



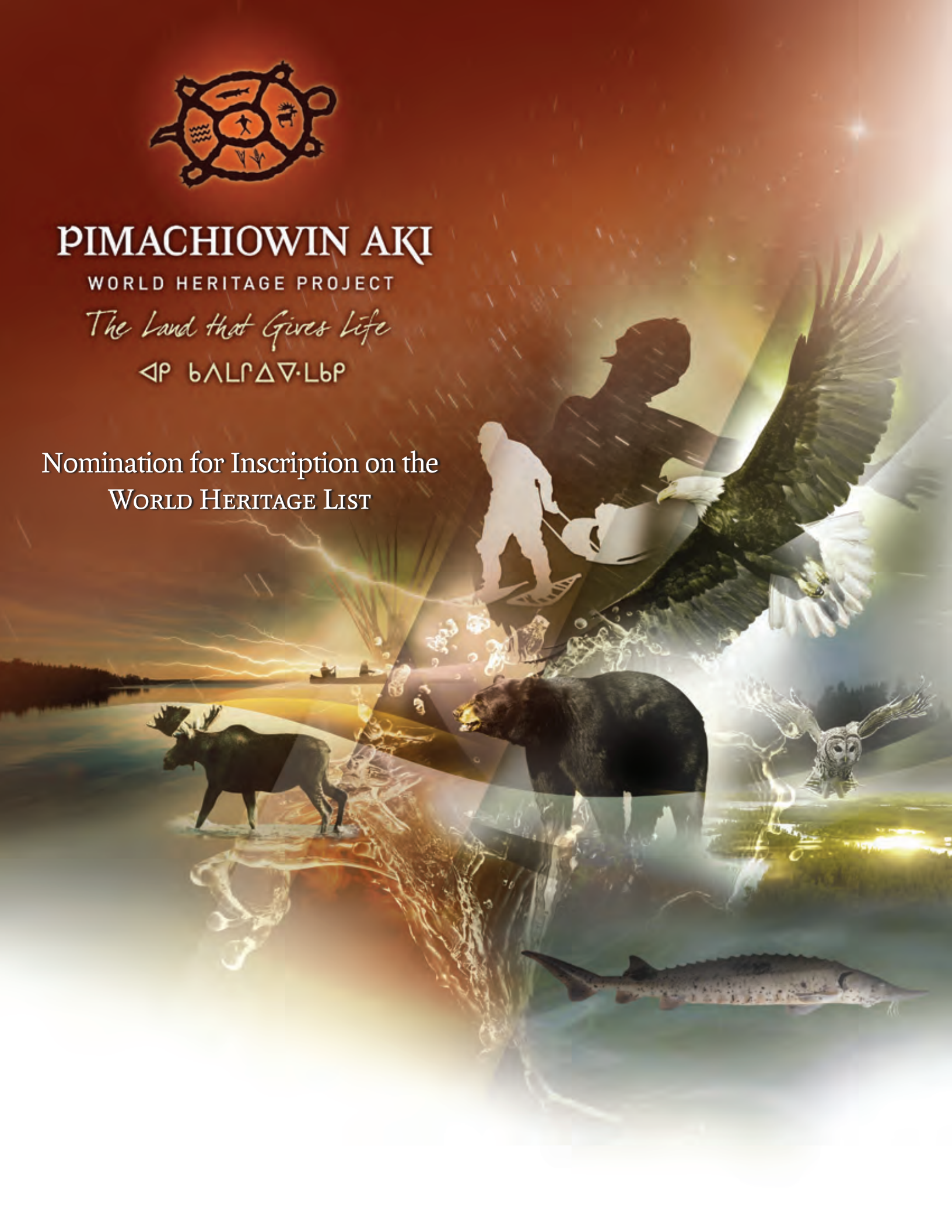
PIMACHIOWIN AKI

WORLD HERITAGE PROJECT

The Land that Gives Life

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Nomination for Inscription on the
WORLD HERITAGE LIST





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of this dossier.



On behalf of the Anishinaabe First Nations of Bloodvein River, Little Grand Rapids, Pauingassi, and Poplar River, and the governments of Manitoba and Ontario, and with the support of the Government of Canada, we are proud to nominate Pimachiowin Aki for inscription on the World Heritage List.

[illegible]

Through the Anishinaabe cultural tradition of *Ji-ganawendamang Gidakiiminaan* (Keeping the Land), Pimachiowin Aki has been cared for over the millennia and will be carried forward as a gift to future generations. Pimachiowin Aki is the largest network of contiguous protected areas in the North American boreal shield; a place where sustainability, resilience, diversity, and abundance are inextricably linked to a cultural tradition that benefits the boreal forest, its inhabitants, and the world.

[illegible]

The Pimachiowin Aki nomination is our contribution to an understanding of the intricate and indissoluble links between an indigenous culture and nature and how these may be recognized through the World Heritage Convention. This nomination has been prepared with careful consideration of advice provided by Advisory Bodies to the World Heritage Committee, the International Union for the Conservation of Nature (IUCN) and the International Committee on Monuments and Sites (ICOMOS).

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We appreciate the guidance provided by these Advisory Bodies and thank everyone who has contributed to this nomination. We especially thank the elders, who continue to inspire us.

Γb.-

Meegwetch!





William Young, Co-Chair
Director,
for Bloodvein River First Nation

Bruce Bremner, Co-Chair
Director,
for the Province of Manitoba

Ed Hudson
Director,
for Poplar River First Nation

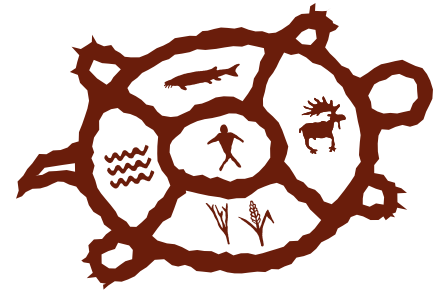
Graeme Swanwick
Director,
for the Province of Ontario

Joe Owen
Director,
for Pauingassi First Nation

Augustine Keeper
Director,
for Little Grand Rapids First Nation

PREAMBLE

Pimachiowin Aki, which translates as the *Land that Gives Life*, was chosen by elders from the First Nations as the name for the 29,040-square-kilometre Aboriginal cultural landscape that is the nominated area. It is meant as a reminder to us all that Anishinaabeg [Ojibwe people] are inseparable from *aki*, the land, which is at the centre of their existence. Elders also inspired a World-Heritage-project logo to represent Anishinaabeg's indissoluble links with nature. In the image of a rock pictograph seen on the back of the turtle are representations of water, lake sturgeon, moose, and plants. Also depicted at the center are Anishinaabeg, reflecting the Anishinaabe traditional role of caring for all life on the land. Based on knowledge passed down from generation to generation over millennia, *Ji-ganawendamang Gidakiiminaan* guides actions and decisions that ensure the long term health and sustainability of nature and of the communities within Pimachiowin Aki.



The Pimachiowin Aki partners share a vision. It is a vision of an ancient, continuous, and living cultural landscape in which Anishinaabeg and all other beings, the animals, the trees and plants, the fish, the waters, are understood and safeguarded as one living entity. This vision is one of a land that gives life and is celebrated as a gift from the Creator to be shared for the benefit not only of Anishinaabeg, but also for visitors, and for all of humanity.

The Pimachiowin Aki World Heritage project was initiated by the signing of an accord in 2002 amongst Anishinaabe First Nations, who defined a goal of protecting their ancestral lands and creating an internationally recognized and designated network of linked protected areas in the form of a UNESCO World Heritage site. Respectful relationships between these First Nations and the provincial governments of Ontario and Manitoba facilitated the creation, in 2006, of the Pimachiowin Aki Corporation to advance the shared goal of inscribing Pimachiowin Aki on the World Heritage List. Representatives of the four First Nation and two provincial governments now sit as equal partners on the Board of Directors of Pimachiowin Aki Corporation, which will be the organization accountable for the conservation, protection, and presentation of the Outstanding Universal Value of Pimachiowin Aki, should it be inscribed on the World Heritage List.

This innovative, collaborative model has been productive and successful during the last ten years as demonstrated in the present nomination. The Pimachiowin Aki partners have put in place further measures to ensure continued success. *Ji-ganawendamang Gidakiiminaan* is the means whereby this cultural landscape has been formed and maintained across generations. It is the foundation for the protection, management, and presentation of the *Land that Gives Life*.

The rights of First Nations in Canada are recognized and affirmed in the Constitution of Canada. Recognition of these rights, together with the First Nations' vision for protecting *aki*, the land that has given life for millennia, and with the support of the provincial and federal governments, ensures effective governance of the nominated area.

This nomination justifies mixed cultural and natural heritage under World Heritage criteria while stressing that the cultural and natural values expressed in Pimachiowin Aki, the nominated area, are fully integrated as a cultural landscape: the manifestation of an ancient, enduring, and sustainable kinship between culture and nature.





