manitoba's Dr. Thompson, Keshab Thapa, Jerome Harper, and Veronica Wojtuszczyńska working alongside Wasagamack First Nation community coordinators.

Regarding mapping traditional land uses, the method was developed by seven Island Lake community coordinators with Dr. Thompson and Terry Tobias during a 60-hour workshop (Kamal & Thompson, 2014; Thompson, Rony, Temmer, & Wood, 2014). The methodology was designed to provide the highest standard of evidence in court for First Nations to reclaim their ancestral territory (Thompson et al., 2014; Tobias 2000; Tobias 2009). The Island Lake Traditional Land Use and Occupancy Survey Data Collection Manual (Kamal & Thompson, 2014; Thompson, 2013; Thompson et al., 2014) documents the rigorous and comprehensive protocol. The research ensures that Wasagamack First Nation Owns, Controls, gains Access and Possesses (OCAP) the data, following OCAP First Nations research ethics, in a way that built Wasagamack community capacity (Wilson, 2008). In addition, all interviewees signed the University of Manitoba ethical protocol consent form.

The Wasagamack land-use coordinators, Johnathon and Victor Harper, undertook traditional land-use map biographies with 49 active harvesters, usually in *Anishinimowin*. These coordinators asked the 67 questions in the written manual and conducted interviews according to the ethics protocol (Thompson et al., 2014). The 49 people interviewed included harvesters in each of the seven Wasagamack traplines, which cover all the major lakes in their ancestral territory, to ensure that the sample was geographically representative. The ages of the 57 interviewees (49 harvesters and 8 experts) were between 25 and 80. All but five were men, partly because of gender bias in the community, which considers trappers, fishers, and hunters to be appropriate roles for men. Generally,

women engage in harvesting activities too, although over a small area, but have more significant roles than men in food storage and preparation. Harvesters recorded their successful harvests from hunting, fishing, trapping, and gathering for family sustenance on hard copies of maps at the 1:50,000 scale and signed written consent forms to share their data sites and information anonymously. The interview process took half an hour to a few hours.

The harvesting sites from each map biography were digitized into the geographical information system (GIS), ArcGIS 10. Although each harvester received a copy of his/her map biography, only 33 of the 49 harvesters underwent a verification interview with Norah Whiteway. Participants generally reported that their map biographies were accurate, without any wrong or missing data; only one map needed slight corrections. Furthermore, at many different events and workshops, feedback was obtained about summary maps, thematic maps, videos, reports, and a historical timeline of land use. Table 1 summarizes the activities resulting from this research.

Mapping the foodshed was done by combining the government trapline administrative area with the 49 community members' harvesting sites and a radius of 14.25 km (8.85 miles) around moose harvest sites to account for habitat (Novak, 1981). As moose have the largest habitat (638 km<sup>2</sup> or 246 mi<sup>2</sup>) of any land animal hunted for food in the boreal forest, this habitat area should account for the habitat of all other animals (Novak, 1981).

### Findings of the Place-Based Food Story of Wasagamack in Island Lake

The timeline (Figure 1) identified four historical periods: (1) pre-colonial *mino bimaadiziwin*, (2) colonial times, (3) reclamation of *mino bimaadiziwin*, and (4) post-colonial *mino bimaadiziwin*. Because the families in Wasagamack territory were governed by the Island Lake band until 1969, the first section tells the broader story of Island Lake from pre-colonial times through most of the colonial period. After 1969, the story focuses on Wasagamack First Nation but within the broader context of the Island Lake region.

**Table 1. Products and Processes to Document Traditional Land Uses in Wasagamack First Nation (FN)**

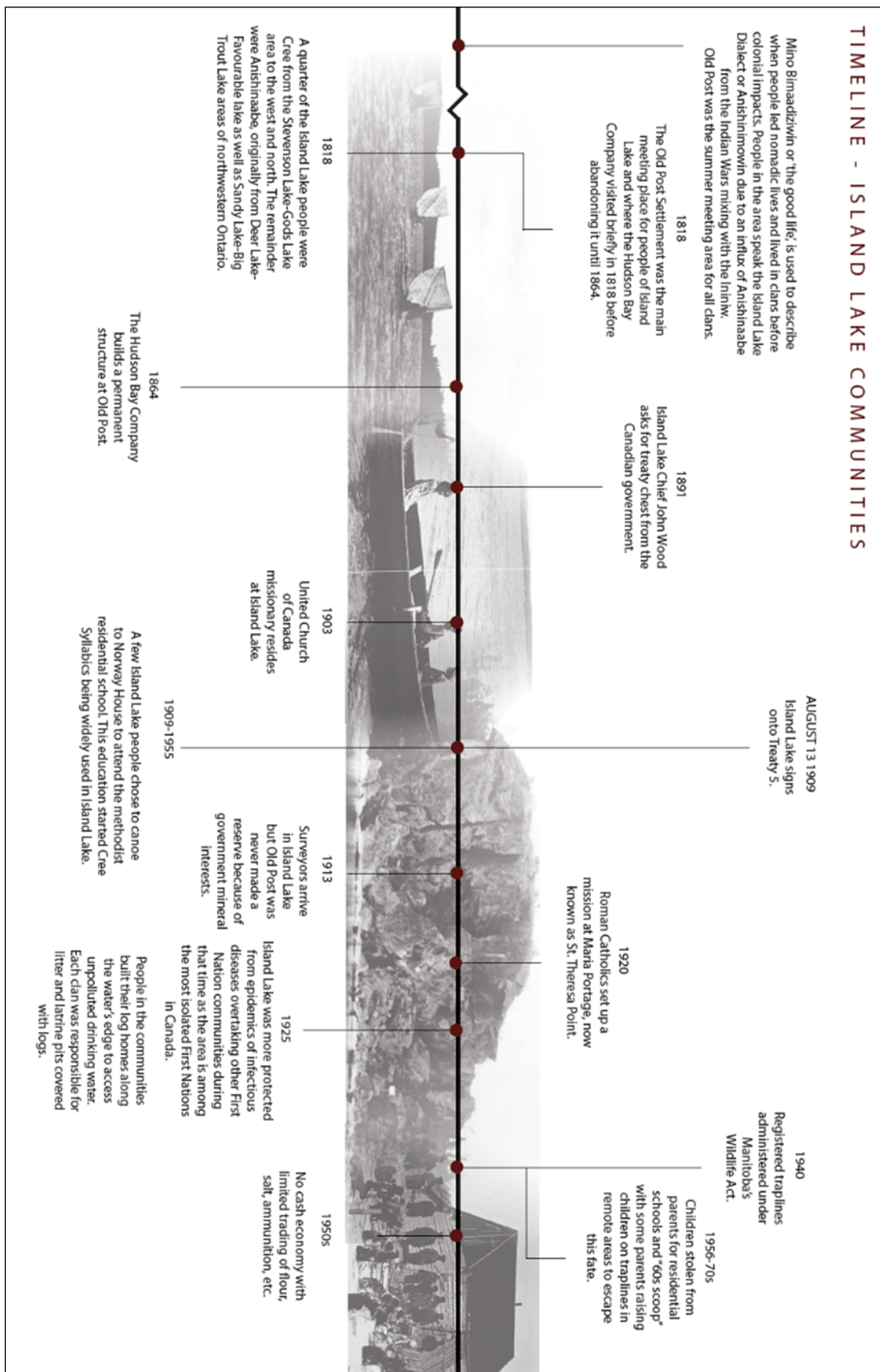
Activities	Products and Processes of Traditional Land Use Research
Capacity-building on land use	<ul style="list-style-type: none"> <li>Two coordinators from Wasagamack First Nation (FN) trained and developed a method with written interview protocol in a 60-hour workshop in 2012.</li> <li>Annual land use workshops and presentations in the community from 2012 to 2017.</li> <li>Community people attended FN traditional land use training programs in 2016 in Thunder Bay (four people) and 2017 in Winnipeg (nine people).</li> </ul>
Map biographies	49 traditional land use and occupancy maps were developed that considered trapping, hunting, fishing, berry picking, medicinal plant gathering, timber harvesting, community and recreation areas, and youth training areas, as well as sites (cabins, campsites, old community and gathering sites, burial sites, spiritual sites, special sites).
Participatory video documentary	Eight people were interviewed to develop a video documentary of community voices on their vision for land use of Wasagamack FN ( <a href="https://youtu.be/i4p9dpuBT4A">https://youtu.be/i4p9dpuBT4A</a> ). Many other videos of Elder workshops and interviews were taken to preserve this information, such as <a href="https://youtu.be/NODQq7ZiRhU">https://youtu.be/NODQq7ZiRhU</a> , but not all are published.
Database of digital maps	An electronic database was archived with all traditional land-use data points and <i>Anishinimowin</i> names through community coordinators, Island Lake Tribal Council, and the University of Manitoba. The <i>Anishinimowin</i> place names were provided to the provincial toponymist for official recognition.
Reports and maps for feedback	Reports, maps, and timeline were presented for verification to Chief and Council, and at Elders gatherings and schools from 2013 to 2017. After four drafts, a final coffee table book copy is going to press in 2020 for Wasagamack participants with the findings, historical timeline, and maps.

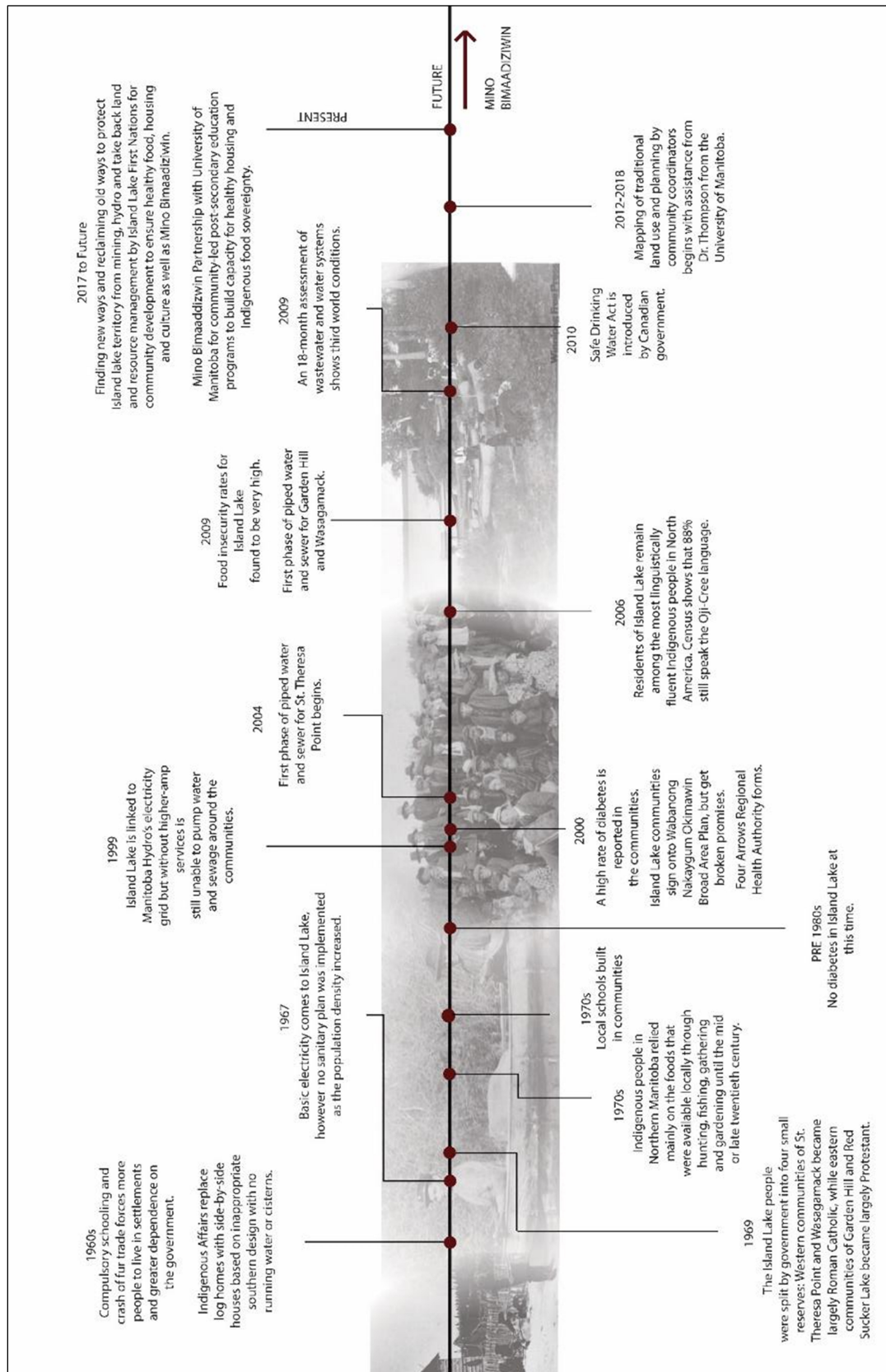
### Pre-colonial *Mino Bimaadiziwin*

*Mino bimaadiziwin* is the term Wasagamack people use to describe the spiritual and good life that people led in pre-colonial times, which led to a general state of well-being and food security. People in Island Lake ate a local wild food diet, which had many health benefits. The merits of the wild food diet are apparent from the archeological findings of ancient Indigenous skeletons with excellent dental health and without arthritis despite having reached advanced ages (Price, Roburn, & MacKinnon, 2009). Kuhnlein et al. (2006) report significant pharmacologic and therapeutic benefits of wild foods, which are low in unhealthy fats, sodium, carbohydrates, and sugar but high in complete proteins and other nutrients (Batal et al., 2018). These foods protect against chronic diseases, such as diabetes, cancer, and cardiovascular diseases, as well as many other negative health conditions such as obesity (Thompson, Gulruhk, Alam, & Wiebe, 2012). Other physiological benefits are obtained from the aerobic and muscle-building activities involved in harvesting, gathering, and preparing wild foods. Although nature has cycles of productivity, wild foods were generally abundant in pre-colonial times, providing a good life in Island Lake.

