The Journey So Far

Reconciling First Nations Worldview and Perspectives with Natural Asset Management

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WINNIPEG METROPOLITAN REGION

MNAI.ca Making Nature Count

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Introduction

Nature provides a wide range of services on which human health, well-being and survival depends. This includes storing carbon, controlling floods, stabilizing shorelines and slopes, and providing clean air and water, food, fuel, medicines and genetic resources (Millennium Ecosystem Assessment, 2005).[1]

Unfortunately, about 25% of all assessed plant and animal species are threatened by human actions, with a million species facing extinction, many within decades.

In the face of these challenges and a rapidly changing climate, a range of methodologies and actions to protect, sustainably manage and restore natural or modified ecosystems is emerging; one of these is natural asset management (NAM).

NAM is an approach that enables local governments (both Indigenous and non-indigenous) and watershed agencies to conceptualize, account for, restore, protect and manage nature as a vital asset and support its health, connectivity, biodiversity and viability for the long-term. It is a subset of the broad category of nature-based solutions.

NAM is a counterpoint to traditional asset management approaches that narrowly understand nature as offering only "green" or aesthetic benefits, and which typically result in nature being overused and its true values under-acknowledged.

For NAM to reach its potential in a Canadian context, it must evolve to acknowledge and include inherent Indigenous rights and responsibilities in its methodologies and interweave, wherever appropriate and possible, Indigenous perspectives, knowledge and biocultural indicators.

This, evidently, is no simple task. There is, for example, little published literature specific to the application of natural asset management by Indigenous communities, including First Nations (Reed, et al., 2022).[2]

The foundation for much of Canada's current work to understand where First Nations worldviews, knowledge and perspectives may intersect and align with NAM is a collaborative project (hereafter "the WMR Project") with the Winnipeg Metropolitan Region (WMR), its First Nations and Métis partners, and the Municipal Natural Assets Initiative.

1 Millennium Ecosystem Assessment. (2005). *Ecosystems and Human Well-being: Synthesis*. Retrieved from www.millenniumassessment.org/documents/document.356.aspx.pdf

2 Reed, G., Brunet, N., McGregor, D., Scurr, C., Sadik, T., Lavigne, J., & Longboat, S. (2022). *Toward Indigenous visions of nature-based solutions: an exploration into Canadian federal climate policy*. Climate Policy, 22(4), 514-533.

The WMR Project emerged from a shared recognition by Municipalities and First Nations' communities in the region that land, water and other resources needed to be addressed from a regional land use approach. This includes a regional approach to development, infrastructure and shared servicing decisions across the region.

This report is to document and share experiences from the WMR Project, in the hopes that it will provide a useful contribution to Reconciliation dialogue, research and projects in other contexts in Canada. The WMR Project is still underway so document provides only a snapshot of the process at this point in time.

Place & People

Treaty One Lands and WMR

The WMR is a diverse group of 18 municipalities working together collaboratively to create the conditions for a strong, prosperous, and sustainable Manitoba Capital Region. The Manitoba Capital Region is located in Treaty One Territory, which is the traditional territories of the Cree, Dakota, Dene, Ojibway, and Oji-Cree First Nations, and the homeland of the Métis Nation.

Treaty One First Nations

Brokenhead Ojibway Nation

The Brokenhead Ojibway Nation (BON) is a Treaty One Nation located 82 kilometres northeast of Winnipeg. The Brokenhead Ojibway Nation are a proud and thriving First Nation. BON is focused on providing education and opportunities that can help assure a positive tomorrow for its youth, families and Elders. Brokenhead Ojibway Nation #4 extends north to the shores of Lake Winnipeg and includes part of the Netley Creek Marsh area. The Brokenhead River runs through the core area of the community (Baaskaandibewiziibing Ojibway Nation Brokenhead, 2022).[3] As of January 2018, the total registered population was 2,082, with 800 living on reserve.

Long Plain First Nation

A signatory to Treaty One, 1871 (Adhesion Treaty of June 20, 1876), Long Plain First Nation (LPFN) is an Ojibway and Dakota community located to the southwest of Portage la Prairie along the Assiniboine River. The LPFN lands are known as Ga-Ke-Nush-Koo-De-Ag amongst the Ojibway Tribes of southern Manitoba. The word "Ga-Ke-Nush-Koo-De-Ag" means "long plain" in the Ojibway language and

3 Baaskaandibewiziibing Ojibway Nation Brokenhead. (2022). *About Us*. *brokenheadojibwaynation.ca/about-us*

refers to the topography of the lands. Ojibway ancestors favoured this area for its long open plains, surrounding forested areas and proximity to the river. The plains were strategic for protection and hunting (Long Plain First Nation, 2021).[4] The Long Plain population is over 4,500 and comprises 3 reserves, of which 2 are urban. The urban reserves are situated along the city limits of Portage la Prairie and in the City of Winnipeg.

Peguis First Nation

Peguis First Nation is a Treaty One First Nation, located approximately 190 kilometres north of Winnipeg. With a population of approximately 10,246 members of Ojibway and Cree descent, it is the largest First Nation community in Manitoba. Peguis First Nation has a rich culture, strong traditions and a significant history within Canada. The community is named after Chief Peguis, who led the band of Saulteaux people from present day Sault Ste. Marie, Ontario to a settlement at Netley Creek, Manitoba, and later to St. Peter's (present day East Selkirk, Manitoba). After an illegal land transfer in 1907, Peguis First Nation was moved to its present location at Peguis 1B.[5]

Roseau River Anishinaabe First Nation

The people of Roseau River First Nation have a rich history in the Red River and Pembina Valleys. Their main community is located south of Winnipeg, with a total membership of 2,000 people across their three reserve communities. As part of the collective Ojibway of Manitoba, they were known as the "Strong Heart People" in recognition of their bravery. Roseau River signed Treaty One on August 3, 1871 and finally resolved their land claim in 2011 with a final settlement offer that is held in trust for future generations.[6]

Sagkeeng First Nation

Sagkeeng is an Anishinabe First Nation situated 101 kilometers north of Winnipeg. As of January 2018, the total registered population was 7,637 with 3,352 living on reserve. The name "Sagkeeng" is an Anishinaabe word meaning "at the outlet," referring to its location at the mouth of the Winnipeg River. Sagkeeng is comprised of Anishinabe people who have resided at or near the Fort Alexander Indian Reserve #3 located along the Winnipeg River and Traverse Bay, since time immemorial.[7]

4 Long Plain First Nation. (2021). *Tribal Services*. lpband.ca/tribal-services/

5 Peguis First Nation. (2020). *About*. peguisfirstnation.ca/about/

6 Treaty One. (2021). *Roseau River Anishinaabe First Nation*. treaty1.ca/roseau-river-anishinaabe-first-nation/

7 Sagkeeng First Nation. (n.d.) *Sagkeeng Anicinabe*. www.sagkeeng.ca/sagkeeng-history/

Sandy Bay Ojibway First Nation

The Sandy Bay Ojibway First Nation is situated on the western shore of Lake Manitoba, 165 kilometers northwest of Winnipeg. Located in the lowlands with a gentle rise westward from Lake Manitoba, most of the shoreline along the lake consists of a fine sand beach bordered by Balsam Poplar and Trembling Aspen. A bog and marshland run alongside and into the lake. At the time of the signing of Treaty One, Sandy Bay was called the White Mud Band. The economy of Sandy Bay Ojibway First Nation relies in part of ranching and farming. The total registered population is 6,905.[8]