EXECUTIVE SUMMARY

State Party: Canada

Provinces: Manitoba and Ontario

Name of Property (Nominated Area): Pimachiowin Aki

Geographical Co-ordinates to the Nearest Second:

The geographic coordinates near the centre of the nominated area are:

95 deg 24 min 40 sec. 6W

51 deg 49 min 35 sec. 1N

Textual Description of the Boundaries of the Nominated Area

Pimachiowin Aki encompasses 29,040 square kilometres of land and water in the North American boreal shield. The nominated area lies within two provincial jurisdictions, Manitoba and Ontario, and reflects an innovative partnership between four Anishinaabe First Nations—Bloodvein River, Little Grand Rapids, Pauingassi, Poplar River—and the provinces.

The nominated area is comprised of the protected areas established in First Nation planning areas, one provincial wilderness park in Manitoba, and one provincial wilderness park and a conservation reserve in Ontario. All lands in the nominated area are protected under law from commercial forestry, mining, and hydroelectric development.

BOUNDARIES

The north and west boundaries of the nominated area follow the boundaries of the First Nation planning areas of Bloodvein River, Little Grand Rapids, Pauingassi, and Poplar River First Nations.

The southern boundaries of the nominated area correspond to those of Woodland Caribou Provincial Park and the Eagle-Snowshoe Conservation Reserve in Ontario, and Atikaki Provincial Park in Manitoba.

The eastern boundaries of the nominated area follow the eastern boundaries of the First Nation planning areas of Little Grand Rapids and Pauingassi, as well as the eastern limit of Woodland Caribou Provincial Park.



Pimachiowin Aki Nominated Area

Canada Lambert Conformal Conic





Pimachiowin Aki Nominated Area

CRITERIA UNDER WHICH PROPERTY IS NOMINATED

Criteria (iii), (vi), and (ix).

Canada wishes Pimachiowin Aki to be considered a cultural landscape.

DRAFT STATEMENT OF OUTSTANDING UNIVERSAL VALUE

Brief Synthesis

Pimachiowin Aki (the Land that Gives Life) is a 29,040-square-kilometre cultural landscape of Anishinaabeg (Ojibwe people). Through the cultural tradition of *Ji-ganawendamang Gidakiiminaan* (Keeping the Land), Anishinaabeg have for millennia lived intimately with this special place in the heart of the North American boreal shield.

Ji-ganawendamang Gidakiiminaan consists of the beliefs, values, knowledge, and practices that guide Anishinaabeg in their interaction with *aki* (the land and all its life) and with each other in ways that are respectful and express a reverence for all creation. The cultural tradition is given tangible manifestation in harvesting sites, habitation and processing sites, traplines, travel routes, named places, ceremonial sites, and sacred places such as pictographs associated with powerful spirit beings. These attributes are dispersed widely across a large landscape and concentrated along waterways, which are an essential source of livelihood resources and a means of transportation. Anishinaabe customary governance and oral traditions ensure continuity of the cultural tradition across generations.

Pimachiowin Aki is a vast area of healthy boreal forest and wetlands, exposed bedrock, myriad lakes, and long free-flowing rivers. Waterways provide ecological connectivity across the entire landscape. Wildfire, nutrient flow, species movements, and predator-prey relationships are key, naturally functioning ecological processes that maintain an impressive mosaic of ecosystems. The nominated area supports an outstanding diversity of boreal plants and animals, including iconic species such as wolf, moose, woodland caribou, and loon.

Pimachiowin Aki is the most complete and therefore exceptional example of a landscape within the North American Subarctic geo-cultural area that provides testimony to the cultural tradition of *Ji-ganawendamang Gidakiiminaan*. This could not be without Pimachiowin Aki being an exceptional example of a large, healthy and diverse mosaic of characteristic North American boreal shield ecosystems. Anishinaabeg are an integral part of the boreal ecosystems in Pimachiowin Aki, which is the foundation for their survival as a people. The beliefs, values, knowledge, and practices that reflect this intimate adaptation have preserved the boreal forest of Pimachiowin Aki. In this way, Pimachiowin Aki exemplifies the indissoluble bonds between culture and nature.

An innovative and collaborative, cross-cultural partnership has been formed between four Anishinaabe First Nations and two provincial governments with the shared vision of sustaining this living cultural landscape. The cultural tradition of *Ji-ganawendamang Gidakiiminaan* will sustain this outstanding cultural landscape into the future.

Criterion (iii)

Pimachiowin Aki provides the most complete testimony to the ancient and continuing cultural tradition of *Ji-ganawendamang Gidakiiminaan* (Keeping the Land). Through the beliefs, values, knowledge, and practices embodied in this cultural tradition, Anishinaabeg have lived for millennia with the boreal forest that sustains them. Ancient and contemporary harvesting sites, habitation and processing sites, travel routes, named places, traplines, and sacred and ceremonial sites provide tangible representation of *Ji-ganawendamang Gidakiiminaan*. These sites are found throughout Pimachiowin Aki and are especially evident along waterway travel routes, which provide connectivity throughout the landscape.



Criterion (vi)

Pimachiowin Aki is directly and tangibly associated with the living cultural tradition of *Ji-ganawendamang Gidakiiminaan* through which Anishinaabeg uphold a sacred trust to ensure *aki* (the land and all its life) is cared for and respected. Anishinaabe customary governance ensures collaborative use of the land, including between neighbouring and related communities. The cultural tradition is maintained across generations through a vibrant oral tradition that includes legends, stories, and songs. The deep and abiding connection between Anishinaabeg and the land through *Ji-ganawendamang Gidakiiminaan* is a compelling example of the inseparability of an indigenous culture and its local environment that can inspire people around the world.

Criterion (ix)

Pimachiowin Aki is the most complete and largest example of the North American boreal shield, including its characteristic biodiversity and ecological processes. Pimachiowin Aki contains an exceptional diversity of terrestrial and freshwater aquatic ecosystems and fully supports wildfire, nutrient flow, species movements, and predator-prey relationships, essential ecological processes in the boreal forest. Predator-prey relationships are sustained among species such as wolf, and moose and caribou, and lynx and snowshoe hare. Sustainable hunting and trapping by Anishinaabeg are part of predator-prey interactions. Pimachiowin Aki's remarkable size, intactness, and ecosystem diversity support characteristic boreal species and species of conservation concern such as woodland caribou, wolverine, lake sturgeon, leopard frog, and Canada warbler.

Integrity

Pimachiowin Aki contains all of the attributes that express the cultural tradition of *Ji-ganawendamang Gidakiiminaan* (Keeping the Land) and all the elements necessary to ensure continuity of the key ecological processes of the boreal shield. The robust combination of First Nation and provincial protected areas forms the largest network of contiguous protected areas in the North American boreal shield. The vast size of the nominated area provides for the future livelihood and cultural needs of Anishinaabeg and for ecological resilience, especially in the context of climate change. Extensive buffer zones further contribute to integrity.

The cultural attributes and natural features of Pimachiowin Aki are remarkably free from the adverse effects of development and neglect. There is no commercial forestry, mining, or hydroelectric development in the nominated area. Waterways, the lifeblood of *aki*, are free of dams and diversions.

Authenticity

The authenticity of Pimachiowin Aki is remarkable. Anishinaabe knowledge, ethical and spiritual teachings, and customary governance associated with *Ji-ganawendamang Gidakiiminaan* guide behaviour in relation to the nominated area today, as has been the case for millennia. Oral traditions in the Anishinaabe language continue to be central to the expression and intergenerational transmission of the cultural values of *Ji-ganawendamang Gidakiiminaan*. The nominated area illustrates more than 7,000 years of indigenous occupancy that is centred on the traditional land use areas of the four Pimachiowin Aki Anishinaabe First Nations. Archaeological evidence demonstrates contemporary cultural sites and travel routes have been used from ancient times through to the present.

Protection and Management Requirements

First Nations have played the leading role in defining the approach to protection and management of Pimachiowin Aki. Protection and management of Pimachiowin Aki is achieved through Anishinaabe customary governance, grounded in *Ji-ganawendamang Gidakiiminaan*, contemporary provincial government law and policy, and cooperation among the four First Nation and provincial government partners. Through First Nation-led planning and application of legislation, protection of the nominated area has been established. First Nation and provincial partners have created the Pimachiowin Aki Corporation and developed a consensual, participatory governance structure, financial capacity, and a management plan for the nominated area.





The Pimachiowin Aki Corporation enables the partners to work in an integrated manner across the nominated area to ensure the protection and conservation of all cultural attributes and natural features and processes. The management framework is designed to meet potential challenges in the protection and conservation of the nominated area, such as monitoring and mitigating the potential impacts of the construction of an all-season road over the next 20 to 40 years.

An accord signed by the Anishinaabeg of Pimachiowin Aki affirms a sacred trust to care for the land for future generations. A *Memorandum of Agreement* between the provincial governments provides assurances about protection and management of the nominated area. The Pimachiowin Aki partners share a commitment to work together to safeguard the potential Outstanding Universal Value of Pimachiowin Aki for present and future generations.