Spiritual practices were an essential part of

*Anishiniwuk* culture. Conservation practices were applied to reduce pressures on wildlife, with the *Anishiniwuk* population dispersed in small family camps across a wide area and traveling extensively to harvest (Wasagamack First Nation, 2010). Sharing wild foods, harvesting, and performing ceremonies on the land are pivotal to Indigenous culture (Cidro et al., 2015; Wilson, 2003), as part of a complex social system to balance sustaining the earth with the needs of people (Hughes, 1979). In exchange for Indigenous people stewarding, harvesting, and learning from *aki*, the earth was believed to regenerate abundance (LaDuke, 2002). In this world view, practices include making an offering before harvest for reciprocity, taking only what one needs, and then offering a feast of the first harvest. Reciprocity ensures sustainability and balance, as does speaking to the *Anishiniwuk* relatives who have hoofs and wings. An Elder stated, “When I was young, all the animals talked, just like in the cartoons, providing teachings.” Communicating directly with animals provides useful information to protect both animals and people. Jackson Beady, the famous woodlands artist from Island Lake, explained his painting being about birds keeping canoeists safe by warning them of impending storms before the water turns rough on the lake (Hughes, 1979).

**Figure 1. Historical Timeline of Wasagamack within the Island Lake Context (written by Harper, Harper, and Thompson)**



Nature and animals, as well as Elders, are considered the most important teachers by the *Anishinimuk*. The land and all life are considered to be gifts from the Creator. The relationship between *Anishinimuk* and animals is not merely predatory but is relational and complex. The Creator ensured the survival of people through negotiating a sacred pact on the part of animals and plants to sacrifice themselves for food, clothing, and housing in exchange for humans stewarding and respecting the land (Hughes, 1979), as illustrated by a story about a moose (Bruchac, 1992). The story begins in a lodge, which signifies the spirit realm, where a young bull moose agrees to be sacrificed in answer to the *Anishinimuk* hunters' prayers for success in their hunt in order to feed and clothe their families. The story ends with the *Anishinimuk* eating the moose and showing the body respect:

After they [the Indigenous hunters] killed [the moose], they thanked him. . . . That night, the young bull moose woke up in his lodge among his people. Next to his bed was a present given to him by the human hunters. He showed it to all of the others. 'You see,' he said, ' . . . It is right for us to allow the human beings to catch us.' And so, it is to this day. Those hunters who show respect to the moose are always the ones who are successful when they hunt. (Bruchac, 1992, p. 72)

The clan system, with each clan represented by a distinct animal, enacts a close family-like relationship between humans and animals. Emma Harper identified the main clans of the Wasagamack people as the bear and wolf clans, who intermarried with moose, eagle, sucker, pelican, crane, sturgeon, caribou and other clans. People from the same animal clan are considered to be family, even when not related by blood. Identifying so strongly with nature and wildlife results in active stewardship to protect *aki* and their relatives, the animals. These relations not only maintain the cosmological and spiritual balance in nature but the ecological balance and their food supply. These spiritual and cultural practices were challenged during the colonial period, however, with negative impacts on both ecology and food supply.

### *Colonial times*

Colonial policies and the fur trade fostered overhunting and land-use changes. Before the Island Lake region ever saw a European, migratory birds declined in their area and Indigenous refugees arrived. *Anishinaabe* people moved to Island Lake to seek sustenance and peace when overhunting by Europeans endangered many species, including bison, lake sturgeon, trumpeter swans, whooping cranes, passenger pigeons, Canadian geese, and ducks. Before the Europeans settled the west, plains bison and wood bison numbered an estimated 30 million and 170,000, respectively. By the late 1800s, plains bison no longer existed in Canada, and wood bison numbered about 200 (Olson, 2019). Because Indigenous people depended on wildlife for food, shelter, tools, and clothing, they were impoverished by the demise of abundant wildlife, such as the bison, particularly in southern Manitoba and Ontario, but to a lesser extent the north, where there were moose and caribou to live on. However, not only wildlife was under attack; the *Anishinaabe* and other Indigenous peoples moved west and north to avoid armed conflicts with settlers. The Cree that originally inhabited Island Lake welcomed the *Anishinaabe* people from the western Great Lakes and Boundary Waters region in the late 1700s. Island Lake was a refuge, then untouched by European contact, with its remoteness delaying both colonial forces and the spread of communicable diseases (Hallowell, 1938).

With Hudson Bay Company (HBC) came the first Europeans to Island Lake for the fur trade, bringing the idea of land ownership. In 1670, a charter by the British Crown gave HBC control over Island Lake as part of Rupert's Land (Tough, 1997). Hudson Bay Company claimed exclusive rights to trade and to colonize all lands with rivers flowing into Hudson Bay. Rupert's Land was an enormous territory, including northern Québec and Labrador, northern and western Ontario, all of Manitoba, most of Saskatchewan, south and central Alberta, parts of the Northwest Territories and Nunavut, as well as small sections of the United States. This takeover was based on the doctrine of discovery and *terra nullius* (Latin, "empty land"), although in reality, the land was fully occupied at the time by Indigenous peoples. In 1818 HBC

briefly visited Island Lake but abandoned the area almost immediately, then returned in 1864 to Old Post to build a permanent fort to barter furs from local people for goods, including sugar, alcohol, blankets, rifles, and flour.

The fur trade played havoc with food security and *mino bimaadiziwin* in Island Lake (Tough, 1997). The fur traders disrupted the *Anishininuk* way of life by bringing European diseases, for which *Anishininuk* had no immunity. HBC undermined *mino bimaadiziwin* by creating dependency on alcohol and unhealthy food as well as encouraging overhunting. For example, demands for European fashion crashed beaver populations (Tough, 1997), which fell steadily from 6,000 beaver pelts traded in Island Lake in 1865 to 2,000 beaver pelts in 1870 to below 500 per year in 1890 (Tough, 1997). As beavers are a keystone species, creating conditions for wildlife abundance through ecosystem engineering with their dams, this decline changed the landscape and its productivity (Tough, 1997). Beaver numbers remained low for a century, rebounding only recently. Another assault on food security was overhunting of migratory birds by European settlers in the late 1800s in North America to the brink of extinction (National Geographic Society, 2019). HBC reported food scarcity and hunger among the *Anishininuk* trading at Island Lake in the early 1900s (Fiddler & Steven, 2003). Although food security in Island Lake declined, the *Anishininuk* continued to harvest from their vast territory of land and feed their families healthy foods.

The fur trade was already declining when HBC sold Island Lake, as part of Rupert's Land, to the Canadian government in 1870. As the HBC charter to this land was based on the falsehood of *terra nullius*, the legitimacy of this subsequent land deal is also flawed. In 1876 the Indian Act legally restricted Indigenous peoples to small plots of land that Canada called Indian Reserves (Palmater, 2014). After this massive land deal in Island Lake, Island Lake dodged the bullet for a time, remaining free of any contact with the Canadian government and settlers until the 1900s. The following passage depicts the pristine, unceded, and unsettled nature of Island Lake in 1907:

Southeast on Island Lake. . . . It is a territory that soldiers have never before penetrated. It is a territory that has never seen a permanent western settler. This territory has not been ceded to the Canadians. (Fiddler & Stevens, 2003, p. 72)

Soldiers with dog teams traveled to Island Lake in 1907 to arrest a powerful shaman. Toppling the *Anishininuk* spiritual leader by the Canadian government amounted to a regime change, making way for treaty signing. In 1909 the Chief of Island Lake, representing 649 *Anishininuk*, signed an adhesion to Treaty 5 with Canada in their summer meeting place at Old Post fort (Mckay, 2018). A historian from Island Lake, Peter Mckay, describes the Treaty 5 process as “unfinished business,” as the treaty commissioner never returned “to honor his promise nor the original spirit and intent of the full Treaty-making process” (Mckay, 2018, p. 2). In the written Treaty, the Crown obligations promised hunting, fishing, and farming implements:

Provide 160 acres of land for a family of five or in the proportion for larger or smaller families, . . . [continue the] right to pursue hunting and fishing throughout the tract [that is unoccupied], . . . pay sum of five hundred dollars per annum every year in the purchase of ammunition, and twine for nets, supply farming and gardening tools [that includes two hoes, one scythe, one axe and one spade per family; one plow for every ten families; five harrows for every twenty families; and one cross-cut saw, one hand-saw, one pit-saw, the necessary files, one grindstone, and one auger for each band], and compensate for the value of any improvements on the reserves. (Indian & Northern Affairs Canada, 1969, para.13, 16, 17, 19, 20, 23, & 24)

This treaty agreement was not met, as vividly shown by the treaty cheque from 2015 addressed to the Wasagamack First Nation on display at the Canadian Human Rights Museum (CHRM) (Figure 2), providing a pittance for an entire community's implements for acquiring food for 20 years (Thompson et al., 2014), according to



CHRM signage that states:

The payment of [CA]\$79.38 in 2015 for 20 years of twine and ammunition indicates how treaties have failed to adapt to today's realities. "According to the Elders, the treaty created a lasting relationship between the government and the First Nations. As such, the treaties should adapt to these needs." (Canadian Museum for Human Rights, 2018)

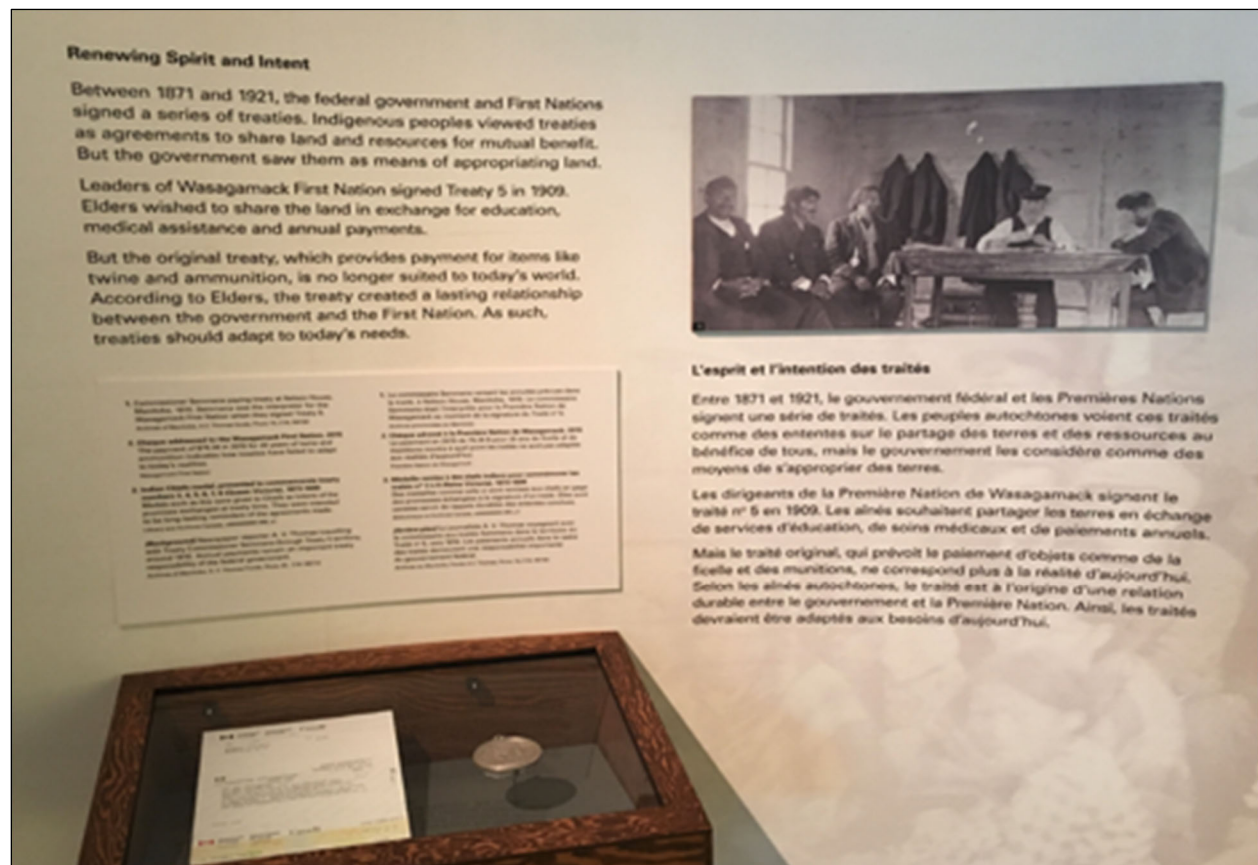
The meager payment of less than CA\$100 is insufficient to provide food subsistence material for one family for one year when a fishing net costs more than CA\$100 today. Certainly this amount would not meet the needs of 1,500 people over 20 years.