Swan Lake First Nation

Swan Lake First Nation (SLFN) is located in South Central Manitoba. Signatory to Treaty One, Chief Yellowquill's followers settled along Swan Lake in the Pembina Valley, better known as "Gaubiskiigamaug," curve in the lake. SLFN people are known as Anishinabe people, meaning "original-peoples." SLFN is located on prime agricultural land and thus has a robust agricultural economy. The community has a population size of approximately 1477, with 408 members who live in the community and 1053 who live outside the community (Swan Lake First Nation, 2021).[9]

Red River Métis

The Red River Settlement, located within what is now the Manitoba Capital Region, is the birthplace of the Métis Nation and the heart of the Métis Nation homeland. The Red River Métis was a negotiating partner in Confederation and the founder of Manitoba. The Métis Nation is defined by "a common ancestry, identity, culture, social and kinship relationships and, among other things our history" the origins of which lie with the Battle of Seven Oaks, fought in what is now Winnipeg in 1816. Métis citizens and settlements lie throughout the WMR (Manitoba Métis Federation, n.d.).[10]

WMR Project Area

The WMR encompasses 7,800 km2 of land in the heart of southern Manitoba. As of 2021, the region is home to approximately 874,290 people, representing approximately 65% of the provincial population (Statistics Canada, 2022)[11] and approximately 65% of its Gross Domestic Product (based on the Winnipeg

8 Sandy Bay Ojibway First Nation. (n.d.). *About Us.* *www.sandybayfirstnation.com/about-us.html*

9 Swan Lake First Nation. (2021). *About Swan Lake First Nation.* *swanlakefirstnation.com/about-slfn/*

10 Manitoba Métis Federation (MMF), "*The Red River Métis - la Nouvelle Nation,*" accessed August 15, 2022, *www.mmf.mb.ca/the-red-river-metis-la-nouvelle-nation*.

11 Statistics Canada, "Table 98-10-0002-01 *Population and Dwelling Counts: Canada and Census Subdivisions* (Municipalities)," February 9, 2022, *www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=9810000201*.

Census Metropolitan Area) (Statistics Canada, n.d.)[12]. The region is forecasted to reach approximately 1 million people by 2050. There are various First Nations' land holdings across the Manitoba's Capital Region. Many of the First Nations have Treaty Land Entitlement (TLE) or private ownership in urban areas and throughout the region. Additionally, Brokenhead Ojibway Nation has reserve lands within the region.

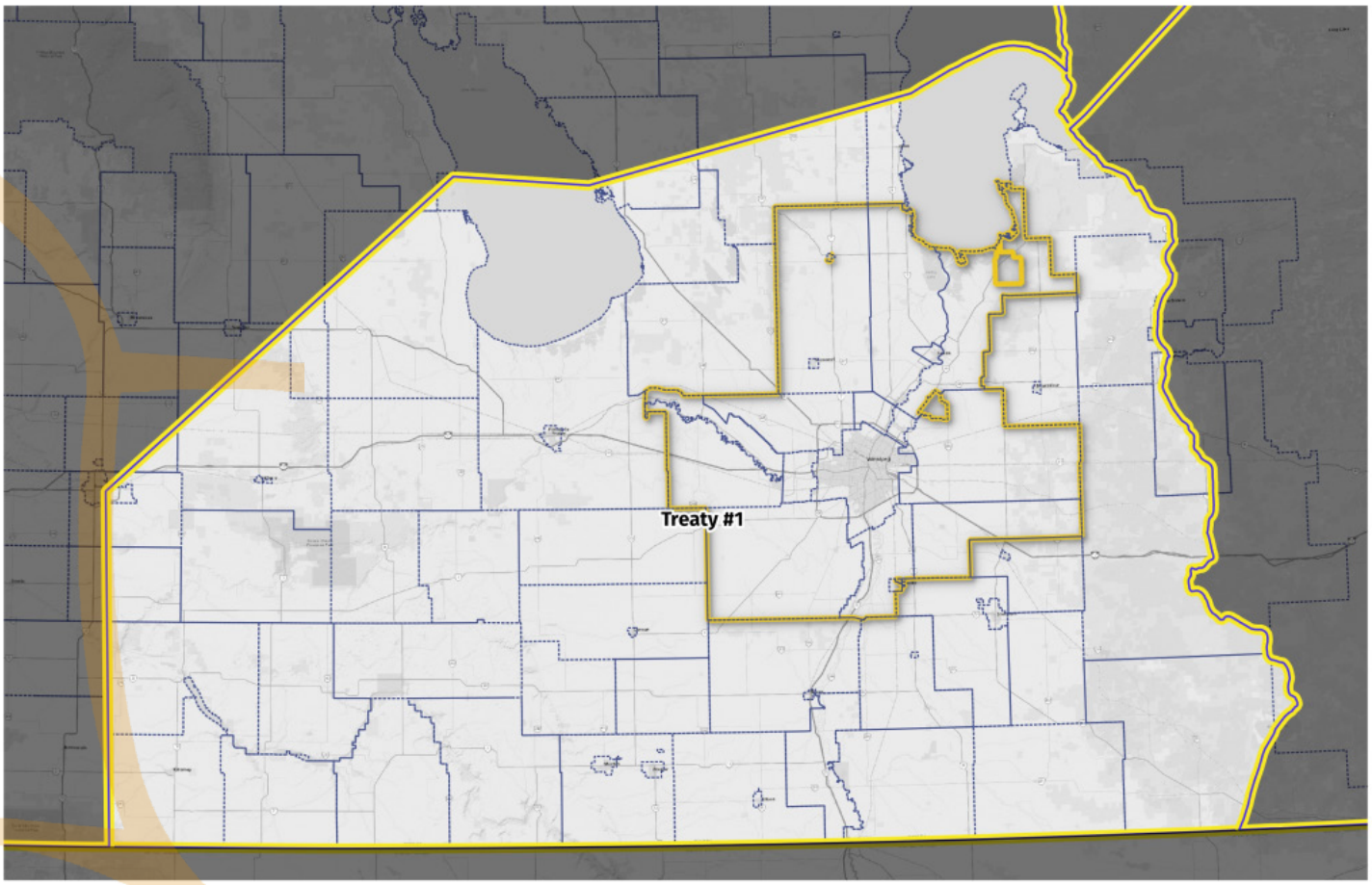

***Figure 1**: Treaty One Territory and Winnipeg Metropolitan Region area boundaries in Southern Manitoba.*
***Reference**: Winnipeg Metropolitan Region.*

12 Statistics Canada, "Table 36-10-0468-01 *Gross Domestic Product (GDP) at Basic Prices*, by Census Metropolitan Area (CMA) (x 1,000,000)," accessed October 25, 2021, doi.org/10.25318/3610046801-eng.