NAME AND CONTACT INFORMATION OF OFFICIAL LOCAL INSTITUTION

Organization Name: Pimachiowin Aki Corporation
Address: 220 Rochester Avenue
City: Winnipeg, Manitoba
Postal Code: R3T 3W2

Tel: (204) 275-1564
Fax: (204) 275-1572

Email: whp@shaw.ca
Web Address: www.pimachiowinaki.org

Pimachiowin Aki Corporation is the official local institution accountable to conserve, protect, and present the proposed Outstanding Universal Value of Pimachiowin Aki. The Corporation's Board of Directors provides strategic direction and ensures resourcing to fulfil the organization's Vision, Mission, and Goals, including implementation of the Pimachiowin Aki Management Plan prepared for the nominated area. Each of the four First Nation and two provincial governments are represented by one Board member and the Board is supported by a professionally staffed Secretariat.

Individual First Nation and park land management plans have been approved and adopted under provincial legislation to govern land use and decision-making for the constituent parts of the nominated area and to sustain Anishinaabe relationships with the land. Under this legislation, decisions about land and resource use in Pimachiowin Aki must be consistent with these management plans. While authority for decision-making under these plans will continue to rest with the relevant First Nations and provincial governments, in addition to guiding implementation of the Pimachiowin Aki Management Plan, the Pimachiowin Aki Corporation will participate in the implementation of these First Nation and park management plans to ensure decision-making supports the conservation and protection of the proposed Outstanding Universal Value of the nominated area. Section 5 provides further detail about the Pimachiowin Aki Corporation and governance of the proposed World Heritage Site.



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1

IDENTIFICATION OF THE PROPERTY

(NOMINATED AREA)





1

IDENTIFICATION OF THE PROPERTY (NOMINATED AREA)

1.a COUNTRY

Canada

1.b PROVINCES

Manitoba and Ontario

1.c NAME OF THE NOMINATED AREA

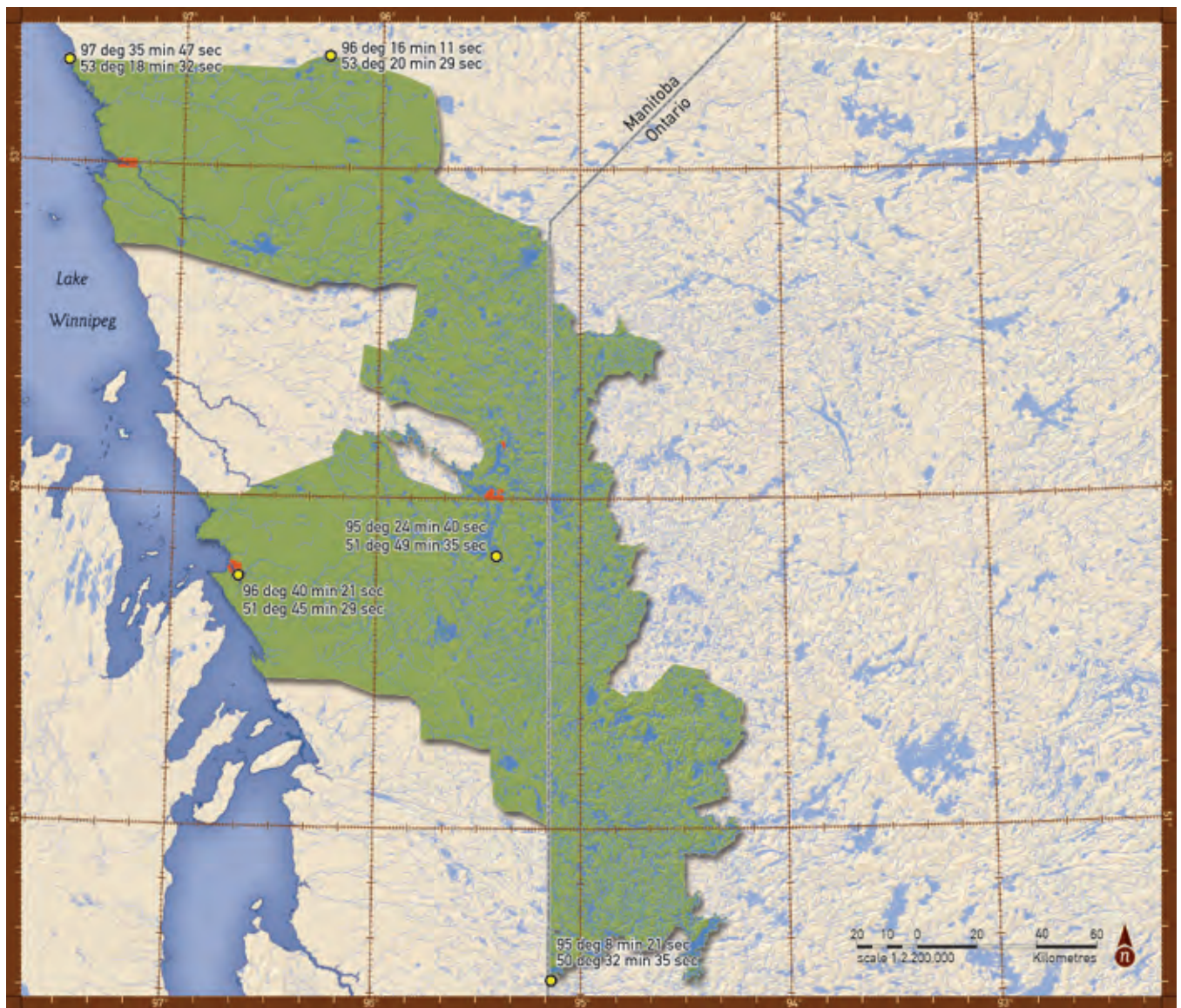
Pimachiowin Aki

1.d GEOGRAPHICAL COORDINATES

The geographical coordinates near the centre of the nominated area are:

95 deg. 24 min. 40 sec. 6W

51 deg. 49 min. 35 sec. 1N



Coordinates of the nominated area

Canada Lambert Conformal Conic





1.e MAPS AND PLANS, SHOWING THE BOUNDARIES OF THE NOMINATED AREA AND BUFFER ZONES

Figure 1.1 situates Pimachiowin Aki within North America. Pimachiowin Aki's boundaries and buffer zones are illustrated in Figure 1.2.

Four large-scale maps of the Pimachiowin Aki proposed World Heritage Site are included in Appendix D, as follows:

Map 1. Pimachiowin Aki Proposed World Heritage Site

Map 2. Pimachiowin Aki Proposed World Heritage Site – Topographic Map

Map 3. Pimachiowin Aki Proposed World Heritage Site – Nominated Area and Buffer Zones

Map 4. Pimachiowin Aki Proposed World Heritage Site – Nominated Area and Buffer Zones – Topographic Map

Maps 1-4 show the nominated area and buffer zones, on both thematic and topographic maps.



Pimachiowin Aki will be carried forward as a gift to future generations (© H. Otake 2010)