The government of Canada surveyed and described treaty lands, but missed large areas in the Island Lake region. According to the treaty map of

the Treaty Relation Commission of Manitoba (TRCM), three large expanses are not covered by any treaties in Manitoba, in the Island Lake region amounting to more than 1.5 million hectares. Canada unilaterally governs according to the text of the treaties and not on the basis of oral history, interpreting the treaties as surrendering the land, which is a contestable point. However, the land not ceded by treaties belongs to the Island Lake communities (Tough, 1997). The *Anishinibewuk* only learned about this unceded land as part of this research, in 2018.

Soon after the treaty, the Dominion of Canada directed people to move from Old Post to find a place with grassland in order to pursue agriculture, including animal husbandry. Island Lake Chief George Knott moved 11 families to the shore of Wasagamack Bay, where the community remains to the present day. However, most *Anishinibewuk* families continued to live in their family camp areas,

**Figure 2. Photo at Canadian Museum of Human Rights of the Wasagamack Cheque of CA\$79.38 for 20 Years of Treaty Rights for Food Implements**



throughout their massive territory, until the 1960s and 1970s. Until 1969, Island Lake was represented by one chief. After 1969, Wasagamack and the other First Nation bands became an administrative unit, each with its own chief and council. The Island Lake bands increasingly fell under government rules and regulations (Tully, 1999).

The treaty promised a local school (Ontario-Manitoba Boundary Commission, 1955). Genocidal residential school policies were adopted in Canada in 1867—"to take the Indian out of the child"—but Island Lake children until the 1950s were untouched by these policies, continuing to learn Indigenous knowledge systems from the land and Elders. Until the advent of floatplanes, *Anishiniwuk* children were largely free from far-off residential schools, as families were dispersed in their remote camps. The book *Cowboys and Indians: The Shooting of J.J. Harper* describes how the RCMP came with floatplanes to take seven-year-old Victor Harper from his family camp to residential school:

They [Victor Harper and J. J. Harper] had spent their early years in the bush, where their families fished and hunted and trapped. The two boys grew up speaking Oji-Cree, immersed in the culture and the customs of the Island Lake people . . . until a float-plane swooped across the water, like a bird of prey. A man in a red coat Victor assumes was a Mountie got out and began rounding up the school-aged children. . . . The Jack River school, a big stone building, became their prison. (Sinclair, 1999, pp. 43-44)

Victor recounted his experiences of physical, sexual, and emotional abuse. Many First Nation children suffered abuse during this systematic assimilation process undertaken through the power of the state, with church and RCMP support (Sinclair, 1999). After elementary school, Victor and J. J. attended Assiniboine Residential Secondary School, amounting to more than a decade of residential school imprisonment.

From Victor's story, Island Lake children clearly did not escape the compulsory school requirement. However, only one generation of students was taken away, compared to the removal

of three or four generations in most other First Nation communities, due to the remote nature of the community. Then, after the Roman Catholic Church was built in 1954 on an Island near Wasagamack, an elementary school was opened in the church. With a local school, the *Anishiniwuk* began to settle in Wasagamack during the school year, to protect their children from abduction. Settling for school turned the seasonal pattern of *Anishiniwuk* travel for harvesting upside down, away from congregating on reserve from fall to spring and traveling to family camps from summer to fall. The school taught colonial, Christian doctrine, replacing the tutelage of children by Elders, animals, and the land. Children were not removed from their families, language, and culture to attend elementary school. However, they still were sent to residential schools for secondary school education.

While settlers did not compete for food and land in Island Lake with the *Anishiniwuk*, mining interests did. Manitobans were exploring the Island Lake area for gold, finding rich potential, at the time of the Manitoba-Ontario border survey in the 1920s. With "considerable mining development... [in] close proximity to the said boundary," (Peters & Rorke, 1925, p. 9) Manitoba disputed the Crown's decision to put "the eastern point of Island Lake" in Ontario (Peters & Rorke, 1925, p. 10), rather than in Manitoba. To facilitate economic growth from mining in Manitoba, the disputed boundary was shifted "from Island Lake to Hudson Bay...across the Laurentian Shield, a distance of about 110 miles," (Ontario-Manitoba Boundary Commission, 1955, p. 6). As a result, Monument Bay's greenstone belt—a zone of volcanic and associated sedimentary rock, often rich in gold, silver, copper, zinc, and lead ores—falls within Manitoba, which would have devastating consequences in the twenty-first century for Island Lake people.

The *Anishiniwuk*, like other Indigenous people, were oppressed by colonial policies that subjugated Indigenous peoples and communities in many ways, including not allowing Indigenous people to hire lawyers, outlawing Indigenous ceremonies until 1951, and withholding voting rights until 1960. These policies deprived First Nation people



of land and resources as well as disrupting ceremonies and culture transmission (Tully, 1999). In this research, Victor Harper shared his 60-year-old secret, that ceremonial and sacred objects were buried to prevent their destruction by colonial powers. Victor wanted to return these objects so that his community could experience healing, pointing to the map to show their hiding place:

The federal government was abolishing all the ceremonies and rights of native people. So, the people of Kalliecahoolie Lake, Bolton Lake, and this area decided to hide a ceremony. The ceremonies are hidden here somewhere. Somewhere, we don't know where. It's a small lake, and when you go to that lake, you will hear a humming sound. The reason that it is humming is that the ancestral people fixed the rocks, so the wind goes through the rocks . . . But if we find that place, we find our culture and our way of life. Not to say, we will live the way they did. But spiritually we can live like them and lead a good life. And that is why we want to go there. (Thompson, Harper, & Klatt, 2017)

Victor believed that retrieving the artifacts of these ceremonies would reset the community on a spiritual path towards *mino bimaadiziwin* and be a source of healing for the *Anishinibewuk* culture, land, and people.

During the colonial period, not only Indigenous land and spirituality were under attack but foodways as well. Since the 1970s, the wild food diet in Wasagamack has transitioned slowly to the ultra-processed food typically sold at the Northern Store (Thompson et al., 2012). Processed foods, compared to wild foods, have lower nutritional values for calcium, folacin, iron, vitamins, and fiber, but higher fat and sugar ratios (Batal et al. 2018; Kuhnlein et al., 2006). These foods are nutrient deficient and loaded with excessive calories (Batal et al., 2018). The dietary transition of Indigenous peoples from a traditional diet to processed food has led to dental caries, lowered resistance to infection, higher rates of obesity, diabetes, chronic diseases, and higher food insecurity (Batal et al. 2018; Willows, Hanley, & Delormier, 2012).

Price blames colonial diets for the degeneration of Indigenous health: "No era in the long journey of mankind reveals in the skeletal remains such a terrible degeneration of teeth and bones, as this brief modern period records" (1939, p. 11). The excessive amounts of sugar found in processed food are blamed for the high rates of poor dental health for Indigenous children in Canada, with 85% of Indigenous children ages three to five experiencing dental decay and 80% of Indigenous children six to eleven afflicted with dental caries (Mathu-Muju, McLeod, Walker, Chartier, & Harrison, 2016).

Indigenous peoples experience higher rates of most chronic and infectious diseases, as well as lower life expectancy, compared to other Canadians (Statistics Canada 2016). The prevalence of type 2 diabetes among First Nations populations is four to five times higher than the rest of Canada (Young, 2000). However, the type 2 diabetes rate is higher still in Wasagamack and the other Island Lake communities, where children as young as eight have been diagnosed with type 2 diabetes (Young, 2000).

The Northern Store is the only store in the region, selling overpriced and unhealthy food. This market vulnerability compromises food security in Island Lake (Thompson et al., 2012). A research study found food insecurity rates in Wasagamack to be very high, with 79% of households experiencing some form of food insecurity and 35% of households having severe food insecurity (Zahariuk, 2014). These rates reveal the enormous economic inequities inflicting remote Indigenous people, with First Nation people in Island Lake having ten times the food insecurity rate of other Canadians (Sen, 1986).

Food safety requires access to safe drinking water. Regional remoteness and government underfunding of reserve infrastructure delayed piped water access in Wasagamack until after 2009 and limited pipes to a few houses, while cisterns were installed in most houses between 2009 and 2015. Wasagamack First Nation was described as a "northern community [that] follows a traditional lifestyle and has crowded housing, primitive toiletting and lacks running water" (Sinha, Martin, Sargent, McConnell, & Bernstein, 2002, p. 77).

Cistern water has both quality issues, with high rates of bacterial contamination (Indian Affairs & Northern Development, 2006; Lebel & Reed, 2010), and quantity issues, as many people report running out of water regularly before the next water truck delivery (Harper, Whiteway & Thompson, 2018). At least 10% of houses continue to use buckets for water and sewage (Harper et al., 2018), which poses real health risks to hundreds of people. The World Health Organization (2004) identifies safe, treated water in homes as a critical determinant of health. Health impacts of unsafe drinking water include acute gastritis, stomach ulcers, dermatological conditions, birth defects, respiratory infections, neurological dysfunction, and death (Indian Affairs & Northern Development, 2006; Jones et al., 2012; Uemura et al., 2001; World Health Organization, 2004). In Wasagamack, 95% of the community members, as young as six weeks old (Sinha et al., 2002), screened positive for the bacterium *Helicobacter pylori* (*H. pylori*), a major cause of stomach cancer and some types of lymphoma of the stomach.

Canadian funding models and policies regarding food and water in First Nation communities undermine sustainable livelihood and food security (Thompson et al., 2012). Infrastructure funding is limited to a per capita formula, which particularly shortchanges remote northern communities by failing to account for the high costs to fly in materials and build on the Canadian shield in permafrost. Funding limitations and other policies result in inadequate infrastructure for water supply and sewage, as well as housing, that undermines human rights, health, and traditional food cultures. The bias of the Canadian government against wild food is apparent in their policies to subsidize corporate food through Nutrition North Canada, which competes unfairly with healthier but unsubsidized wild food (Thompson et al., 2012). Provincial public health regulations prohibit serving wild meat and ungraded fish in public venues such as schools, hospitals, and stores, so there is no capacity to market these foods to offset harvesting expenses (Thompson et al., 2012). In the face of high costs to access the family camp areas by floatplane and for equipment, the government provides no support for hunting, fishing, and

gathering. The Canadian bias against wild foods and Indigenous peoples extends to the lack of funding for educating *Anishinivuk* youth about Indigenous foodways and knowledge systems.

### *Reclaiming Mino Bimaadiziwin*

In 1987 Wasagamack began an effort to reclaim *mino bimaadiziwin* and resurrect Indigenous knowledge systems through traditional education on the land. Twelve Elders with two public school teachers, Victor and Emma Harper, organized the *nopimink* (on-the-land) education program to share their ancient teachings. These 12 Elders grew up learning from *aki*, parents, and Elders, having never experienced the residential school or colonial day school system.