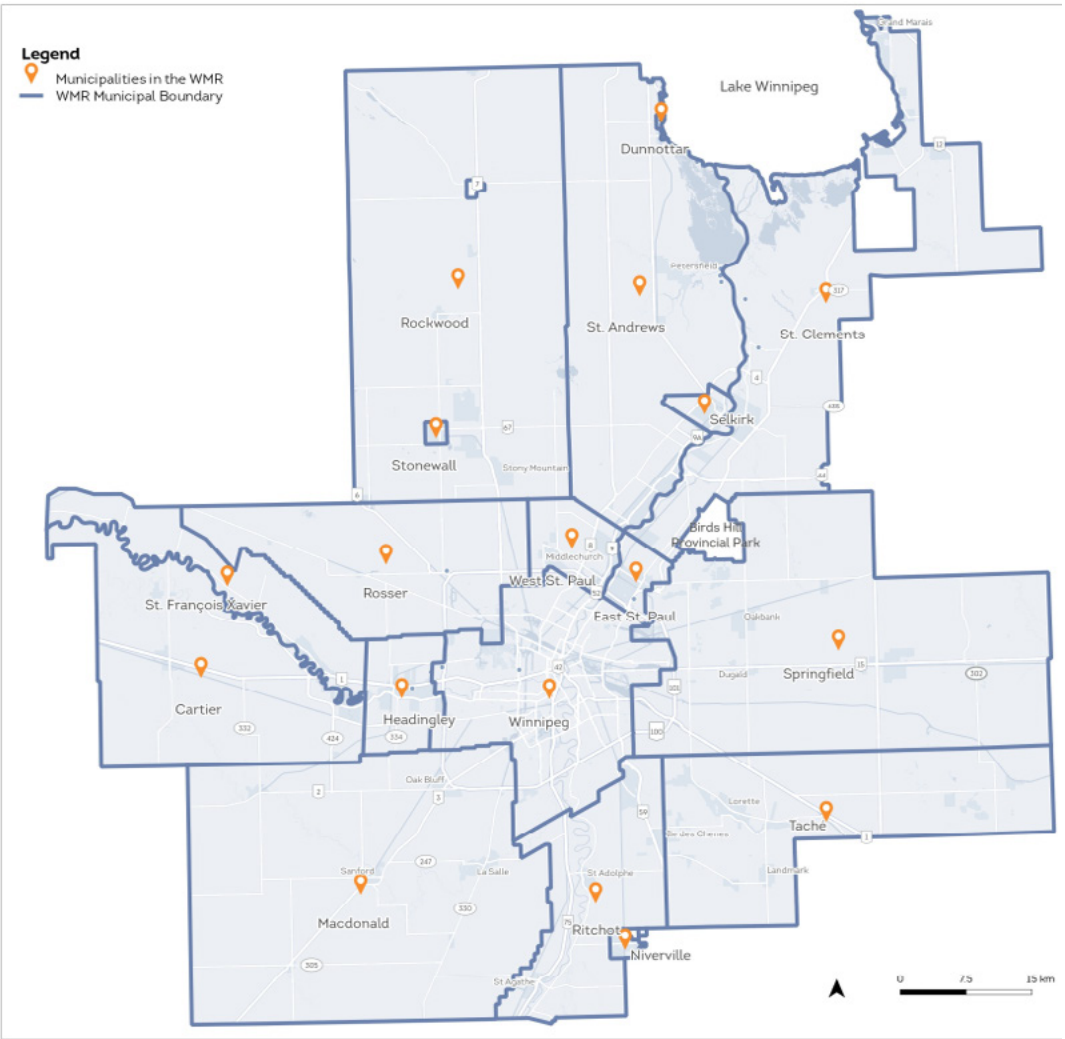

***Figure 2**: Municipal jurisdictions within Winnipeg Metropolitan Region.*
***Reference**: Winnipeg Metropolitan Region.*

Colonial Impact and Rights to Land

North America is often referred to as Turtle Island by some First Nations. Ojibwe oral traditions speak of the earth once being flooded by the Creator to purify it due to the disobedience of the people who were quarrelling, fighting and disrespectful amongst themselves. Some animals like the miskwaadesi (turtle) and wazhashk (muskrat) survived the great flood. Nanabush, a supernatural being who has the power to create life in others, asked the animals to dive deep under the water to collect soil to recreate the world. Only the last animal, wazhashk, was successful by holding its breath for an uncanny length of time and resurfacing with soil in its paws, but died while doing so. Nanabush took the soil and placed it on the back of the miskwaadesi and created Turtle Island.

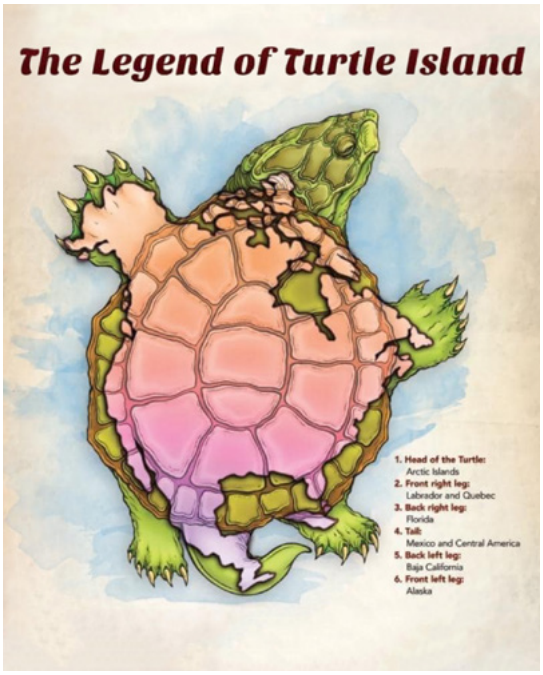

***Figure 3**: North America as Turtle Island: Turtle Island Map*
***Reference – Photo**: (loc) : North America as Turtle Island: Turtle Island Map*

First Nations use creation stories like this for various teachings, sharing practices and values. There is a great respect for the interconnectedness of the environment and sacredness of the land, water, minerals and other natural resources and no being is less important than humans.

Prior to European contact, First Nations, including the Algonquin, Navajo, Cherokee, Dakota, Hopi, Cree and Anishinabe, were thriving societies that had occupied Turtle Island since time immemorial (see Figure 4). The rich histories of First Nations have involved forming governance systems and creating treaties amongst Nations. First Nation languages, traditions and value systems are each uniquely distinct from one another, a fact that the settlers did not take the time to learn, recognize, acknowledge, or respect. Notwithstanding the challenges they faced in the past and encounter today, First Nations continue to thrive.

***Figure 4**: Major linguistic groups and Indigenous Peoples & cultures habituating North America before European contact. >*
***Reference – Photo**: inspiringyoungminds.ca*
localwiki.org/toronto/Turtle_Island/_files/turtle-island-north-america-map.jpg/_info/

Figure 5 identifies the hunting and fishing grounds occupied by the different Indigenous Nations in Canada around 1871. The peoples that lived in Treaty One and Treaty Two territory are the ones that continue to live here today. They are the Swampy Cree, Anishinabe, Dakota and the Sioux. The languages spoken belonged to the Algonkian language family.