Figure 1.1 Location of the nominated area within North America

North America Equidistant Conic



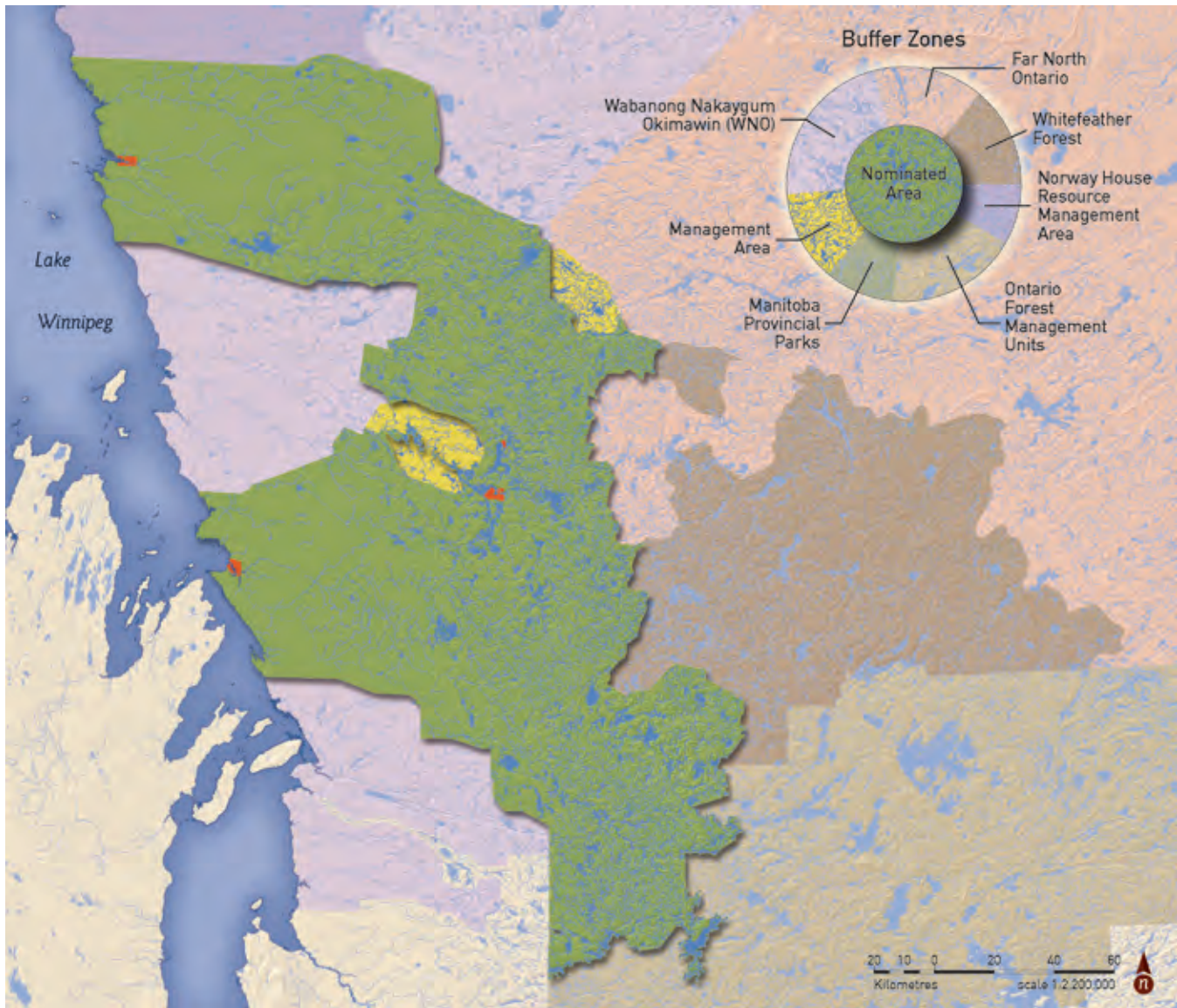


Figure 1.2 Boundaries of the nominated area and buffer zones

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NOMINATED AREA

The nominated area includes portions of the planning areas of the four Pimachiowin Aki First Nations: Bloodvein River, Little Grand Rapids, Pauingassi, and Poplar River. First Nations, along with Inuit and Métis, are Aboriginal peoples of Canada.

First Nation planning areas are the lands for which First Nations lead land management planning in collaboration with the provinces (see Figure 5.6). Land management plans for these areas have been approved and given legal effect under provincial legislation. First Nation planning area boundaries are based on historic traplines held by each First Nation. These planning areas are culturally significant because they reflect traditional harvesting areas of Anishinaabe extended families and are therefore associated with customary stewardship and governance.

First Nations, in collaboration with the provinces, determined which portions of their planning areas are included within the nominated area. Those First Nation planning area lands that are included in the nominated area have



been protected under provincial legislation. The nominated area also includes a provincial wilderness park in Manitoba and a provincial wilderness park and a conservation reserve in Ontario. These protected areas are established under provincial legislation.

Taken together, the nominated area proposed by the Pimachiowin Aki partners encompasses 29,040 square kilometres of land and water—a continuing indigenous cultural landscape in the North American boreal shield.

BOUNDARIES

The north and west boundaries of the nominated area follow the boundaries of the First Nation planning areas of Bloodvein River, Little Grand Rapids, Pauingassi, and Poplar River First Nations.

The southern boundaries of the nominated area correspond to those of Woodland Caribou Provincial Park and Eagle–Snowshoe Conservation Reserve in Ontario, and Atikaki Provincial Park in Manitoba.

The eastern boundaries of the nominated area follow the eastern boundaries of the First Nation planning areas of Little Grand Rapids and Pauingassi, as well as the eastern limit of Woodland Caribou Provincial Park. The eastern boundaries of the nominated area are adjacent to the Pikangikum First Nation planning area (Whitefeather Forest).



Dense, needle-leaf forest extends to the lakeshore (© H. Otake 2010)

Buffer Zones

Pimachiowin Aki is nested within a broader landscape of largely intact boreal forest and wetlands. This surrounding area is governed by laws and plans that provide complementary legal and planning frameworks that ensure consideration of the cultural and natural values of Pimachiowin Aki. In each of these frameworks, Aboriginal people either play a direct role in land use decision-making or are consulted in order to account for their values.

Management Area

The Management Area includes those portions of the First Nation planning areas that are not included in the nominated area. These adjacent lands are referred to as the “Management Area” because they fall under the direct management responsibility of Pimachiowin Aki partners. Any future land use decisions about these lands will be made by the individual First Nation with the relevant provincial government, taking into account the proposed Outstanding Universal Value of Pimachiowin Aki. The Management Area is 1,100 square kilometres.

Manitoba Provincial Parks

Two Manitoba provincial parks—Nopiming and South Atikaki—are located along the southern boundary of the nominated area. Both are classified as Natural Parks under the Manitoba *Provincial Parks Act*. These parks are mandated to maintain habitat for woodland caribou, provide nature-oriented recreational opportunities, and protect cultural values. Decisions about the use of these parks are made by the Manitoba government under authority of the *Provincial Parks Act*. Combined, the parks include 1,950 square kilometres.





Far North—Ontario

Ontario's *Far North Act* provides a planning framework through which the government of Ontario makes land- and resource-use decisions for a vast part of the province. The Little Grand Rapids First Nation and Pauingassi First Nation land management plans (for traditional harvesting areas in the Province of Ontario) were developed under the *Far North Act*. First Nations with traditional lands adjacent to Pimachiowin Aki are working cooperatively with the provincial government to develop community-based land management plans that protect the region while allowing environmentally sustainable economic development. The portion of the Far North planning area that is within 25 kilometres of the nominated area is approximately 10,000 square kilometres.

Ontario Forest Management Units

Four forest management units lie adjacent to the southeast corner of the nominated area in Ontario. These forest management units are geographic planning areas guided by a legal framework for sustainable development of provincial Crown lands. The *Crown Forest Sustainability Act* and the *Environmental Assessment Act* guide the Government of Ontario's decision-making about management of these lands. This framework is based on principles of sustainability, public involvement, Aboriginal peoples' involvement, and adaptive management. Those portions of Ontario forest management units that are within 25 kilometres of the nominated area cover an area of 7,600 square kilometres.

Whitefeather Forest

The Whitefeather Forest, located adjacent to the eastern boundary of the nominated area, is part of the ancestral land use area of Pikangikum First Nation. In June 2006, Pikangikum First Nation and the Ministry of Natural Resources and Forestry approved "*Keeping the Land: A Land Use Strategy for the Whitefeather Forest and Adjacent Areas*". The Land Use Strategy (LUS) provides the strategic framework for continuing the stewardship tradition of Pikangikum First Nation, while providing a means for resource based economic development and employment opportunities for the First Nation. The LUS provides direction for several land use intents, including community-led commercial forestry, non-timber forest products, tourism, recreation, and dedicated protected areas. In 2011, the majority of the Whitefeather Forest dedicated protected areas were regulated under Ontario's *Provincial Parks and Conservation Reserves Act*. Those portions of the Whitefeather Forest within 25 kilometers of the nominated area cover an area of 3,326 square kilometers, and are primarily designated as protected areas.

Wabanong Nakaygum Okimawin

The Wabanong Nakaygum Okimawin (WNO), meaning "east side of the lake governance" in Ojibwe and Cree, aims to develop a vision of land and resource use in the area that respects both the needs of local communities and the ecological value of the boreal forest in Manitoba. The WNO is supported by Manitoba's *East Side Traditional Lands Planning and Special Protected Areas Act*, which enables First Nations-led land management planning. Planning is underway in WNO First Nation communities with traditional lands adjacent to Pimachiowin Aki. Plans that are developed by these First Nations through community-led planning processes would be enacted in law by the Government of Manitoba. Within 25 kilometres of the boundary of the nominated area, the WNO area covers an area of 9,250 square kilometres.

Norway House Resource Management Area

The Norway House Resource Management Area (RMA) was created under the Norway House Master Implementation Agreement among Canada, Manitoba, the Norway House Cree Nation and Manitoba Hydro in relation to hydroelectric development. A Resource Management Board with equal representation of the Norway House Cree Nation, and Manitoba was established under the agreement to develop land use and resource management plans for the RMA. The provincial government makes land-management decisions within the RMA upon recommendations by the board. Two thousand seven hundred square kilometres of the RMA is within 25 kilometres of the boundary of the nominated area.



1.f AREA OF NOMINATED AREA

Nominated area:	29,040 square kilometres (2,904,000 ha.)
Buffer zone(s):	35,926 square kilometres (3,592,000 ha.)
Total:	64,966 square kilometres (6,496,000 ha.)