The hands-on *nopimink* education taught people traditional foodways by immersion on the land with Elders. A log school, called the Allan Wood School, was erected in Allan Wood's family camp in Stevenson River to allow students to learn about all aspects of the Indigenous food system:

[Students] shot and butchered a moose... during the course, students were introduced to herbal medicines, rabbit snaring, traditional values, and traditional teaching ways. . . . They set nets and preserved fish. (Harper & Harper, 2000, p. 12)

Families were invited to live on the land with these Elders, undertaking hunting, fishing, gathering, and ceremonies. The Elder Martin Wood describes Elders as academics of the traditional educational system, with their Indigenous knowledge:

Elders tell me that this was good planning in seeking the academics of the traditional education system. . . It is hoped that while the student is in school, he will be given a chance to learn about his own education system. . . There are many teachings in this area that were left by the Elders. (Harper & Harper, 2000, p. 11)

Although the true Elders that learned from *aki* are getting old and dying, their knowledge is being

passed on, according to Charlie Harper: “The Elders of the past are in heaven, but their footsteps are still on earth” (Harper & Harper, 2000, p. 12).

Student teachers from Island Lake, through the Brandon University Native Teacher Education Program (BUNTEP), also earned a university credit course in *nopimink* towards their teaching degree. Although Elders workshops in Wasagamack continue each year, sadly, the government closed the doors on BUNTEP in 2012, eliminating funding support and certification courses for teachers or youth in Wasagamack about traditional foodways and *nopimink*.

The 12 Elders teaching *nopimink* were also part of a research project to locate *Anishinimowin* place names on maps to preserve Indigenous knowledge and to document history (Harper & Harper, 2000). The *Mino Bimaadiziwin* mapping project with 49 harvesters built on this community-led research work and digitized their work, passing the names to a toponymist for official recognition of *Anishinimowin* place names. Map 1 summarizes all the information collected, with titles and labels in *Anishinimowin* in order to provide some written resources for this oral language. The harvest sites concentrate around *wakaibkan* (log houses) and are adjacent to *nipi* (water). Wasagamack land use is not only in and around Island Lake but also includes the *aki* around many other lakes (Kalliecahoolie, Stevenson, Bigstone, Bennett, Makwa, Muskwa, Knight, Fairy Rock, Kitchi, Amos, Willows, etc.) and rivers (Gunisao, Stevenson, Mainland, Joint, etc.).

Map A1 (Appendix) shows that Wasagamack people regularly travel great distances to harvest food for their family, with aerial distances of 136 km (85 mi) to the west, 52 km (32 mi) to the north, 82 km (51 mi) to the east across the Ontario border, and 103 km (64 mi) to the southwest (Thapa, 2018). Rather than a linear path, canoe routes and ski trails follow meandering rivers, which increases distances. *Anishiniwuk* generally travel with their family to their family camp at least once a year, despite the time required of one week or more to paddle or portage, or the expense required of CA\$300 to CA\$400 dollars for one-way floatplane travel. Dog sledding, snowmobiling, and taking ice-roads provide means of travel in the winter.

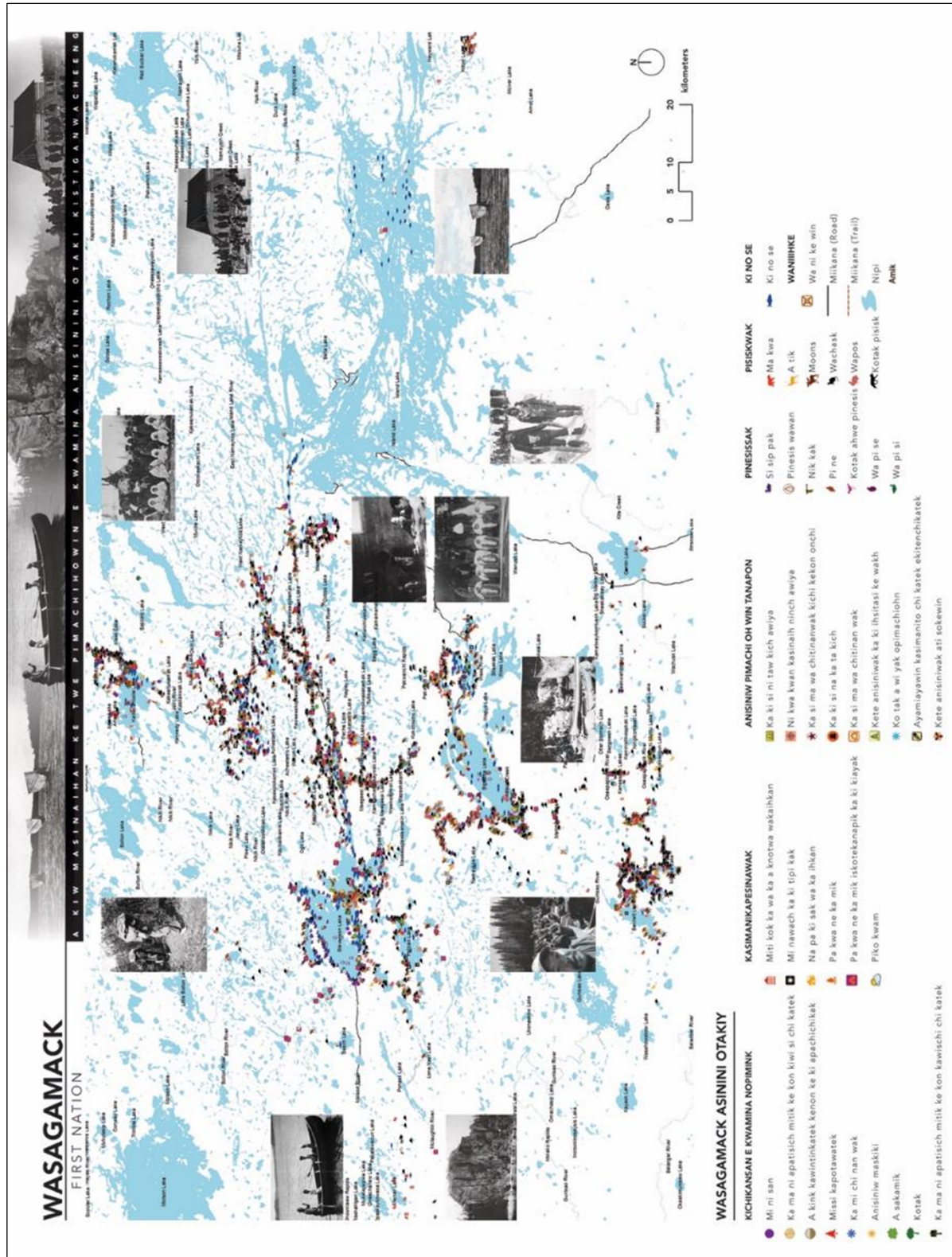
Thematic maps focused on Indigenous food systems were undertaken and are included in the Appendix: Map A2 for fishing, Maps A3 and A4 for hunting, Map A5 for gathering, and Map A6 for trapping. The people of Wasagamack mainly harvest fish, moose, beaver, muskrat, geese, ducks, grouse, rabbit, and bird eggs within their traditional territories, as well as occasionally ptarmigan, loon, swan, and other animals. People fish most intensively in the fall, which coincides with moose, duck, and geese hunting season.

Fish are the staple food in the north (Thompson et al., 2012), as illustrated by a story about a fish competing with a moose to see who supplies the most food to the *Anishiniwuk*. The moose brags: “I am so gigantic I can provide a feast for an entire community.” But the fish laughs: “Moose run away when hunted. But not fish. Fish swim right into the nets, providing the *Anishiniwuk* easy access and more food.” The moose is a sore loser in this competition, stepping on the fish’s head, which is why the jackfish has a long, flat snout.

Moose, beaver, muskrat, and ducks, and geese are semi-aquatic, which helps explain why most harvest sites cluster around lakes and rivers. For example, moose wade to eat aquatic plants, swim, and cool off, and *Anishiniwuk* lasso and pull moose underwater from their boats. Moose is culturally important as well as a favorite food: killing a moose is considered a sign of passage from child to adult. Traditionally, an *Anishiniwuk* man, when wanting to marry, gave his beloved’s mother a moose head to demonstrate that he was a good provider.

Bird hunting typically is done at greater distances from the reserve and cabins than for other food, as shown in Map 4A. However, Wasagamack harvesters usually collect berries, food plants, medicines, mosses, and specialty woods for smoking fish and other uses, as well as earth materials, close to their cabins. Traditional medicinal harvests are crucial to human health (Upreti, Asselin, Dhakal, & Julien, 2012), with weekay, Labrador tea, and other medicines traditionally gathered when fully developed in late summer or early fall. Hallowell (1938) recorded seeing wild rice west of the Island Lake region in much earlier times, and wild rice is harvested today from Kalliecahoolie Lake for special feasts.

Map 1. Summary Map of Traditional Land Uses of Wasagamack Anishiniwuk with Titles and Labels in Anishiniwini (N=49)



The province has designated family camping areas, where people traditionally hunted and trapped, to be colonial administrative boundaries called traplines. Traplines are displayed in Map 7, along with the locations the 49 harvesters reported setting their traps. Today the province manages trapline resources by requiring the head trapper and other trappers to purchase annual trapping licenses (Tough, 1997). Although trapline areas are often used to define Indigenous territory for consultation purposes, this research found the traditional land-use area in Wasagamack is much more extensive than the trapline boundaries. The foodshed is a more accurate representation of Wasagamack territory than the trapline boundaries, but the watershed is the scale needed to protect land uses.

#### *Foodshed of Wasagamack First Nation*

The Wasagamack First Nation foodshed area is estimated to be 13,378 square kilometers, fully considering Wasagamack traditional land uses, trapline boundaries, and wildlife habitat. This territory, based on ecological habitats and traditional land uses, provides a better estimate of the Wasagamack traditional territory than the traplines, which are based on the provincial government's rough estimate of family camping areas.

The foodshed operates within the Hayes watershed, which needs to be protected as watershed changes can impact the foodshed. *Anishininuk* discussed in meetings and interviews how a hydroelectric dam would obliterate traditional land uses and have worse negative impacts than mining on both land and water traditional uses. Many *Anishininuk* drink water directly from the lakes; they also tend to hunt, trap, and gather in or adjacent to water bodies. While water pollution impacts water quality downstream, dams and water control structures affect both upstream and downstream water quality and quantity, to impact wildlife and traditional pursuits. As a result, the Hayes watershed is also marked in Map A7, so as to identify the watershed as critical to conserving the foodshed, recognizing that dams that fluctuate water flow would undermine the cultural and ecological integrity of the Island Lake region.

Community-led development, traditional land uses, and intact ecosystems are considered more

important than gold to *Anishininuk*. Wasagamack community members repeatedly stated that industrial mining development—exploration, mining claims, drilling—by outsiders is not wanted and would undermine their traditional pursuits and their Indigenous rights. In opposition, the provincial government claims jurisdictional authority over all natural resources in Wasagamack beyond the reserve, prioritizing unsustainable mining rather than sustainable traditional uses (Manitoba Government, 2011). The province passed Land Use Planning Act Regulation 81/2011, dictating that in regions considered rich in valuable mineral resources, “dominant land use should be exploration and extraction,” that “the best and only use of greenstone belts is mining” and “greenstone belts . . . must be identified and protected from conflicting surface land uses that could interfere with access to the resources” (Manitoba Government, 2011, p. 40, p. 39). The passage of Regulation 81/2011 violated the duty to consult, which is required in the Canadian constitution (McGregor, 2013; McIlwraith & Cormier, 2016). This was particularly grievous, as First Nations were engaged with the province in the Wabanong Nakaygum Onimawin planning initiative at the time (Manitoba Government, 2016). Only in 2017, when Island Lake Tribal Council staff wanted the entirety of their ancestral land to be protected, did the province counter that Regulation 81/2011 made that impossible due to the many greenstone belts in Island Lake. These greenstone belts are near lakes, such as Bigstone, Knight, Wass, and Clam, as well as rivers important for food procurement.

The province of Manitoba is extensively marketing mining development in Island Lake. After gold veins at Bigstone and Knight Lakes in Wasagamack territory were recently discovered, the province began advertising at a mining conference that the area is free for claiming. Similarly, at Monument Bay in the Island Lake region, rather than evicting the mining company as requested by the Red Sucker Lake First Nation (RSL), Manitoba courts evicted the First Nation for trespassing on their own territory.