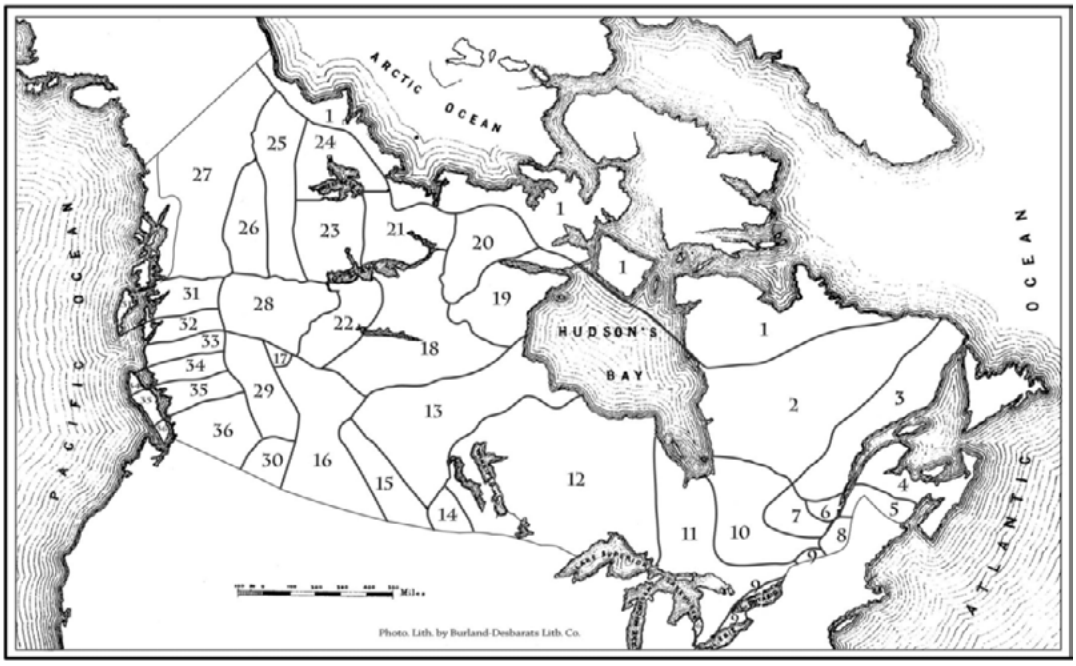

***Figure 5**: Map of the hunting and fishing grounds occupied by the Indigenous population of Canada.* >

***12** – The Sauteux, Maskégons and other tribes*
***13** – The Prairie Crees; the Wood Crees*
***14** – The Sioux, Frontier Wanderers*
***15** – The Assiniboines*

The complete table can be found in Appendix B, including name of nations, description of places in habited, populations, and territorial superficies.
www150.statcan.gc.ca/n1/pub/98-187-x/4151278-eng.htm#part3

The following sections discuss key events that have impacted Indigenous people and Indigenous rights to land.

Doctrine of Discovery

Pope Alexander V1 issued a papal bull in 1493 known as the Doctrine of Discovery which essentially stated that Spain had the right to colonize and convert Indigenous peoples and take ownership of the lands Indigenous peoples occupied. Their doctrine states that the Supreme Being gave the entire earth to Christians and that Indigenous peoples were incapable of holding lands. Their doctrine implied they had rights to the lands and natural resources even though the lands were occupied by Indigenous peoples, governed and utilized by Indigenous peoples.

Royal Proclamation and Subsequent Legislation

Following the Seven Years War in 1763, a Treaty known as the Royal Proclamation was issued by King George 111, which gave the basis of government administration of the North American territories to Britain. It established the recognition of First Nation rights in Canada, and laid the foundation of the treaty making process.

First Nations continue to occupy the lands not ceding them and continue using them for their use and benefit under the protection of the crown. Only the crown could purchase land from them not the settlers through public meetings or assembly of First Nations peoples.

The 1764 Treaty of Niagara was another treaty signed between the British Crown and various First Nations of Turtle Island. The spirit and intent of this Treaty was to promote an understanding of co-existence through peace and friendship, the sharing of resources and respect for different structures of governance.

However, in 1876, the federal government passed the Indian Act Section 91-24 which gave the federal government responsibility for Indians and Lands reserved for Indians. It is the primary document which defines how the federal government interacts with First Nations. In essence, an assimilation document intended to strip Indigenous Nations of Nationhood and create a dependency system of government that First Nations never created. This piece of legislation has made First Nation peoples wards of that state that require permission to do anything on reserve lands.

In 1996, some First Nations signed a government-to-government agreement with the Crown to opt out of the 34 land management sections of the Indian Act and take over responsibility for the management and control of their reserve lands and resources. The agreement is referred to as First Nations Land Management Act and is invoked when the First Nations develop and approves their Land Code to opt out of the Indian Act.

Manitoba and Numbered Treaties

It is important to understand the context which set the stage for the Treaty talks and negotiations of Treaties. There were approximately 4 million Indigenous peoples living on Turtle Island prior to confederation, from East to West to North. Indigenous people lived off of the land and followed the seasonal round, meaning during each season they prepared food that was available during that season. In particular, Bison was one of the most important sources of survival for many Nations in the plains. First Nations observed the increasing migration of settlers into their homelands, the dwindling buffalo herds, the diminishing fur trade and other such negative interaction that impacted First Nations way of life. These ongoing negative interactions and pressures eventually lead First Nations to enter into what has become known as the Numbered Treaties, One to Eleven beginning in 1871, in what was known originally known as Manito Ahbee by First Nations and is now Manitoba after joining the Canadian Confederation one year earlier in 1870.

In 1817, prior to the numbered treaties, a treaty in Manito Ahbee between Lord Selkirk and Chief Peguis, who represented four other First Nations, was concluded. It respected the rights of First Nations to co-exist in peace and harmony and to not impose their ways upon one another. This was the first un-numbered treaty in western Canada.

Then, the numbered Treaties came into effect, beginning with Treaty One signed at Lower Fort Garry in 1871. The Treaty process, spirit and intent, was not an act of surrender, but wisdom and foresight of the First Nation leadership to co-exist in peace and harmony with the settlers for as long as the sun shines, the grass grows and the rivers flow. The Treaty was signed between seven First Nations and representatives of Britain with the spirit and intent to co-exist in peace and harmony, share the resources, respect First Nations form of governance and to not impose their ways on each other.

This was the first of eleven numbered treaties signed in Manitoba. First Nations view the Treaties as a collective, even though some have been interpreted differently by the federal government. The original understanding from the First Nation perspective was that all Treaties were to be the same. However, as can be seen across Canada, there are variations in the numbered Treaties.

The Treaty experience has not been kind to First Nations. The federal government has, in the past, manipulated and misinterpreted the sacred treaties to their own benefit and profit. This is evident in the policies and legislation that have excluded First Nations from participating in the democratic process. These policies and legislation are unfortunately not limited to the residential school system, which caused havoc and long-lasting trauma that is still experienced today. The irony of First Nations being excluded from participating in the democratic process is that this exempted them from the military service. When First Nations enlisted in the Canadian or United States militaries, First Nations were required to give up their status as Treaty persons. This did not always prevent First Nations from enlisting in the Canadian and United States militaries to fight for the freedom of others in foreign lands while they were being deprived of their own basic rights.

Residential Schools

Canada's historic First Nations policies, that have now proven detrimental, were administered by the Superintendent of the Department of Indian Affairs Duncan Campbell Scott from 1913-32. Duncan Campbell Scott stated, *"I want to get rid of the Indian problem... Our objective is to continue until there is not a single Indian in Canada that has not been absorbed into the body politic and there is no Indian question, and no Indian Dept, that is the whole object of this Bill."* (Facing History and Ourselves, 2022)[13]

The mindset of Duncan Campbell Scott was that Indigenous Children needed to be educated in civilized society in order to become productive citizens of Canada. An unholy alliance between Church and State took place to assist this process. The government of Canada has acknowledged that an estimated 150,000 Indigenous children were separated and removed from their families

13 Facing History and Ourselves. (2022). "Until There Is Not a Single Indian in Canada." *Stolen Lives: The Indigenous Peoples of Canada and the Indian Residential Schools.* *www.facinghistory.org/stolen-lives-indigenous-peoples-canada-and-indian-residential-schools/historical-background/until-there-not-single-indian-canada*

and communities to attend residential schools, which were established on and off reserve lands. While most of the 139 Indian Residential Schools ceased to operate by the mid-1970s, the last federally run school closed in 1996. Of the estimated 150,000 Indigenous children that attended residential schools, 90-100% suffered severe physical, emotional, and sexual abuse with a 40-60% mortality rate with inter-generation trauma continuing to this day.