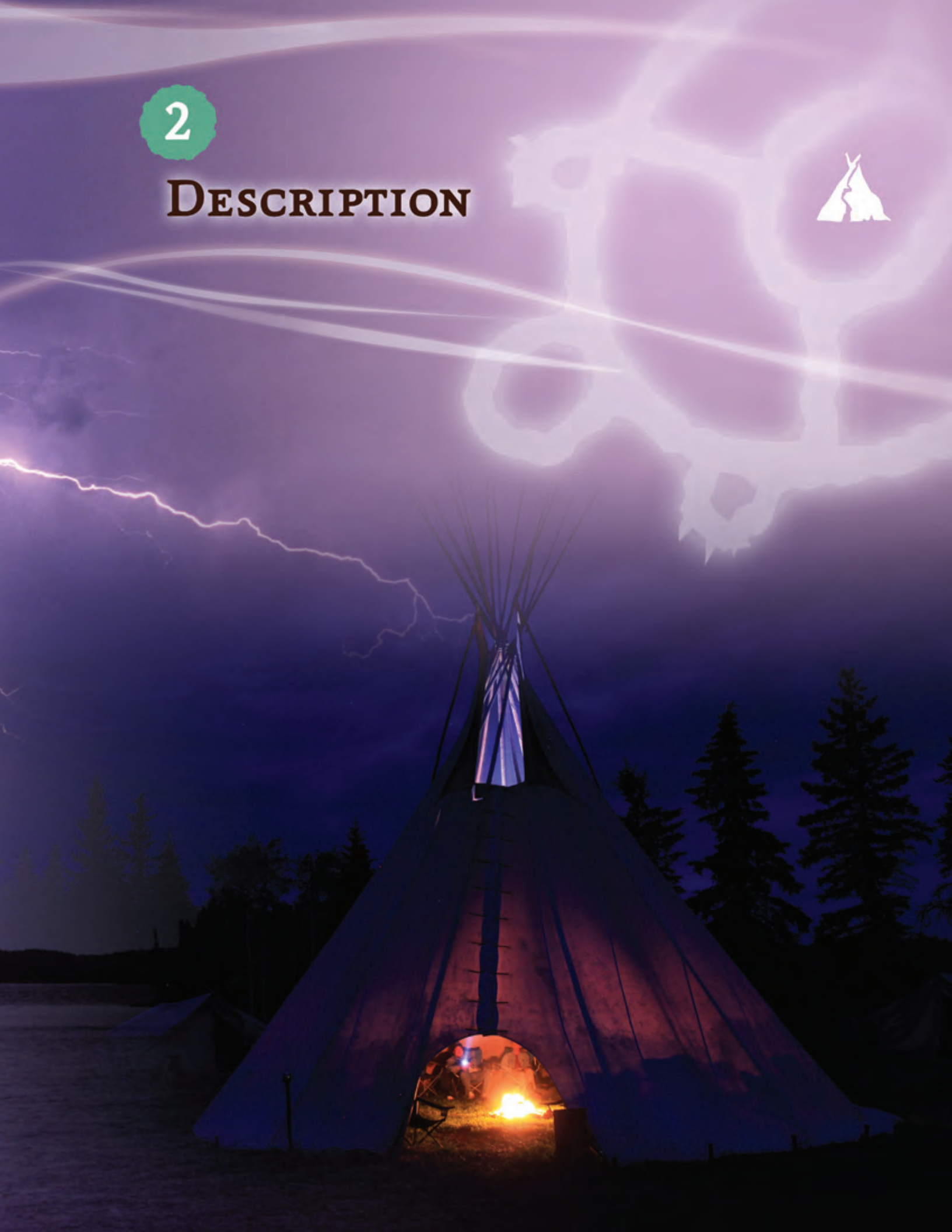
Pimachiowin Aki is largest network of contiguous protected areas in the North America boreal shield (© H. Otake 2006)





2

DESCRIPTION





2

DESCRIPTION

THE PIMACHIOWIN AKI CULTURAL LANDSCAPE

In *Anishinaabemowin*, the Ojibwe language, *Pimachiowin Aki* means “the Land that Gives Life.” *Pimachiowin* refers to a good life in the fullest sense: enjoying good health, longevity, freedom from misfortune, and a rewarding livelihood. For Ojibwe of Pimachiowin Aki, the Creator has provided in Pimachiowin Aki everything Anishinaabeg (Ojibwe people) need to lead a good life. The Creator’s gift of Pimachiowin Aki is a healthy, beautiful boreal forest.

For Anishinaabeg, *aki* refers to the land and all life that emerges from and flows across the land. *Aki* includes all of the Creator’s gifts of sun, water, wind, rain, fire, rock, soil, plants, and animals. *Aki* is also the source of life; all of the features, beings, forces, relationships, and processes that together make up the Land that Gives Life. For Anishinaabeg, the land is everything with which they share life; it is everything that Anishinaabeg depend on for survival and well-being.

A visitor to Pimachiowin Aki will feel awe for the tremendous amount of fresh, clear water and the dense forest. The human spirit is inspired by the remarkable beauty of lakes and rivers, the granite cliff-faces and shorelines, the colour, light, and sound of rushing water, the waves breaking on the shores. Chance encounters with moose, woodland caribou, or perhaps a wolf or lynx reinforce one’s awareness that this is a remote part of North America. Bald eagles soaring overhead, the haunting call of a loon in the early morning, and the howling of wolf packs to star-filled skies are all part of experiencing Pimachiowin Aki. Most memorable is meeting Anishinaabeg and learning about their ancestral stewardship of this beautiful and special place.

Pimachiowin Aki’s 29,040-square-kilometre area is larger than many countries, including Albania, Belize, or Kuwait. It is a vast boreal forest with myriad freshwater lakes, rivers, and wetlands. The land ranges from undulating ancient bedrock ridges to extensive low-lying wetlands. Wildfire is the dominant force working across the landscape to produce a complex living mosaic.

Pimachiowin Aki is at the heart of the North American boreal shield, beyond the mainstream of Canada’s modern cities, towns, and services (see Figure 2.24). It is home to Anishinaabeg of four remote First Nation communities within the nominated area: Bloodvein River, Little Grand Rapids, Pauingassi, and Poplar River (see map of nominated area in Executive Summary).

Anishinaabeg are the sole year-round residents of the nominated area. Anishinaabeg hunt animals such as moose, trap fur-bearing animals such as muskrat and beaver, fish the rivers and lakes, and gather and cultivate native plants such as *manoomin* (wild rice). Anishinaabeg travel throughout the nominated area to pursue customary livelihood activities and conduct ceremonies and other cultural activities.

Because Pimachiowin Aki is remote, travel across the landscape has always depended on intimate familiarity with its many waterways. The rivers of Pimachiowin Aki have many twists and turns, and numerous rapids, chutes, and waterfalls. Travel by land and by water requires skill and patience in navigation, boating, canoeing, portaging, snowshoeing and, when travel is not safe, camping on the land. Anishinaabeg learn these skills at an early age



Pimachiowin Aki is a healthy, beautiful boreal forest (J. Wrobel 2010)



through the experience of living on the land and listening to elders. Although snowmobiles and motor boats have made travel more efficient, survival still depends on an intimate knowledge of the land.

A challenging climate, complex hydrology, and dramatic natural disturbances are among the primary ecological drivers of the boreal shield ecosystem of Pimachiowin Aki. These ecological drivers have also shaped the culture of Anishinaabeg and an intimate, indissoluble bond with the land. Anishinaabeg understand there is an essential kinship among all life on the land. Anishinaabeg are shaped, physically and spiritually, by the plants and animals consumed from the land and thereby embody the land. Every aspect of their being reflects their intimate association with aki. For Anishinaabeg, travel through the forest reinforces the physical, emotional, and spiritual bonds with *aki*. The wind blowing in the poplar trees can inspire a song; a little bird on a nearby tree branch can be an encounter with a departed loved-one.

2.a(i) DESCRIPTION OF THE CULTURAL LANDSCAPE

The Creator made the lands and the waters. He gave all creation the most precious and sacred gift of life. He gave us everything we need to live and to be strong: the sun, clean air, clean water, all the plants grow[ing] on the earth and all living creatures. The Creator gave every living thing a job and responsibility to ensure the circle of life continues. The Creator placed us on this land and gave us the job to protect and care for these lands as a sacred duty and trust to our future generations. Like our ancestors, we are the caretakers of this land and we know once the resources from the land are depleted we will have nothing. We have been told by our elders to keep the land as it was when the Creator made it.

Poplar River Land Management Plan (PRFN 2011: 8)

Anishinaabeg understand the Creator put them on the land, providing them with all the physical and spiritual resources they need to survive and prosper. In acknowledgement of the gift of life, Anishinaabeg uphold a sacred trust with the Creator to care for *aki*, the land and all its life. This sacred trust entails a duty to work with other beings in a respectful way, a way that honours creation, with the understanding that all beings are united under the Creator, *Gaa-debenjiged* or *Gizhe-Manidoo* (Great Spirit).

According to Anishinaabe beliefs, prosperity and goodness can only be achieved through harmonious relationships between Anishinaabeg and the Creator, and between Anishinaabeg and all life on the land. The land is the source of *bimaadiziwin* (the good life) in which everything is *onizhishin* (it is good, as it is supposed to be). The greatest ambition of Anishinaabeg is *mino-bimaadizi* (to lead a good life), which includes success in hunting, freedom from misfortune, good physical, mental, and spiritual health into old age, and healthy, happy children (Matthews and Roulette 2010a). The health and well-being associated with *bimaadiziwin* depends on maintaining respectful and harmonious relationships with all life on the land.