Looking for other ways to preserve Wasagamack ancestral land and foodways, counsel on how to achieve United Nations World Heritage status

was sought (UNESCO, 2018). The UNESCO status protects Pimachiowin Aki's approximately three million hectares of a boreal ecosystem, the territory of four Indigenous communities, from industrial development. Although the Wasagamack territory is similar to Pimachiowin Aki, also on the east side of Lake Winnipeg and also roadless, the Province claims that Island Lake is ineligible due to its greenstone belts (Rinne, 2017). As a last resort, the community is staking their own mining claim in order to ensure that strict cultural and environmental protocols are followed, but doing so without any government support.

#### *Post-colonial Mino Bimaadiziwin and Indigenous food sovereignty*

The community vision for overcoming colonially imposed poverty and underdevelopment and for achieving *mino bimaadiziwin* is through community development and Indigenous food sovereignty. The community researcher, Johnathon Harper, summarized the 49 map biographies and his interview research regarding the future development of Wasagamack: "The land is perfect the way it is. People do not want to see any industrial development, only community development in their territory."

Despite their poverty and lack of community infrastructure, all Wasagamack people who were interviewed did not want industrial development that desecrates their land. Wasagamack people clearly reject the dominant model of development that has wreaked havoc with ecosystems and cultures throughout the world. The *Anishiniwak* view community-led development as the solution. Their priorities include food sovereignty, *nopimink*, community-led education, and infrastructure, including adequate housing and a community airport, to bring about reconciliation, renewal, and healing from the effects of residential schools and other colonial policies.

Towards community-led post-secondary education at Wasagamack, the *Mino Bimaadiziwin* Partnership was developed in 2017 with the University of Manitoba and other universities and colleges, as well as social enterprises (Thompson, 2017). The Partnership is furthering the community development plan for Wasagamack land use focusing on

Indigenous food systems and healthy housing through post-secondary education. This community-led and projects-based college education has the potential to transform education and food policy, as well as build capacity locally in Wasagamack. This partnership includes three First Nation communities but also most public post-secondary colleges and universities in Manitoba, as well as a number of social enterprises. This partnership provides instructional capacity and research resources to explore optimal solutions to resolve development challenges through applied adult education (Thompson, 2017). By conducting participatory action research, this collaboration is leapfrogging Indigenous development and post-secondary education from colonially imposed to self-determined and community-led educational development.

As part of this effort, Wasagamack post-secondary students in the *Mino Bimaadiziwin* Partnership education program faced off in a Dragons' Den entrepreneurship competition against 63 First Nation communities and won third place with their dream of a community college in their community teaching Indigenous food systems (Harper & Harper, 2019). The prize of CA\$550,000 will renovate their decommissioned school into a restaurant and country food kitchen (Thompson, 2019). Thus, post-secondary students will have a place in their community to be trained in traditional foods.

#### **Conclusion**

Two primary components of Indigenous food sovereignty, specifically ecological integrity and cultural integrity, endure in Wasagamack despite Canada's brutal colonial rule. Its remoteness and culture have given Wasagamack a unique history. Indigenous food systems and traditional land uses continue to be possible due to Island Lake and the Hayes Watershed lacking settlers, as well as dams and industrial development. Wasagamack ancestral land has robust ecological integrity, with untouched boreal forests, clean waterways, and abundant, diverse wildlife. Traditional land-use map biographies chronicle how *Anishiniwak* continue to harvest, steward, and conduct ceremonies over their territory. This sacred communion with the land and animals ensures that wild food is har-




vested sustainably in a way that nourishes stable traditional culture. Elders who have been impacted by residential schools continue to animate Indigenous knowledge systems and encourage wild food pursuits. As a result, most *Anishininuk* have a strong cultural foundation, continuing to harvest wild foods and speaking their Indigenous language fluently (Statistics Canada, 2016).

The foodshed was estimated from the 49 harvester map biographies, traplines, and habitat requirements. For wild food to be harvested sustainably, the foodshed must continue to have ecological integrity, protecting habitat for wildlife (Friedmann, 2014). The foodshed defines the territory more accurately than the colonial artifact of traplines and should be used for consultation rather than trapline boundaries. However, to preserve the foodshed for traditional land uses, conservation of the entire Hayes watershed is paramount.

Foodshed and watershed conservation would benefit immensely from *Anishininuk* leading Wasagamack land management and planning, due to their Indigenous ecological knowledge and practices (Jojola, 2013; McGregor, 2013; Tauli-Corpuz et al., 2018). As a result of their intimate and sacred relationship with the land, *Anishininuk* prioritize their ancestral land above all else, seeing *aki* as perfect the way the Creator made it. Their Indigenous approach to conservation can be expected to be more successful, consistent with a review of 29

case studies in Asia and Latin America by Tauli-Corpuz, Alcorn, & Molnar (2018), which found better outcomes for conserving biodiversity, forest cover, and, thus, wild food when led by Indigenous peoples rather than led by others.

*Mino bimaadiziwin* is the term used by Wasagamack people to describe the spiritual and good life of their ancestors on the land, prior to colonization, as well as the Wasagamack vision for the future. Wasagamack people prioritize culture, ecological integrity, and wild food over gold and other riches. In contrast, the province continues to prioritize mining over sustainable development and reconciliation. This focus is demonstrated by the province's actions to shift the Manitoba-Ontario boundary in the early 1900s, passing Regulation 81/2011 without consultation, and peddling gold veins in Island Lake to mining companies. It is to be hoped that even when pitted against powerful mining interests aligned with the government, foodshed maps, unceded land, *nopimink* education, and partnerships will provide important tools for building Indigenous food sovereignty and for regaining *mino bimaadiziwin*. In stewarding their ancestral land and biodiversity, Wasagamack is protecting Indigenous food sovereignty. 

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## References

- Ballard, M. (2012). *Flooding sustainable livelihoods of the Lake St. Martin First Nation: The need to enhance the role of gender and language in Anishinaabe knowledge systems* (Doctoral dissertation). Natural Resources Institute, University of Manitoba, Winnipeg. Retrieved from <http://hdl.handle.net/1993/5312>
- Batal, M., Johnson-Down, L., Moubarac, J., Ing, A., Fediuk, K., Sadik, T., ... Willows, N. (2018). Quantifying associations of the dietary share of ultra-processed foods with overall diet quality in First Nations peoples in the Canadian provinces of British Columbia, Alberta, Manitoba and Ontario. *Public Health Nutrition*, 21(Suppl. 1), 103–113. <https://doi.org/10.1017/S1368980017001677>
- Bruchac, J. (1992). *Native American animal stories*. Golden, CO: Fulcrum.
- Calliou Group. (2010). *Michel First Nation traditional land use study*. Calgary, AB: National Energy Board, Enbridge Northern Gateway Pipeline Project. Retrieved from <https://apps.neb-one.gc.ca/REGDOCS/File/Download/772749>
- Canadian Museum of Human Rights. (2018). The Spirit of the Treaties exhibition. Winnipeg: CMHR
- Cidro, J., Adekunle B., Peters, E., & Martens, T. (2015). Beyond food security: Understanding access to cultural food for urban Indigenous peoples in Winnipeg as Indigenous food sovereignty. *Canadian Journal of Urban Research*, 24(1), 24–43. Retrieved from <https://cjur.uwinnipeg.ca/index.php/cjur/article/view/9/7>
- Coté, C. (2016). "Indigenizing" food sovereignty. Revitalizing Indigenous food practices and ecological knowledges in Canada and the United States. *Humanities*, 5(3), 1–14. <https://doi.org/10.3390/h5030057>

- Fiddler, Chief T., & Stevens, J. (2003). *Killing the Shamen: Cree legends of Sandy Lake, No. 2*. Newcastle, ON: Penumbra.
- Freeman, M. M. R. (2011). Looking back—and looking ahead—35 years after the Inuit land use and occupancy project. *Canadian Geographer*, 55(1), 20–31. <https://doi.org/10.1111/j.1541-0064.2010.00341.x>
- Friedmann, H. (2014). Reflections on foodsheds in three continents. *Canadian Food Studies/La Revue Canadienne Des Études Sur l'alimentation*, 1(1), 4–9. <https://doi.org/10.15353/cfs-rcea.v1i1.35>
- Froese, A. (2018). *Indigenous Food Sovereignty Summit 2018*. Winnipeg: Four Arrows Regional Health Authority. Retrieved from <https://ifss2018.com/previous-summit/>
- Hallowell, A. I. (1938). Notes on the material culture of the Island Lake Saulteaux. *Journal de la société des américanistes*, 30(1), 129–140. <https://doi.org/10.3406/jsa.1938.1968>
- Harper, J., Whiteway, N., & Thompson, S. (May, 2018). *Sever and water retrofit of housing: From pails to cisterns in Wasagamack and Island Lake*. Presentation at Fifth Annual Create H<sub>2</sub>O Conference, University of Manitoba, Winnipeg. Retrieved from [http://create-h2o.ca/pages/annual\\_conference/presentations/2018/Jerome\\_Harper.pdf](http://create-h2o.ca/pages/annual_conference/presentations/2018/Jerome_Harper.pdf)
- Harper, R. & Harper, T. (2019). Mino Bimaadiziwin education, culture and business centre: Building culture, capacity and a future for youth in Island Lake. Winnipeg: Wasagamack First Nation. Retrieved from <http://ecohealthcircle.com/wp-content/uploads/2019/04/dragon-stand-winner.pdf>
- Harper, V., & Harper, E. (2000). The Nopimink Project (formerly The Bear Lake/Stevenson River Project). Winnipeg: Island Lake Tribal Council.
- Health Canada. (2013). *Measuring the food environment in Canada*. Ottawa: Health Canada. Retrieved from <https://www.canada.ca/en/health-canada/services/food-nutrition/healthy-eating/nutrition-policy-reports/measuring-food-environment-canada.html>
- Hughes, K. J. (1979). Jackson Beady—Life and art. *Canadian Dimension*, 14(2), 4–10.
- Indian & Northern Affairs Canada. (1969). *Treaty 5 between Her Majesty the Queen and the Saulteaux and Swampy Cree Tribes of Indians at Beren's River and Norway House with adhesions (1875)*. Ottawa: Queen's Printing Office. Retrieved from <http://www.trcm.ca/wpcontent/uploads/PDFsTreaties/Treaty%205%20Text%20and%20and%20Adhesions.pdf>
- Indian Affairs & Northern Development (IAND). (2006). *Report of the expert panel on safe drinking water for First Nations, vol. 1*. Ottawa: Minister of Indian and Northern Affairs Canada. Retrieved from <http://publications.gc.ca/collections/Collection/R2-445-2006E1.pdf>
- Jojola, T. (2013). Indigenous planning: Towards a seven generations model. In R. Walker, T. Jojola, & D. Natcher (Eds.), *Reclaiming Indigenous planning* (pp. 457–472). Montreal: McGill-Queen's University Press.
- Joly, T. L., Longley, H., Wells, C., & Gerbrandt, J. (2018). Ethnographic refusal in traditional land use mapping: Consultation, impact assessment, and sovereignty in the Athabasca oil sands region. *The Extractive Industries and Society*, 5(2), 335–343. <https://doi.org/10.1016/j.exis.2018.03.002>
- Jones, N., Chiba, N., Fallone, C., Thompson, A., Hunt, R., Jacobson, K., & Goodman, K. (2012). *Helicobacter pylori* in First Nations and recent immigrant populations in Canada. *Canadian Journal of Gastroenterology*, 26(2), 97–103. <https://doi.org/10.1155/2012/174529>
- Kamal, A. G., & Thompson, S. (2014). *Step by step land use and ancestral occupancy map survey training* [Video]. Winnipeg: University of Manitoba, Natural Resources Institute. Retrieved from [https://www.youtube.com/watch?v=KJdFj184zKU&feature=em-upload\\_owner](https://www.youtube.com/watch?v=KJdFj184zKU&feature=em-upload_owner)
- Kuhnlein, H., Erasmus, B., Creed-Kanashiro, H., Engelberger, L., Okeke, C., Turner, N., & Bhattacharjee, L. (2006). Indigenous peoples' food systems for health: Finding interventions that work. *Public Health Nutrition*, 9(8), 1013–1019. <https://doi.org/10.1017/PHN2006987>
- LaDuke, W. (2002). *The Winona LaDuke reader: A collection of essential writings*. Minneapolis, MN: Voyageur.
- Lebel, P. M., & Reed, M. G. (2010). The capacity of Montreal Lake, Saskatchewan to provide safe drinking water: Applying a framework for analysis. *Canadian Water Resources Journal*, 35(3), 317–355. <https://doi.org/10.4296/cwrj3503317>
- Manitoba Government. (2011). Planning Act. Provincial Planning Regulation (C. C. S. M. c. P80). Winnipeg: Legislative Assembly. Retrieved from <https://web2.gov.mb.ca/laws/regsg/current/081.11.pdf>