Setting the Stage—Land, Water and Other Natural Resources

Land, water, and other natural resources are shared by individuals, municipal governments, and Indigenous Nations. The following describe the experience and approach in addressing these natural features from these various perspectives.

First Nations Worldview

First Nations worldview and perspectives must no longer be ignored, but should be explored for their ability to help address the effects of climate change. The devastating impacts of climate change are real and are being experienced in all four directions of Turtle Island. The Intergovernmental Panel on Climate Change stated:

> *Climate change creates additional stresses on land, exacerbating existing risks to livelihoods, biodiversity, human and ecosystem health, infrastructure, and food systems (high confidence). Increasing impacts on land are projected under all future GHG emission scenarios (high confidence). Some regions will face higher risks, while some regions will face risks previously not anticipated (high confidence).*[14]

Floods, forest fires, storms, heat waves, and landslides are increasingly frequent, and rising sea levels, melting glaciers, warming oceans, erosion and water quality issues are growing threats. Elders teach that everything comes from the earth: humans, animals, plants, birds, minerals, and all other natural resources. We are part of Mother Earth and Mother Earth is a sacred, spiritual place that we call home and must respect. The First Nations understanding of Mother Earth is that we are only caretakers. We have a duty to be good stewards of the lands and waters, because we do not own what has been loaned to us.

Elders teach that everything is interconnected and interdependent; that all living things have a spirit and that the land and spirituality are inseparable. Land is more than just property. Land is where social systems, spirituality,

14 (Intergovernmental Panel on Climate Change, n.d.)

culture, and relationships, among other things around us, are derived from. Hunters giving thanks to their food sources for giving their lives so that their bodies may be nourished is just one small example of the principals of interconnectedness and respect that are embedded in First Nations teachings.

Settler interaction with Mother Earth and the use of her natural resources/assets has caused serious destructive consequences to the environment. However, there is an opportunity now for a paradigm shift of including First Nation knowledge of sustainable development that respects Mother Earth and all her natural resources/assets.

Monetary value has to be put into the proper context to respect First Nations worldviews. The latter includes balance, sharing, equality; the idea that all natural resources/assets have a purpose, including wetlands; and, the sacredness of Mother Earth and her natural resources/assets. Thus, interaction with Mother Earth has to be in the context of holistic planning, keeping in mind that ecosystems know no political jurisdictions and that collaboration is necessary to have positive outcomes both financially and for the environment.

Elders also teach that Mother Earth has the ability to heal herself. However, because of the unsustainable development practices taking place, Mother Earth needs our help, and the assistance of First Nations knowledge in this process. Elders also believe that Mother Earth is a person; a living organism with features similar to a human's, including a spirit. The water is her blood, the wind is her breath, the trees are her lungs, the rivers are her veins, and the wetlands her kidneys. In essence, Mother Earth's ecosystem is like that of our bodies, and when there is human interaction with her and her natural resources, the process must be understood holistically and as interconnected. When something is displaced or out of balance, something else has to be put back so that balance is maintained. Likewise, there has to be a balance of green space with concrete to mitigate risks, thereby respecting the natural and original intent of the function of green spaces.

Asking the right questions

If forests are clearcut, what happens to the animals, fowl, water, plants, soil retention and air quality of the area? The people who depend on it for medicines, cultural practices, and livelihoods are also impacted. What happens to a person when their lungs become diseased or polluted? What impact does that have on the rest of their body? As with an ecosystem, it becomes harder to breathe and function. What can one do to make things right and correct the imbalance? What happens when one's veins and vessels become clogged, similar to rivers? What can be done holistically, looking at the related ecosystems and using sustainable practices to make things right? We need to ask ourselves these questions as we search for more holistic ways of interacting with Mother Earth.

First Nations have always been entrepreneurs, lawyers, doctors, scientists, astronomers, biologists, architects, engineers, and educators, with professional

expertise in these fields as well as in others, but we have not been recognized as such by settlers. First Nations are open to working together in business ventures, but only with a First Nations worldview-informed and sustainable approach that does not abuse, but respects land, water, and all-natural resources so that they are safeguarded for the seventh generation. Continuing down the present path of unsustainable development will be costlier and continue to degrade our environment. Mainstream practices and uses of natural resources should be set aside, so that energy can be focused on sustainable development and business practices. The First Nations view of a balanced human interaction with the environment, including land, water, and natural resources, will result in longevity and a brighter future for all peoples.

Winnipeg Metropolitan Region and the Collaborative Leadership Initiative

Since 1998, leaders of the WMR have been working collaboratively to build a strong, prosperous and sustainable metropolitan region for all. In 2019, the WMR was tasked with developing the first regional growth and servicing plan, *Plan20-50*.

Plan20-50 identifies reconciliation, climate resilience and sustainable development as foundational principles to developing a shared path forward to guide growth in the metropolitan region. The goal of *Plan20-50* is to ensure that the following objectives for the region are achieved over the next 30 years:

1/ A Transformative, Leading Economy
2/ Vibrant Communities
3/ Natural Abundance
4/ Responsible, Inclusive Governance

Planning for the future requires good data and information. For many years, the WMR has been compiling and developing shared data sets on many assets in the region including water, wastewater, solid waste, emergency services and community facilities, among others. The WMR has addressed many regional data gaps through new studies, the results of which have supported *Plan20-50* and the regional direction.

The WMR and *Plan20-50* recognize that land, water and other natural resources play a vital role and must be considered as we plan for the future. The region is located in the Red River watershed, a sub-watershed of Lake Winnipeg, and at the confluence of the Boreal Shield and Prairie Ecozones. Lake Winnipeg is the 11th largest freshwater lake in the world and a source of immense natural, economic, social and cultural value.

Land use activities, drainage networks and landscape changes have changed the hydrology and ecology of the region's landscape and contributed to the loss and degradation of wetlands, grasslands, riparian and upland forests and the network that they form. What has resulted is increasing and excessive run-off of sediment, nutrients and pesticides into waterways, which has contributed to annual algal blooms in waterways, especially in Lake Winnipeg. There has been a 70% increase of nutrients in the lake over the last 40 years and toxic algal blooms of 15,000 km^2 are not uncommon as a result. The Red River has been identified as the source of 69% of the phosphorus load and 34% of the nitrogen load to Lake Winnipeg.

There is a growing awareness by regional leaders that land, water and other natural resources serve important roles as infrastructure by providing local services like stormwater management, flood mitigation and climate resiliency that can help address some of the region's most pressing environmental concerns.

However, a clear path is needed to ensure these natural features are considered in land use, development, infrastructure and shared servicing decisions across the region. By identifying where natural features are located throughout the landscape, the region can begin to work strategically toward their protection, restoration and enhancement.

Leaders of the WMR have recognized that regional progress towards such goals is not only supported by inter-municipal working relationships, but also by relationships with Indigenous Nations to ensure the needs of all are considered (Winnipeg Metropolitan Region, 2016).[15] Mayors and Reeves of the WMR, together with Chiefs of Treaty One, signed a Memorandum of Understanding (MOU) in March 2019 to announce a collective intention to reform governance in Manitoba through strong and unified commitment to reconciliation. The MOU formalizes a relationship between First Nations and municipalities as two levels of government committed to working together on shared priorities.