Elder with Prayer Drum [© H. Otake 2010]

Anishinaabeg seek to fulfil their sacred trust with the Creator, and thereby pursue a good life, through the cultural tradition of *Ji-ganawendamang Gidakiiminaan* (Keeping the Land).





Ji-ganawendamang Gidakiiminaan

Ji-ganawendamang Gidakiiminaan is a set of beliefs, values, knowledge, and practices that guide relations with the land and all life placed on the land by the Creator; these are the *aadizookewin* (“teachings”) passed down through the generations through oral traditions in *Anishinaabemowin* (the Ojibwe language). These oral traditions, learned especially while people are out on the land, are central to the continuity and authenticity of associations with the nominated area. It is through oral traditions that the significance of the nominated area is articulated within the Anishinaabe world view. Land and language are inextricably tied to one another.

When Anishinaabeg speak of Keeping the Land, they refer to their sacred trust for maintaining the land as it was created by the Creator. This sacred trust directs Anishinaabeg to be respectful of the diversity and abundance of the boreal forest and the interrelationships among all life on the land, including the ethical and spiritual relationships that unite all beings under the Creator. Following is a brief discussion of three principles of *Ji-ganawendamang Gidakiiminaan* that guide how Anishinaabeg keep the land and maintain an intimate interdependence with the nominated area. These three principles are honouring the Creator’s gifts, behaving respectfully towards other beings, and maintaining respectful relationships with other people.

1. HONOURING THE CREATOR’S GIFTS

The Creator provided every material resource needed to live a good and prosperous life. In addition to healthy food and clean water, the materials needed year-round for *akiing ondaaji'idizowin* (land-based livelihood activities), travelling across the land, and building shelter have all been provided in Pimachiowin Aki. The Creator gave these gifts to ensure survival of Anishinaabeg.

“Every living thing, including the smallest insect, was given jobs to do, to make sure the life our Creator made will always be there. Plants and trees for example were given many jobs, cleaning the air, medicines, as food for the birds, animals, fish and people. Some of the animals, birds and fish were given the job to feed us and much more. Our job as given to us by the Creator was to take care of all the life on the earth.”
Elders Abel Bruce and Albert Bittern (November 5 to 15, 2013)

All life was created with spirit, with inherent powers and potency, including the potential for volition. Moreover, all life was created with purpose, including the purpose of nourishing other lives. Anishinaabeg, like all of the animals, must harvest life in order to survive; harvesting life is one way Anishinaabeg demonstrate respect for the Creator’s gift of survival. If Anishinaabeg stop harvesting life in Pimachiowin Aki, this would suggest they no longer need or respect the Creator’s gifts and might lead to the declining availability of those gifts.

The Anishinaabe tradition of *Ji-ganawendamang Gidakiiminaan* is not focussed on transforming the landscape but living within the opportunities and limits presented by the boreal forest environment of Pimachiowin Aki. Anishinaabe *akiing ondaaji'idizowin* (customary livelihood practices) entail the harvest of plants, animals, and other forms of life in a manner that ensures the continuity of the Creator’s gifts. Every being, every thing on the land, has a purpose for being and its own relationship with the Creator that must be respected, even if that relationship is not well understood by human beings.



Ceremony is a way to honour the gifts that sustain life
(© H. Otake 2010)



Anishinaabe elders in Pimachiowin Aki speak of a personal responsibility for ensuring one's behaviour does not interfere, directly or indirectly, with the ability of other beings to make choices or to maintain their relationship with the Creator (O'Flaherty *et al.* 2009). This duty of non-interference exists alongside the duty to harvest the life that has been provided for the survival of Anishinaabeg. Both duties reflect the importance of honouring the Creator's gifts. The principle of honouring the Creator's gifts is also upheld through careful observance of respectful behaviour, including ceremony, to avoid causing offence to other beings and, ultimately, the Creator.

2. RESPECTFUL BEHAVIOUR TOWARD OTHER BEINGS

"An old man told me this story, as he was told by another old man before him. Long ago in the wintertime, people were camped in the bush hunting around for food and fur. A little boy from that camp threw a bone from a lynx into a fire without telling anybody. After a while the men of that camp didn't kill anything no matter how hard they tried. They couldn't find any tracks of animals anywhere...

[A] young man... noticed the boy was missing and he knew they left him back somewhere for that spirit. So he ran back to look for that boy and he heard him screaming for help. When he came close to the boy, he saw the spirit approaching the boy. He yelled out to the boy and told the boy not to worry. He pulled out his arrow and shot towards the spirit. He hit the spirit in the chest and he shot him again with another arrow... He was shot to death with two arrows.

That was the only story I ever heard and he told us never to burn bones from any animals."
Elder Josie Owen (in translation, April 10, 1984)

In Anishinaabe belief, all living beings must be treated respectfully. For example, it is inappropriate to tease or speak poorly about other animals, whether large or small. Respect for animals that have given up their lives for Anishinaabe survival is demonstrated, in part, by ensuring no part of a harvested animal is wasted. This shows the animal was not killed in vain but to fulfil an important purpose among the living: "Everything that was taken had a purpose, and was to be respected at all times; in other words nothing was wasted" (BRFN and Manitoba 2012). Respect for harvested animals is also shown by *gibimi-giiwewatoon* (giving something back to the land) after harvesting. For example, the bones of beaver and fish are returned to the water while saying a traditional prayer that acknowledges the spirits of those animals will live again in the waters.





"There was one... fellow [who] could not sleep there were so many mosquitoes. So he said to his wife, "Make a rogan [birch bark basket]." As soon as mosquitoes came along and lit on his hand, he put them into the rogan. He kept them there the whole summer.

When winter came, on the very coldest day in January, he took this rogan out and carried it outside. ... As soon as the mosquitoes came out and started to fly, they froze. "Last summer you never left me alone—now I'll punish you for this," he said. So he started to laugh at them now, flopping black on the snow.

When the summer came the mosquitoes came again. They did not give him any chance to sleep; bad in daytime, too... Finally he took to the water to escape—just his head sticking out. Still the mosquitoes were after him. It did not make any difference. Finally he could stand it no longer, was sure the mosquitoes would kill him.

Then he heard a voice: "Will you do this thing to us again that you did?" He did not see anyone, just heard the voice. He said, 'No, I'll promise never to do that again as long as I live.' 'Don't you ever try to do that to us again. Next time, if you do it we'll kill you.' And the mosquitoes never bothered him anymore."
Elder Adam Bigmouth (in translation, 1938 & 1940, in Brown n.d.: 142–43)

When harvesting plants, and especially medicines, an offering of tobacco is provided to show thankfulness. For harvests of medicines, tobacco is given to the frog, which is associated with the control of medicinal plants and knowledge of their potencies.

It is also customary for Anishinaabeg to leave something of value at offering sites in order to demonstrate respect for those spirit beings that control the weather, or how and when animals are made available for Anishinaabeg to harvest. Such spirit beings are known as Creator's helpers because they help to carry out the Creator's plan. For example, *Binesiwag* (Thunderbirds), the most powerful spirit-entities after the Creator, are responsible for many things, including bringing rain, lightning, and life-renewing fire to the forest. According to Anishinaabe linguist Roger Roulette, "without the Thunderbirds there wouldn't be life as we know it" (Matthews 1995). Thunderbirds are also known to come to people in their dreams and offer knowledge, as illustrated in the story of Fairwind (see Box 2.1).

"Thunderbirds are large birds that look after the life in the sky, they are the lead bird. They build their nests from stones and have their young like any birds. They come this way in the spring and leave in the fall."
Elders Abel Bruce and Albert Bittern (November 5 to 15, 2013)



Box 2.1 Fairwind's Drum—Gift of a Thunderbird

Fairwind (Naamiwan) was a renowned medicine man at Pauingassi during the first half of the 20th century. He had a large, beautifully decorated drum that he used to communicate with the spirit world and effect healing among people. Fairwind obtained the design and purpose of the drum in a dream that he recounted each time he played the drum. The dream came to him as he sat on a particular rock on *Miskwaadesiwiziibi* (Mud Turtle River) grieving after the death of a beloved grandson.

Elder Charlie George Owen relates the story of Fairwind's dream (translation by Margaret Simmons, in Matthews 1993):

He [Naamiwan] put down his gun, took off his mitts, and he sort of knelt down and he had his back towards the sky, so it was there when, while he was crying, tears were just pouring, pouring down. And it was during this time that he got this dream, and somebody spoke to Naamiwan and said, 'Don't be lonely anymore'. And it seemed to come from the direction of the east. And he said, 'I'm going to give you a gift and with this gift you will become a healer. You will help many, many people of this gift that I'm giving you'. And he got the instructions on how to make the drum".

It was a Thunderbird that gave the design and purpose of the drum to Fairwind, and offered to act as his ritual partner in use of the drum for healing. In the retelling of the story, the name of the spirit being was not used out of respect.