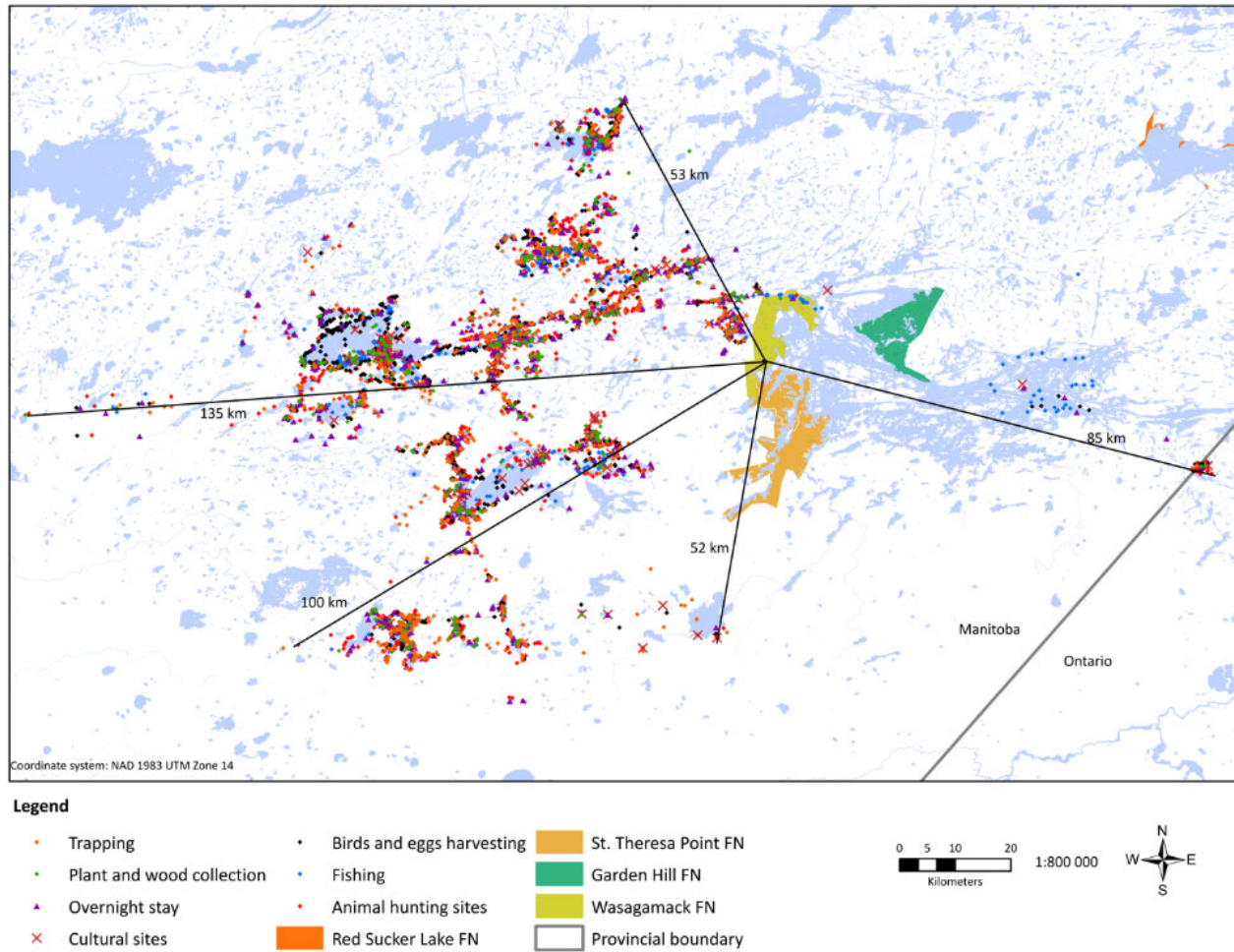
- Manitoba Government. (2016). *Minerals policy and business development: Exploration and development highlights 2016*. Winnipeg: Manitoba Government. Retrieved from <http://www.manitoba.ca/iem/busdev/exp-dev/index.html>
- Mann, C. C. (2005). *1491: New revelations of the Americas before Columbus*. New York: Knopf.
- Mathu-Muju, K. R., McLeod, J., Walker, M. L., Chartier, M., & Harrison, R. L. (2016). The Children's Oral Health Initiative: An intervention to address the challenges of dental caries in early childhood in Canada's Indigenous and Inuit communities. *Canadian Journal of Public Health*, 107(2), e188–e193. <https://doi.org/10.17269/cjph.107.5299>
- McDonnell, L., Lavoie, J., Wood, A., Kornelson, D., Cidro, J., & Manoakesick, L. (2018). *Living in the city: Documenting the lived experiences of the Island Lake Anishinew people*. Winnipeg: Canadian Centre for Policy Alternatives. Retrieved from [https://www.policyalternatives.ca/sites/default/files/uploads/publications/ManitobaOffice/2018/07/Living\\_in\\_the\\_city\\_Anishinew\\_People.pdf](https://www.policyalternatives.ca/sites/default/files/uploads/publications/ManitobaOffice/2018/07/Living_in_the_city_Anishinew_People.pdf)
- McGregor, D. (2013). Representing and mapping traditional knowledge in Ontario forest management planning. In R. Walker, T. Jojola, & D. Natcher (Eds.), *Reclaiming Indigenous planning* (pp. 414–435). Montreal: McGill-Queen's University Press.
- McIlwraith, T., & Cormier, R. (2016). Making place for space: Land use and occupancy studies, counter-mapping, and the Supreme Court of Canada's Tsilhqot'in decision. *BC Studies*, 188, 35–53. Retrieved from <https://ojs.library.ubc.ca/index.php/bcstudies/article/view/186217/185708>
- Mckay, P. (2018). *Island Lake historical documentation proposal*. Winnipeg: Island Lake Tribal Council.
- McLeod, N. (Ed.). (2014). *Indigenous poetics in Canada*. Waterloo, ON: Wilfred Laurier University Press.
- National Geographic Society. (2019). *National Geographic Photo Ark: Canada Goose*. Washington, D.C.: National Geographic Society. Retrieved from <https://www.nationalgeographic.com/animals/birds/c/canada-goose/>
- Novak, M. (1981). The value of aerial inventories in managing moose populations. *Alces*, 17, 282–314. Retrieved from [http://flash.lakeheadu.ca/~arodgers/Alces/vol17\\_1981.html](http://flash.lakeheadu.ca/~arodgers/Alces/vol17_1981.html)
- Olson, W. (2019). *Bison*. In Canadian Encyclopedia. Retrieved from <https://www.thecanadianencyclopedia.ca/en/article/bison>
- Ontario-Manitoba Boundary Commission. (1955). *Report of the Commissioner of the survey of the boundary between the provinces*. Ottawa: Queen's Printer.
- Paci, C., Tobin, A., & Robb, P. (2002). Reconsidering the Canadian Environmental Impact Assessment Act: A place for traditional environmental knowledge. *Environmental Impact Assessment Review*, 22(2), 111–127. [https://doi.org/10.1016/S0195-9255\(01\)00095-6](https://doi.org/10.1016/S0195-9255(01)00095-6)
- Palmater, P. (2014). Genocide, Indian policy, and legislated elimination of Indians in Canada. *Aboriginal Policy Studies*, 3(3), 27–54. <https://journals.library.ualberta.ca/aps/index.php/aps/article/view/22225>
- Parker, B., Burnett, K., Hay, T., & Skinner, S. (2018). The community food environment and food insecurity in Sioux Lookout, Ontario: Understanding the relationships between food, health, and place. *Journal of Hunger & Environmental Nutrition*, 14(6), 762–779. <https://doi.org/10.1080/19320248.2018.1537867>
- Peters, F. H., & Rorke, L. V. (1925). *Report of the commissioners appointed to delimit the boundary between the province of Manitoba and Ontario from Winnipeg River northerly, Manitoba-Ontario border*. Ottawa: Topographical Survey of Canada.
- Price, K., Roburn, A., & MacKinnon, A. (2009). Ecosystem-based management in the Great Bear Rainforest. *Forest Ecology and Management*, 258(4), 495–503. <https://doi.org/10.1016/j.foreco.2008.10.010>
- Price, W. A. (1939). *Nutrition and physical degeneration: A comparison of primitive and modern diets and their effects*. New York: Paul B. Hoebers & Medical Book Department of Harper and Brothers. Retrieved from [https://healthwyze.org/archive/nutrition\\_and\\_physical\\_degeneration\\_doctor\\_weston\\_a\\_price.pdf](https://healthwyze.org/archive/nutrition_and_physical_degeneration_doctor_weston_a_price.pdf)
- Rinne, M. L. (2017). Preliminary results of bedrock mapping at Bigstone Lake and Knight Lake, northwestern Superior province, Manitoba (parts of NTS 53E11, 12, 13, 14). In *Manitoba Geological Survey, Report of Activities 2017* (pp. 19–29). Winnipeg: Manitoba Growth, Enterprise and Trade. Retrieved from <https://www.manitoba.ca/iem/geo/field/roa17pdfs/GS2017-3.pdf>
- Sen, A. (1986). *Poverty and famines: An essay on entitlement and deprivation*. Oxford, UK: Clarendon.
- Sinclair, G. (1999). *Cowboys and Indians: The shooting of J. J. Harper*. Toronto: McLelland & Stewart.

- Sinha, S. K., Martin, B., Sargent, M., McConnell, J. P., & Bernstein, C. N. (2002). Age at acquisition of *Helicobacter pylori* in a pediatric Canadian First Nations population. *Helicobacter*, 7(2), 76–85.  
<https://doi.org/10.1046/j.1083-4389.2002.00063.x>
- Statistics Canada. (2016). *Manitoba* (Table). Division No. 22, CDR [Census division], Census Profile. 2016 Census. Statistics Canada Catalogue no. 98-316-X2016001. Ottawa: Statistics Canada. Retrieved from  
<https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/index.cfm?Lang=E>
- Tauli-Corpuz, V., Alcorn, J., & Molnar, A. (2018). *Cornered by protected areas: Replacing “fortress” conservation with rights-based approaches helps bring justice for Indigenous Peoples and local communities, reduces conflict, and enables cost-effective conservation and climate action*. Washington, D.C.: Rights and Resources Group. Retrieved from  
[https://rightsandresources.org/wp-content/uploads/2018/06/Cornered-by-PAs-Brief\\_RRI\\_June-2018.pdf](https://rightsandresources.org/wp-content/uploads/2018/06/Cornered-by-PAs-Brief_RRI_June-2018.pdf)
- Thapa, K. (2018). *Indigenous land rights and indigenous land use planning: Exploring the relevance and significance to Wasagamack First Nation, northern Manitoba, Canada* (Master's thesis). Natural Resources Management, University of Manitoba, Winnipeg. Retrieved from <https://mspace.lib.umanitoba.ca/xmlui/handle/1993/33359?show=full>
- Thompson, S. (2013). *Island Lake First Nation land use-and-occupancy map survey*. Winnipeg: University of Manitoba.
- Thompson, S. (2014). Flooding First Nations and environmental justice in Manitoba: Case studies of the impacts of 2011 flood and hydro development in Manitoba. *Manitoba Law Journal*, 38(2), 220–259. Retrieved from  
<http://www.canlii.org/t/7cm>
- Thompson, S. (2017). Northern Teaching Lodges: Learning Partnership for Community Development and Mino Bimaadiziwin in First Nation Communities. *SSHRC Partnership Grant Application*. Retrieved from  
<http://ecohealthcircle.com/wp-content/uploads/2017/10/SSHRC-2017-proposal.pdf>
- Thompson, S., Harper, V., & Klatt, R. (2017). *Wasagamack: Our home and native land*. Retrieved from  
<https://youtu.be/i4p9dpuBT4A>
- Thompson, S., Harper, V., Thapa, K., & Klatt, R. (2017). *Island Lake Elders workshop* [Video]. Retrieved from  
<https://youtu.be/NODQq7ZiRhU>
- Thompson, S., Kamal, A. G., Alam, M. A., & Wiebe, J. (2012). Community development to feed the family in northern Manitoba communities: Evaluating food activities based on their food sovereignty, food security, and sustainable livelihood outcomes. *Canadian Journal of Nonprofit and Social Economy Research*, 3(2), 43–66.  
<https://doi.org/10.22230/cjnser.2012v3n2a121>
- Thompson, S., Rony, M., Temmer, J., & Wood, D. (2014). Pulling in the Indigenous fishery cooperative net: Fishing for sustainable livelihoods and food security in Garden Hill First Nation, Manitoba, Canada. *Journal of Agriculture, Food Systems, and Community Development*, 4(3), 177–92. <https://doi.org/10.5304/jafscd.2014.043.016>
- Thompson, S. (2019). Boreal Homebuilding Students win big to benefit Wasagamack community. Mino Bimaadiziwin Newsletter. Retrieved from <http://ecohealthcircle.com/wp-content/uploads/2019/05/Mino-Bimaadiziwin-Partnership-Newsletter-March-April-2019-1.pdf>
- Tobias, T. N. (2000). *Chief Kerry's moose: A guidebook to land use and occupancy mapping, research design and data collection*. Vancouver: Union of British Columbia Indian Chiefs, Ecotrust Canada. Retrieved from  
[http://fngovernance.org/resources\\_docs/Land\\_Use\\_Occupancy\\_Mapping\\_Guidebook.pdf](http://fngovernance.org/resources_docs/Land_Use_Occupancy_Mapping_Guidebook.pdf)
- Tobias, T. N. (2009). *Living proof: The essential data-collection guide for Indigenous use-and-occupancy map surveys*. Vancouver: Union of British Columbia Indian Chiefs, Ecotrust Canada.
- Tough, Frank. (1997). *As their natural resources fail: Native Peoples and the economic history of northern Manitoba, 1870-1930*. Vancouver: University of British Columbia Press.
- Truth and Reconciliation Commission of Canada. (2012). *They came for the children: Canada, Aboriginal Peoples, and residential schools*. Winnipeg, MB: TRCC. Retrieved from  
<https://static1.squarespace.com/static/562e7f2ae4b018ac41a6e050/t/59d002cbcd39c3d497e51775/1506804437772/They+Came+for+the+Children+-+Chap+1.pdf>
- Tully, J. (1999). Aboriginal peoples: Negotiating reconciliation. In J. Bickerton & A.-G. Gagnon (Eds.), *Canadian Politics*, 3rd ed. (pp. 423–442). Toronto: Broadview.