15 Winnipeg Metropolitan Region. (2016). "Securing Our Future."

The MOU process was supported by the Collaborative Leadership Initiative (CLI). Facilitated by the Centre for Indigenous Environmental Resources (CIER), the CLI is a government-to-government approach that helps leaders build shared governance and advance reconciliation. CLI guides elected leaders through a multi-step, facilitated process to achieve tangible outcomes at the ground level through building trust and relationships, creating new decision-making processes, and strengthening collaboration between institutions.

Through the CLI, the WMR has been working on shared opportunities and economic goals to create a prosperous regional economy. A key aspect of this has been to build relationships and trust with First Nations to co-develop shared approaches that are regionally aligned. Leaders from the CLI have agreed to work together to develop a process to inventory lands, water and other natural resources in Treaty One Territory.

***Figure 7**: On March 1, 2019—First Nation and municipal leaders signed a memorandum of understanding and received reminted Treaty No 1 medal.*

***Photo**: Winnipeg Metropolitan Region.*

Municipal Natural Assets Initiative

The Municipal Natural Assets Initiative (MNAI) is a Canadian not-for profit that has defined and pioneered NAM as a mainstream practice that can be applied by an array of organizations that have rights and responsibilities for nature.

MNAI uses methodologies and tools rooted in standard asset management and provides a range of advisory services to help local governments implement them. MNAI has developed the methods and tools with significant

investments, piloting, refinement, peer review, and documentation of lessons in multiple Canadian provinces. MNAI's mission is to make natural asset management a mainstream practice across Canada, and in support of this, for local governments and other watershed agencies to accept and use the methodologies and tools in standard ways across the country.

MNAI's work with local governments has evolved from a single initiative 5 years ago to now working with 100+ local governments. MNAI is also active at an enabling level, developing national standards, professional norms and capacity. Together, these activity streams are helping drive natural asset management beyond innovators and into the realm of early adopters and beyond.

In keeping with the application of the United Nations Declaration on the Rights of Indigenous Peoples and Truth and Reconciliation Commission of Canada's: Call to Action, MNAI has prioritized centering inherent Indigenous rights and responsibilities in its methodologies.

WMR Project Elements

The WMR Project is intended to provide a base for shared decisions across Treaty One Territory toward making investments that can protect, restore and enhance land, water and other natural resources.

The origin of the WMR Project the development of a natural asset inventory. Natural asset inventories provide details on the types of natural assets a local government relies upon, their condition, and the risks they face. As depicted in Figure 8, a natural asset inventory is the first component of the Assessment phase in natural asset management. The Assessment phase, in turn, is the first of three phases of a full natural asset management project. By itself, an inventory will not give a sense of, for example, asset values but is an essential first step in comprehensive natural asset management efforts.

MNAI's natural asset inventories have two main components to express natural asset information: an asset registry (which is a tabular representation of the data) and an online dashboard.

MNAI has developed approximately 50 such inventories across Canada; however, until the advent of the WMR Project, these more standard efforts did not include First Nations worldviews, knowledge and perspectives.

Figure 8: Natural asset management methodology. Adapted from Asset Management BC.

Indeed, WMR and MNAI originally initiated an inventory focused narrowly on technical datasets of natural assets within the Winnipeg Metropolitan Region. However, an opportunity was identified to expand the inventory to include what the WMR Project now refers to as land, water and other natural resources in the geography of Treaty One Territory; and, to engage beyond municipal boundaries to collaborate with First Nation advisors and integrate Indigenous knowledge and perspectives into the data inventory and analysis.

The result was an effort centered on completing an inventory that includes both traditional technical data and First Nations worldviews, knowledge and perspectives. This decision was influenced by the WMR's involvement in the CLI process, as well as the cultural significance of land and natural features to First Nations in the area of Treaty One, with a focus on reconciliation.

The inventory now being developed within the WMR Project is intended to provide a robust foundation of data to consider land, water and other natural resources in long term planning, conservation, cultural activities, asset management and risk management while bringing awareness to the other significant uses of the land. The WMR Project involves a journey toward

bringing together municipal government and Indigenous Nation perspectives and knowledge around what the WMR project previously referred to as natural assets and their assessment.

A Project Team consisting of representative from WMR, Treaty One First Nations and MNAI identified key principles for this project including:

- Assist in the development of protocols and guidelines to inform land use, development, infrastructure, and servicing decisions;
- Provide an opportunity for joint ventures between stakeholders; and
- Ensure we are keeping the 7th generation in mind when we plan for the long-term.

The WMR Project has evolved in three phases, described below.

Phase 1: Develop a Land, Water and Other Natural Resource Inventory and Characterization

Building on the standard MNAI inventory approach, the WMR Project supported data collection from publicly available sources including from federal and provincial sources. The WMR and the MNAI engaged with the 18 WMR member municipalities to: provide insights on the WMR project and its benefits to municipal programs and processes; gain insight into municipal asset management practices and readiness to include natural assets in these programs; and, present a draft inventory for feedback.

The WMR contemplated how to adapt the MNAI approach for the inclusion of Indigenous Nation worldview perspectives. As a first step, the WMR engaged two First Nations advisors to be direct participants in the Project Team and help support project development including engagement, communications and inclusion of perspectives. Second, a Working Group was assembled to provide guidance on how to support the direction of the CLI leaders and create the conditions for a more inclusive approach that considers worldview perspectives from Indigenous Nations. Membership included:

- The Southern Chiefs' Organization – Geoff Reimer
- Manitoba Métis Federation – Marci Riel, Jasmine Langhan, Allison Kolly
- United Nations – Robert Sanford
- Centre for Indigenous Environmental Resources – Richard Farthing-Nicol
- WMR First Nations advisors – Jim Bear and Laren Bill
- WMR – Colleen Sklar and Natalie Lagassé

The Working Group discussed: terminology and description of natural assets; mapping and data sharing; traditional uses, risk, and opportunities; and final outputs reflective of First Nations, Métis Nation and municipal findings. The feedback received informed the draft inventory to be reflective of publicly available data, refined to demonstrate inclusive language and visuals.

Changing Practice

Early in the project, a decision to expand the geography of the inventory beyond the WMR to the entire Treaty One Territory geography was made, encompassing a larger area that includes First Nation lands.

A dashboard web application was developed to visualize and explore the inventory. During a review of the web dashboard, the term "natural assets" was deemed to be unreflective of First Nations' perspectives. The land's natural features were thought to hold greater meaning than a term often used to describe things in ways that convey strong monetary implications. A term was desired that better reflected a broader inherent value found in nature. Accordingly, with continued engagement with the seven Treaty One First Nations and the Red River Métis, and at the advice of Winnipeg Metropolitan Region's First Nation advisors, the project title was changed from "*Natural Asset Inventory*" to "*Land, Water and other natural resources Inventory*". Following this, "natural assets" were referred by "land, water, and other natural resources" in the WMR Project's subsequent work.

Another change involved lessening the saliency of jurisdictional boundaries in a primary interactive map displayed in the dashboard. Municipal boundaries were removed from the primary map to indicate continuity of natural features and systems such as rivers, wetlands, and forests. This better aligns with the worldview that nature is living breathing and unified entity, and set of systems rather than just the sum of its parts.