Memegwesiwag are another of the Creator's helpers. The *memegwesiwag* are semi-human beings, typically described as having the appearance of a dwarf with a long beard and no nose. They have a specific association with water, herbal medicines and especially stone; they are often referred to in English as "little rock people." They are not made of rock but have a strong association with stone; for example, according to ancient teachings it was the *memegwesiwag* who taught Anishinaabeg to make pipe stems and arrow heads from stone. Offerings are often made to *memegwesiwag* at places where they are known to inhabit or visit. Respect for both *Binesiwig* and *memegwesiwag* is also demonstrated by avoiding speaking directly about these beings or pointing at and visiting the places where they dwell.

People are guided in how they make use of the land in Pimachiowin Aki by the need to observe respectful behaviour toward other animals/beings to avoid committing offence. This is integral to the stewardship of all life on the land and a part of how Anishinaabeg pursue a good life (*mino-bimaadizi*).



Naamiwan (Fairwind), holding a swan wing
(A.I. Hallowell Collection 1930s American Philosophical Society)





3. RESPECTFUL RELATIONSHIPS WITH PEOPLE

"How many times will you meet another human being to share your meat with? Don't ignore or hate him/her, meet and talk to him/her. If you don't do these things, you won't last long."
Adam Owen (March 19, 1984)

"You should not fight or tease each other. All of us should love and try to get along with each other. If you ever love children, give them what you have and not only your own children but also their friends. Your children should think good of each other and that will help you through life. If you go to another reserve, treat children the same way that you do in your community."
Elder Mary Ann Keeper (presentation to school children in Pauingassi, in translation, March 22, 1984)

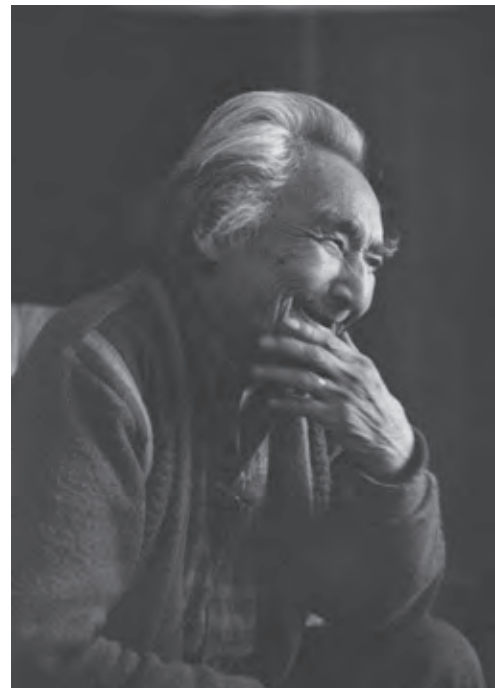
Ji-gichi-inenimidiyang (maintaining respectful relationships with other people, or respecting one another) is an equally important principle of Keeping the Land. Good relations with people follow from the practice of understanding the inherent value of each person, regardless of their social status.

Sharing harvests with relatives and friends, and especially with the elderly, is an important means of ensuring there are good relationships among people. For example, when people kill larger animals such as moose, they try to ensure that as many other people as possible get a share, even if it is a small piece of meat. Sharing also allows for the wider distribution of scarce resources, or resources found only in certain areas, such as medicinal plants or lake sturgeon.

In addition, because customary livelihood practices require using a large and varied landscape, sharing of land is an important way to ensure people are able to pursue a good life. The ability of Anishinaabeg to adapt to changes in resource availability across the broad landscape depends on maintaining close personal and kinship ties, including with people in neighbouring communities.

Maintaining respectful relations through sharing and cooperation is especially important among extended family members since it is typically these people, and in particular one's elders, from whom one learns the *aadizookewin* (teachings) that make up *Ji-ganawendamang Gidakiiminaan* while travelling, working, and living on the land.

Because wisdom comes with age and experience on the land, elders and other people with *akiiwi-gikendamowining* (land-based knowledge) are especially esteemed for their role in guiding decision-making in personal, family and community matters related to use of the land. Knowledgeable elders are revered for their role in ensuring continuity of *Ji-ganawendamang Gidakiiminaan*.



Elders are esteemed for their knowledge
(M. Matthews 1994)

In general, the practice of *ji-gichi-inenimidiyang* (maintaining respectful relationships with other people) directs Anishinaabeg to maintain good relations with all people, since all people were created equally and in principle are of the same inherent value and importance. In addition to the central importance of harmonious relations with friends and extended family members, partnerships and alliances with Anishinaabeg and non-Anishinaabeg from other regions are cherished and maintained as part of *mino-bimaadizi* (the pursuit of a good life). It is this aspect





of Keeping the Land that guides relations between the Pimachiowin Aki partners, including respectful cross-cultural and consensus-based decision-making within the Pimachiowin Aki Corporation (see Section 5).

SUMMARY

“We all fit side by side on this circle [of life], and we all are important, depending on each other for life. No one is more important than the other. That is why we have a strong relationship with all life.”
Albert Bittern (November 5 to 15, 2013)

The Anishinaabe cultural tradition of *Ji-ganawendamang Gidakiiminaan* (Keeping the Land) expresses three fundamental principles described above:

1. Honouring the Creator’s gifts, the gift of life that is Pimachiowin Aki, through appropriate use of the land for harvesting, habitation and travel;
2. Observing respectful behaviour toward other beings, and all life on *aki*, through appropriate harvesting practices and ceremony; and
3. Respecting one another by maintaining harmonious relations with other people, including through partnerships and alliances, and by respecting the guidance of elders as bearers of the cultural tradition.

The beliefs, values, knowledge, and practices that make up *Ji-ganawendamang Gidakiiminaan* shape direct and tangible associations with the landscape of the nominated area, guiding Anishinaabeg to interact with the land and with each other in ways that are respectful; in ways that express *ji-gichi-inendamang* (reverence for all creation), with the understanding that all life is united under the Creator. It is the maintenance of this respectful relationship to the land that is the basis for *bimaadiziwin* (the good life).

The significance of *Ji-ganawendamang Gidakiiminaan* is evident in the continued health and vitality of the forest in the nominated area and in the survival of Anishinaabeg across millennia of social and economic change. The site-specific cultural attributes described in the next section express the significance of *Ji-ganawendamang Gidakiiminaan* in sustaining both land and people.

Pimachiowin Aki as an Expression of *Ji-ganawendamang Gidakiiminaan*

Pimachiowin Aki is an exceptional expression of the cultural tradition of *Ji-ganawendamang Gidakiiminaan*. A complex network of interlinked sites, routes, and areas make up the attributes that span the nominated area, providing testimony to the beliefs, values, knowledge, and practices that constitute Keeping the Land.¹ While the material remains of Anishinaabe use and occupation are generally impermanent and often difficult to observe for an untrained eye, the evidence of *Ji-ganawendamang Gidakiiminaan* is pervasive within the nominated area and can be understood through Anishinaabe knowledge and oral traditions.

Anishinaabeg are a highly mobile people and their material culture reflects the need for mobility. Traditionally, “technology was light-weight and expedient and shelter was portable in order to facilitate mobility: [it reflected] a strategy involving moving people to the resources, rather than transporting widely dispersed resources to a permanent central place” (Hamilton 2010). Prior to more permanent settlement in First Nation Reserve communities,² Anishinaabeg dispersed widely on the land during winter, shared productive fishing sites during spring and autumn, and gathered in larger settlements during the summer.

¹ All mapped data on cultural landscape attributes presented below represents the outcomes of documentation to date and is therefore illustrative rather than comprehensive.

² Establishment of Reserves is discussed in Section 2.b History and Development, “Relations with government.”





Aided by more efficient transportation, people today more commonly make briefer seasonal trips out to their cabin and camp sites, then return to the First Nation community, which now functions as a more permanent place of residence. Nevertheless, the same basic pattern of use continues, whereby people disperse widely on the landscape in order to make use of season-specific resources. This pattern of use is reflected in the geographic distribution of cultural sites and areas, their interconnection through traditional travel routes, and the continuing significance of widely dispersed attributes in supporting Anishinaabe occupation and use of the landscape.

The following description of the nominated area as an expression of *Ji-ganawendamang Gidakiiminaan* demonstrates how the cultural attributes of Pimachiowin Aki reflect the principles of the cultural tradition discussed earlier.



The present-day Pauingassi First Nation community was previously a summer gathering site (Manitoba Sustainable Development 2014)

The attributes that reflect the cultural tradition include harvesting sites, habitation and processing sites, travel routes, named places, sacred and ceremonial sites, and trapline areas. At harvesting sites, Anishinaabeg of Pimachiowin Aki honour the Creator's gifts through the harvest of plants, animals, and other forms of life in a manner that ensures continuity of all life on the land. The habitation and processing sites of Pimachiowin Aki are used by Anishinaabeg to be near seasonal resources and to work together in collecting and processing fresh and storable food. Travel routes, especially waterways, and the named places that serve as landmarks along those travel routes, support the shifting use of this vast landscape as the people respond to the uneven and changing distribution of resources. Sacred and ceremonial sites are important nodes on the Pimachiowin Aki cultural landscape where Anishinaabeg acknowledge dependence on the Creator and observe respectful behaviour toward other beings. Trapline areas within Pimachiowin Aki enable shared use of the land while also acknowledging that extended family groups are responsible for stewardship of specific areas, based on their established histories of trapping, hunting, and fishing.