- Uemura, N., Okamoto, S., Yamamoto, S., Matsumura, N., Yamaguchi, S., Yamakido, M., ... Schlemper, R. J. (2001). *Helicobacter pylori* infection and the development of gastric cancer. *New England Journal of Medicine*, 345(11), 784–789. <https://doi.org/10.1056/NEJMoa001999>
- UNESCO. (2017). *Pimachionwin Aki*. Paris: UNESCO, World Heritage Centre. Retrieved from <https://whc.unesco.org/en/list/1415>
- Upreti, Y., Asselin, H., Dhakal, A., & Julien, N. (2012). Traditional use of medicinal plants in the boreal forest of Canada: Review and perspectives. *Journal of Ethnobiology and Ethnomedicine*, 8, Art. 7. Retrieved from <https://ethnobiomed.biomedcentral.com/articles/10.1186/1746-4269-8-7>
- Wasagamack First Nation. (2010). *The way it was: Foundation for the future*. Winnipeg: Manitoba First Nations Education Resource Centre Inc.
- Willows, N. D., Hanley, A. J., & Delormier, T. (2012). A socioecological framework to understand weight-related issues in Aboriginal children in Canada. *Applied Physiology, Nutrition, and Metabolism*, 37(1), 1–13. <https://doi.org/10.1139/h11-128>
- Wilson, K. M. (2003). Therapeutic landscapes and Indigenous peoples: An exploration of culture, health and place. *Health & Place*, 9(2), 83–93. [https://doi.org/10.1016/S1353-8292\(02\)00016-3](https://doi.org/10.1016/S1353-8292(02)00016-3)
- Wilson, S. (2008). *Research is ceremony: Indigenous research methods*. Winnipeg: Fernwood.
- Winnipeg Free Press. (2018, March 30). Four First Nations leave Manitoba Keewatinowi Okimakanak. Retrieved from <https://www.winnipegfreepress.com/local/four-first-nations-leave-manitoba-keewatinowi-okimakanak-478407953.html>
- World Health Organization. (2004). *Water, sanitation and hygiene links to health. Facts and figures*. Geneva: WHO. Retrieved from [https://www.who.int/water\\_sanitation\\_health/publications/facts2004/en/](https://www.who.int/water_sanitation_health/publications/facts2004/en/)
- Young, T. K., Reading J., Elias B., & O'Neil, J. D. (2000). Type 2 diabetes mellitus in Canada's First Nations: Status of an epidemic in progress. *Canadian Medical Association Journal*, 163(5), 561–566. Retrieved from <http://www.cmaj.ca/content/cmaj/163/5/561.full.pdf>
- Zahariuk, S. (2014). *Food insecurity within the Island Lake First Nation communities in northern Manitoba, Canada* (Master's thesis). University of Manitoba, Winnipeg. Retrieved from [https://mspace.lib.umanitoba.ca/bitstream/handle/1993/23267/Zahariuk\\_Shauna.pdf?sequence=1&isAllowed=y](https://mspace.lib.umanitoba.ca/bitstream/handle/1993/23267/Zahariuk_Shauna.pdf?sequence=1&isAllowed=y)