An addition to the dashboard to contextualize the larger geography of North America within Indigenous tradition was also made. The continent of North America was home to various Indigenous Peoples and cultures prior to contact with European settlers. In recognition of this habitation and in acknowledgement of Indigenous creation and origin oral traditions, the landing page of the portal housing the inventory was adapted to feature the legend of Turtle Island. This is further accompanied by a map of North America indicating approximate geographic areas habituated by various Indigenous Peoples. Both these graphics can be found in *Figures 4* and *5*.

A condition assessment was also initially carried out on the land, water and other natural resources inventory, classifying the different features on a scale between good, fair, and poor. Upon review, this assessment was deemed to be insufficient, as it used criteria that did not incorporate other perspectives, particularly those of First Nation peoples who may have a very different relationship with the identified natural features. For example, areas where features assigned as "poor" by the original inventory criteria may, in fact, be viewed as important by certain First Nation peoples for hunting or the harvesting of particular medicines. If such a location were identified as "poor", for example, this might expose them to be more amenable to loss, for example, via land development by municipalities or other means.

The members of the Working Group agreed that a different approach to understanding the value and the state of the land, water and other natural resources was necessary. In response, the Project Team explored ways to reconsider the natural asset inventory condition assessment, the identification of physical characteristics of natural features, and the ways relationships are characterized in the inventory.

Currently, new indicators based on physical attributes are being discussed. These include proximity to other wetland areas, and connectivity to water features. By providing an assessment based on physical indicators, as opposed to relying on narrow and specific interpretations such as land being "good" or "poor", a variety of interpretations will be possible depending on different interests and perspectives.

The Project Team will continue discussions to determine which indicators best align with the WMR Project's intent, while the dashboard containing the base inventory will be made public in the meantime.

Phase 2: Inclusion of Community Data

Phase 2 of the WMR Project involves refining the inventory with feedback through further engagement with First Nations, and discussing how community data may enrich the communication of the cultural importance of different areas within Treaty One Territory. Community data may include areas of traditional land use, such as hunting and medicine harvesting, which could emphasize the importance of locations within the land, water, and other natural resources inventory.

There may be sensitivities in sharing this form of data. Discussions with First Nations on what and how potentially sensitive data is shared is required. Based on discussion with the working group and First Nations the following must be considered:

- Sensitivities to sharing data and consent from First Nations;
- Projects specifics at the outset (e.g., objectives, approach, process, etc.);
- Data sharing principles (e.g., OCAP);
- Data sharing agreements and platforms;
- Distinctions between First Nations; and
- Degree of specificity in mapping desired by Nations.

Changing Practice

Building on the success of the CLI, the Project Team followed a similar approach to engaging with First Nations to undertake the WMR Project. This began by establishing a relationship with First Nations leadership and introducing the WMR Project in a series of meetings. Due to COVID-19 restrictions, introductory meetings took place via online platforms. However, in-person meetings would

have been preferred given the opportunity. As trust and understanding of the WMR project was built, the Project Team received more participation and feedback from First Nation leadership. This resulted in the inventory being expanded from the Winnipeg Metropolitan Region jurisdictional boundary to encompass the entirety of Treaty One Territory. This expansion reflects that natural features do not stop at jurisdictional boundaries and better reflect the traditional territories of the First Nations.

Additionally, upon the recommendation of First Nation leadership, the Project Team met with First Nation land managers, following introductory meetings with leadership. Discussions with land managers identified potential benefit to the Project and its participants by incorporating First Nation community-specific data into the water, land and other natural resource inventory. Following the meeting with land managers, the project team proposed to meet with each participating First Nation one-on-one to identify a process for moving forward. This approach recognized that not all Nations want to share information in similar ways and may have particular protocols for sharing and representing data. This phase is currently in progress and one-on-one discussions are on-going.

The output of Phase 2, which will continue through 2023, will be an inventory reflective of publicly available data, refined with private community data.

Phase 3: Mobilization

After Phase 2, the inventory will be presented to municipalities, First Nations, the Métis Nation, and the Working Group noted above. The inventory will provide a shared foundation to identify natural assets across the landscape in a simple and easily accessible way. This will enable opportunities to identify areas best suited for nature-based solutions; protection, restoration and enhancement of nature. This, in turn, will guide land use and investment decisions.

While the inventory will eventually be released to the public, this does not mean the WMR Project is completed; WMR will continue to work with municipalities and First Nations to continue to refine, add and improve the data and dashboard over time; and explore what other steps in the natural asset management process (see Figure 8) may be appropriate.

Changing Practice: Initial Observations

The WMR Project demonstrates that natural asset management approaches and First Nation perspectives can align to develop a shared natural feature inventory across a large land area that includes municipal jurisdictions and First Nation lands and territories. By continuing to work collaboratively, the WMR Project may reveal pathways for reconciliation.

Although the WMR Project is ongoing, some lessons can be learnt thus far. Paramount amongst these is that successful project collaboration can be better ensured by building favorable conditions for knowledge exchange between participants, in this case, First Nation advisors, communities, WMR and MNAI. These favorable conditions can be enhanced by integrating principles of trust and mutual respect in each step of the process. Establishing rules and practices around data sovereignty may further assist the process. These practices may lead to long term relationship building which is desirable for continued refinement and enrichment of the evolution in how municipalities and First Nations view and manage land, water and other natural resources within their communities and beyond.

Next Steps

The actions described in each Phase signal the beginning of the process of municipalities and First Nations collaboratively developing approaches to understanding land, water and other natural resources and their management. Phase 3 is expected to include designing engagement processes with seven Treaty One First Nation communities and the Red River Métis Nation. It may be important to engage new watershed stakeholders in future phases.

In addition to building inter-agency relationships based on mutual trust and respect, these engagement sessions are expected to better inform the contents of the Land, Water and other natural resources Inventory and potential subsequent phases of the natural asset management cycle, for example, valuations. Communications and engagement is expected continue to be guided by First Nation Advisors and WMR staff.

Finally, MNAI has obtained funding through the BC Real Estate Foundation to attempt to develop two natural asset inventories in British Columbia jointly between local governments and First Nations. This project will commence in late 2022 and integrate, as appropriate, ongoing findings from the WMR Project.

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Appendix A

MAP OF THE HUNTING AND FISHING GROUNDS OCCUPIED BY THE DIFFERENT TRIBES OF THE ABORIGINAL POPULATION OF CANADA, THE WHOLE REFERRING TO THE YEAR 1871.

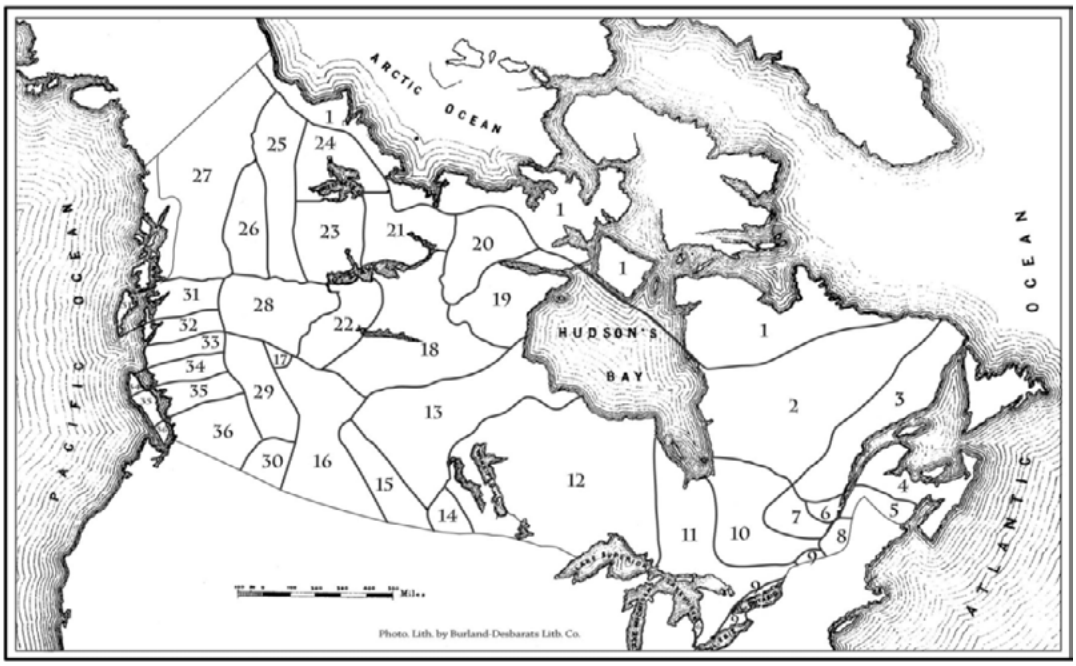

Table 1: Statistics Canada. (2015). Aboriginal peoples. Censuses of Canada 1665 to 1871. www150.statcan.gc.ca/n1/pub/98-187-x/4151278-eng.htm#part3

	Name of First Nations	Description of Places inhabited	Population	Territorial Superficies in English square miles
1/	**The Esquimaux, IN**	Littoral of the North Sea, from Labrador to Alaska, the northern shores and islands of Hudson's Bay, with the islands of the Arctic Ocean.	4,000	600,000
2/	**The Naskapis, AL**	Interior of Labrador, South-East Watersheds of Labrador, Rupert's Land to the East of Hudson's Bay, and the Mistassin Country.	2,500	330,000
3/	**The Montagnais, AL**	North shore of the Gulf and mouth of the St. Lawrence, valley of the Saguenay River. (These Indians do not fish.)	1,745	115,000
4/	**The Micmacs, AL** (Villagiers.)	Nova Scotia, Prince Edward Island, Eastern part of New Brunswick; counties of Bonaventure, Gaspé and Rimouski, in Quebec.	3,459	56,000
5/	**The Maléchites, AL** (Villagiers.)	Valley of St. John River, in New Brunswick, counties of Temiscouata, Kamouraska and L'Islet, in Quebec.	574	24,000
6/	**The Hurons, H.-I** (Villagiers.)	Lorette, environs of Quebec, and the County of Essex, in Ontario.	356	10,000
7/	**The Wamontachingues, Têtes de Boules, etc., AL**	St. Maurice Territory.	247	29,000
8/	**The Abénakis, AL** (Villagiers.)	South of the District of Three Rivers, Eastern Townships and vicinity.	326	13,000
9/	**The Iroquois, H.-I**	Kauknawaga, Lake of Two Mountains and St. Regis, in the Province of Quebec ; several places in Ontario, and especially on the Grand River.	6,374	13,000
10/	**The Ottawas, various tribes, AL**	Different places in Quebec, Valley of the Ottawa and part of the slopes of James Bay.	3,540	103,000
11/	**Algonquins, Potowatamis, northern tribes, etc., AL** (Partly villagiers.)	Large part of Ontario, Manitoulin and other Islands ; interior north of Lake Huron to James Bay, and south of that Bay.	8,637	124,000

	Name of First Nations	Description of Places inhabited	Population	Territorial Superficies in English square miles
12/	**The Sauteux, Maskégons and other tribes, AL**	North of Lake Superior, Portages, from the Lake to beyond Manitoba, south-eastern part of the North-West Territory.	9,000	336,000
13/	**The Prairie Crees, AL The Wood Crees, AL**	The regions of Lake Qu'Appelle, and of the Middle Kissiskatch'wan. To the north, N.E. and N.W. of the preceding	5,500 3,000	247,000
14/	**The Sioux, Frontier Wanderers, H.-I**	Neighbourhood of Manitoba.	1,400	17,000
15/	**The Assiniboines, H.-I**	From the River Souris towards the North-West.	2,000	52,000
16/	**The Black-feet The Blood Indians AL The Piégâns**	The south-western region of the North-West with part of the lands drained by the two branches of the Upper Kisiskatchiwan, to the North	4,000 1,500 2,000	126,000
17/	**The Sarcis, H.-I** (Adopted by the Blackfeet)	On the borders of the preceding.	200	6,000
18/	**The Western Montagnais or Chippewayans, D.D.**	From English River to Great Slave Lake, extending along the whole valley of the Athabaska.	5,000	195,000
19/	**The Cariboo Eaters, D.D.**	In the Steppes to the North-East of the Montagnais.	2,000	93,000
20/	**The Yellow Knives, D.D.**	To the east of Great Slave Lake, on the borders of the Cariboo Eaters.	500	72,000
21/	**The Dog Ribs, D.D.**	North of Great Slave Lake.	1,500	67,000
22/	**The Beavers, D.D.**	On Peace River.	1,000	58,000
23/	**The Slave Indians, D.D.** (called “Strong Bows&#148 by Franklin)	North-west of Great Slave Lake, on the Mackenzie and Liards Rivers.	1,200	73,000
24/	**The Hares, D.D.**	To the north of Great Bear Lake, bordering on the Esquimaux.	800	68,000
25/	**The Na'annès, D.D.**	The Mountains of the Mackenzie in the North West, and north-east corner of Columbia.	3,000	100,000
26/	**The Daho-Dinnis, D.D.** (Mauvais-Monde)	The slopes of the Rocky Mountains, Rivière aux Liards, in Columbia, extending to the north in the North-West.	1,500	57,000
27/	**The Loucheux, D.D.**	The western region of the North-West and the north-west region of British Columbia.	4,000	171,000
28/	**The Sekanis, D.D.**	Between Peace River and Rivière aux Liards, in Columbia especially, going south, as far as the sources of the Fraser River, they occupy both slopes of the Rocky Mountains.	2,500	85,000
29/	**The Takalis, Carriers, D.D.**	The interior of Columbia, from the Eastern frontier to the Upper Fraser.	2,000	57,000
30/	**The Kootanis, D.D.**	South-eastern part of Columbia.	1,000	20,000
31/	**The Haïdahs, D.D.** (4 clans)	Archipelago of Queen Charlotte’s Islands and the coasts and mainland opposite.	3,000	34,000
32/	**The Chemmesyans, D.D.** (4 clans)	Islands and mainland to the south of the preceding.	1,000	12,000
33/	**The Billacoolas, D.D.** (8 clans)	The estuaries and valleys of the rivers south of the preceding.	1,500	20,000
34/	**The Haïltsa, D.D.** (8 clans)	The northern part of Vancouver, and the coasts and mainland opposite.	2,500	29,000
35/	**The Noutkans or Wakash, D.D.** (6 clans)	Vancouver and the coasts, and mainland opposite.	3,000	34,000
36/	**The Tsihaïli Selish, D.D.** (9 clans)	Southern part of Vancouver and the valley of the Fraser.	5,000	52,000
		Total	**102,358**	**3,498,000**

Municipal Natural Assets Initiative