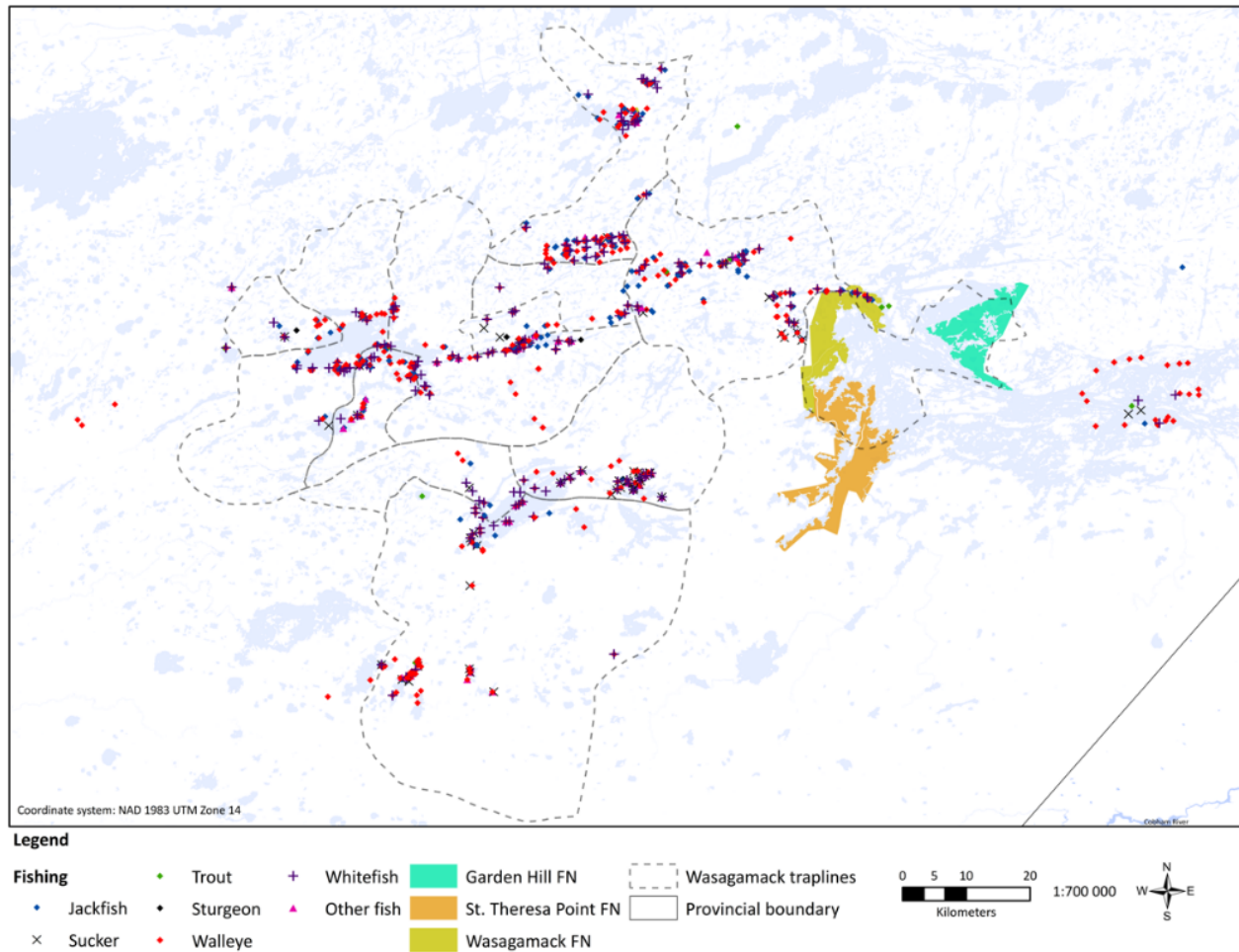
## Appendix

**Map A1. Aerial Distances from Wasagamack First Nation for Traditional Land Uses (N=49)**

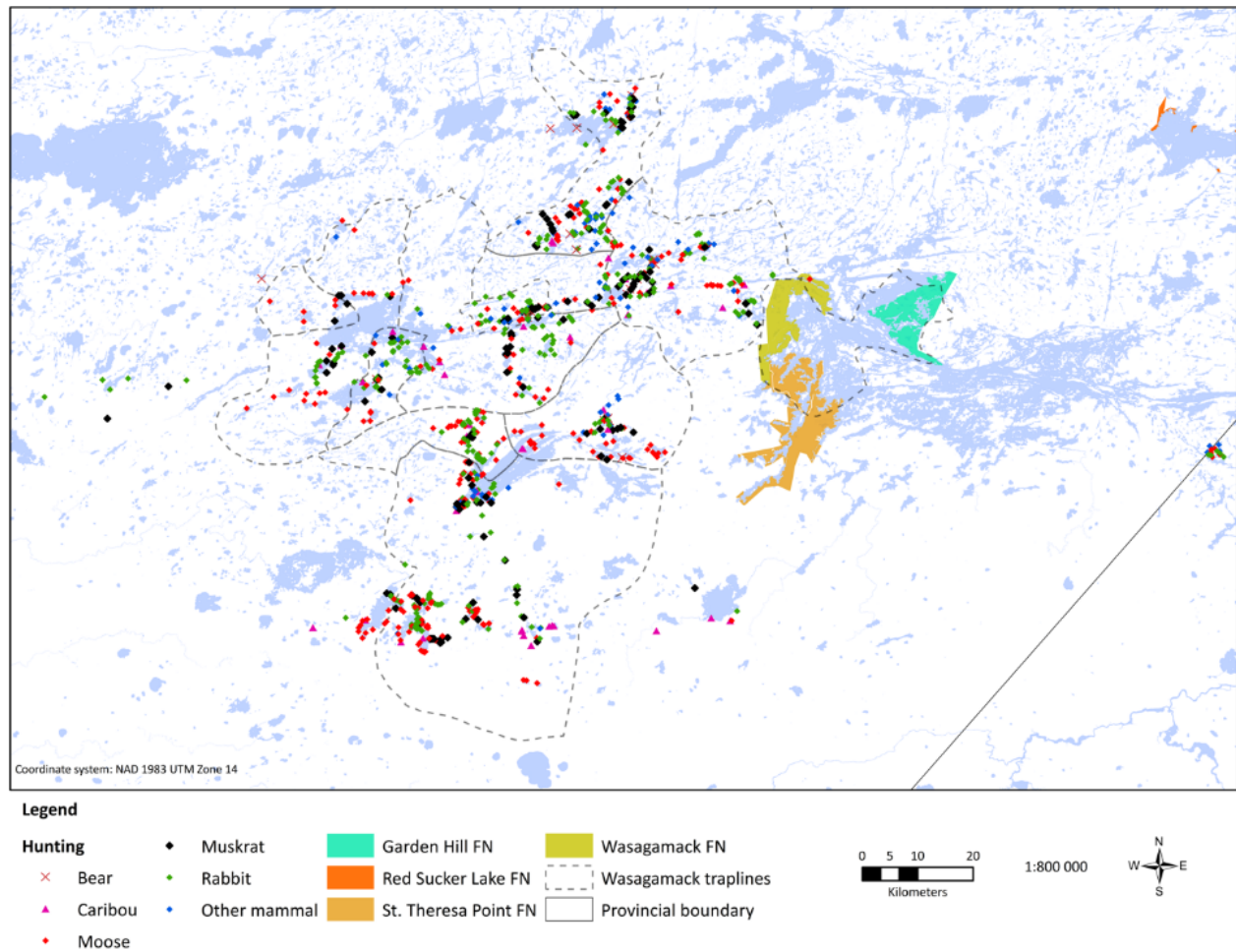


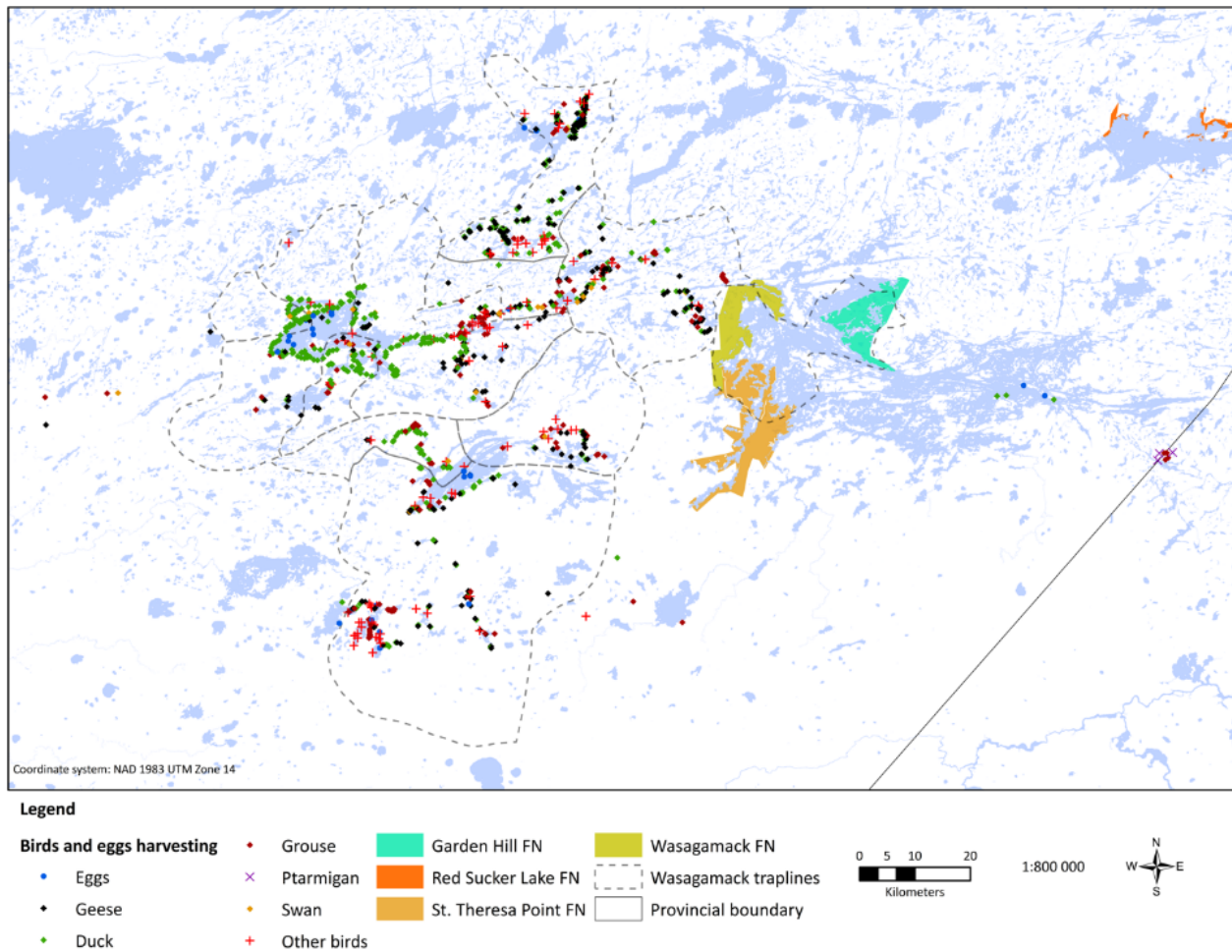


**Map A2. Fish Harvest Sites of 49 Wasagamack First Nation Harvesters (N=49)**

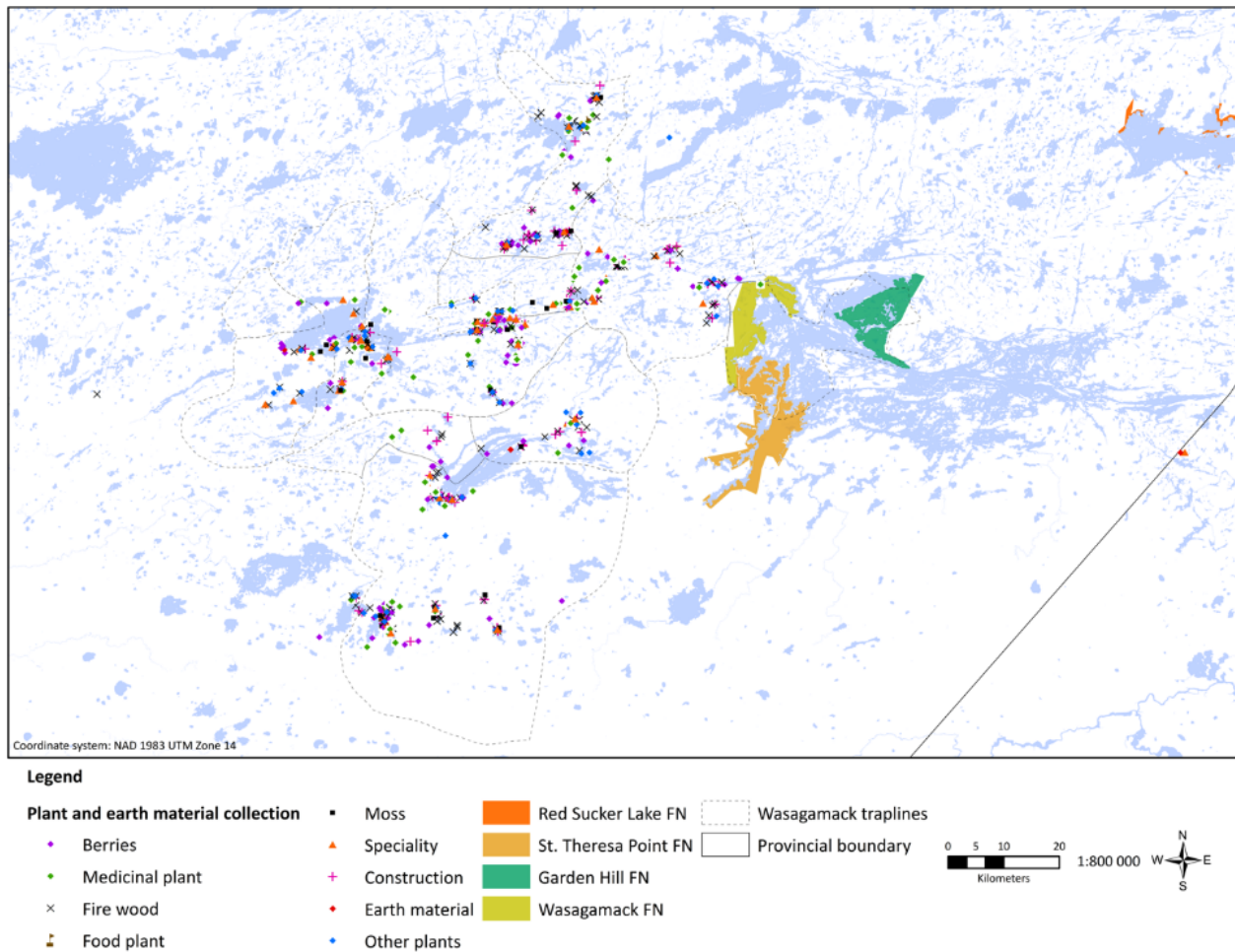


**Map A3. Animal Hunt Harvest Sites of Wasagamack Harvesters (N=49)**



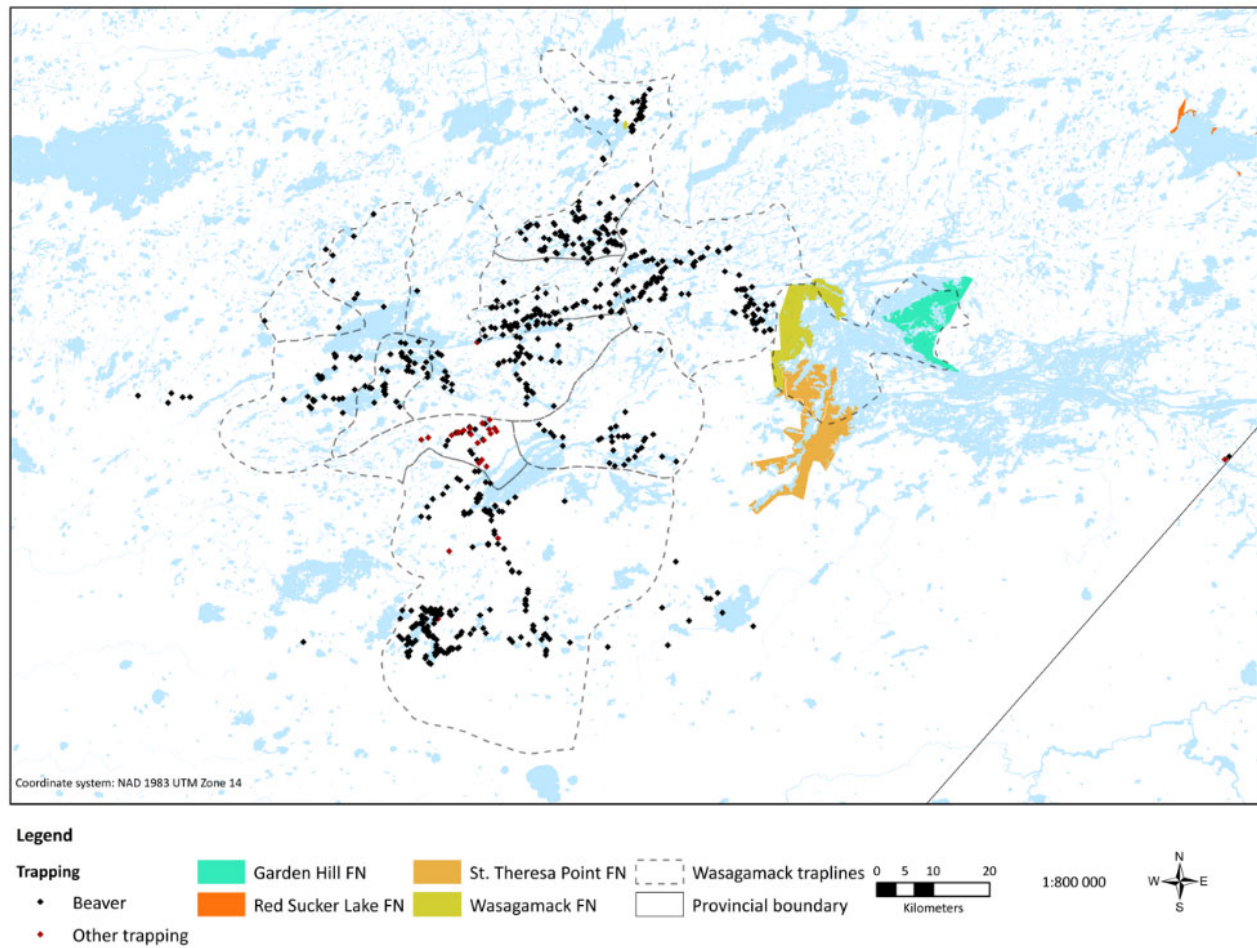
**Map A4. Bird and Egg Harvest Sites of Wasagamack Harvesters (N=49)**

**Map A5. Gathering Sites for Plants, Medicines, and Other Materials by Wasagamack Harvesters (N=49)**





**Map A6. Trapping Sites for Wasagamack Harvesters (N=49)**



**Map A7. Foodshed of Wasagamack First Nation Based on Harvesting Sites and Trap Lines for Community-Led Development**