HARVESTING SITES

Harvesting sites in Pimachiowin Aki express the importance of honouring the Creator's gifts through *akiing ondaaji'idizowin* (customary livelihood practices); that is, through the continued harvest of plants, animals, and other forms of life in a manner that ensures continuity of all life on the land. Harvesting activities at these sites also provide a tangible context for the affirmation and intergenerational transmission of beliefs and values that make up *Ji-ganawendamang Gidakiiminaan*.

Anishinaabe elders and harvesters have documented both broad areas and specific sites used for hunting, trapping, fishing, and gathering. Specific sites at which harvests have occurred are shown as points in Figures 2.1, 2.2, and 2.14; more general areas throughout which harvesting has occurred are shown as polygons in these figures. Figure 2.1 provides an overview of the multitude of sites, routes, and areas associated with the hunting of birds and large game, and the trapping of fur-bearers, by Anishinaabeg in Pimachiowin Aki. As an example of how Anishinaabe livelihood practices are expressed on the land, Figure 2.2 provides a closer look at hunting and trapping sites documented by Poplar River First Nation. Box 2.2 provides an illustration of seasonal travel and harvesting sites in adjacent traplines in the Pauingassi area.

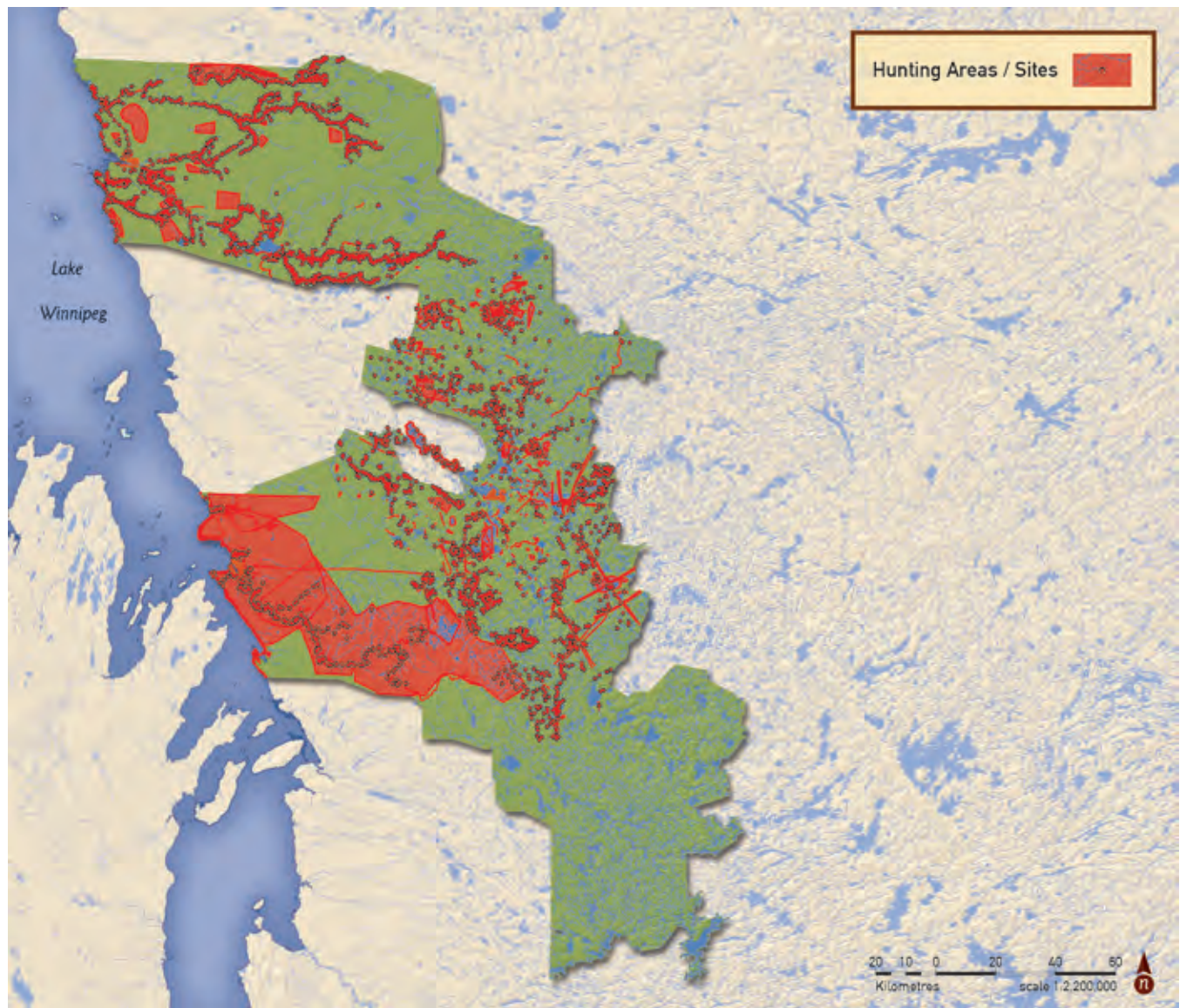


Figure 2.1 Anishinaabe hunting and trapping sites in Pimachiowin Aki

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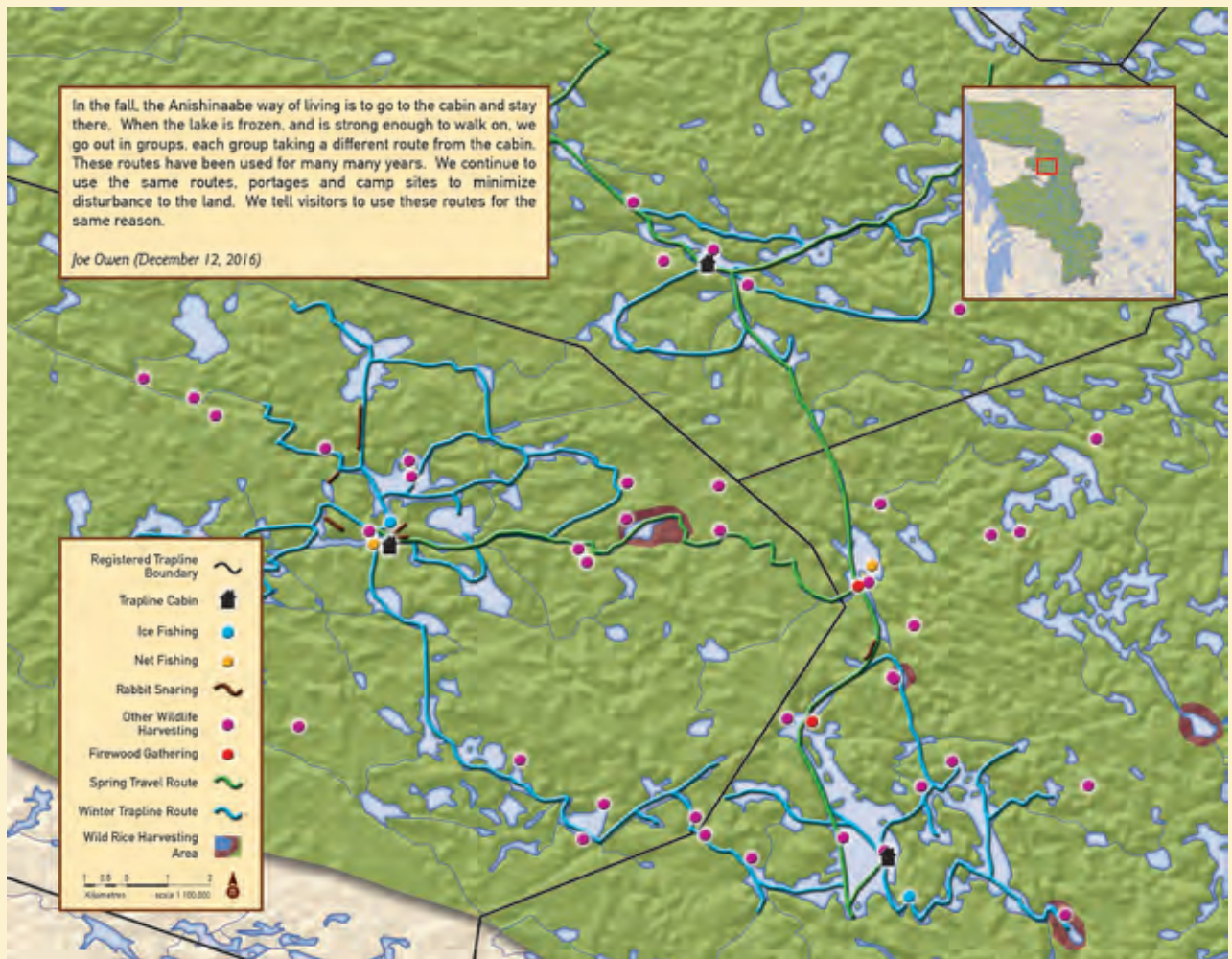


Figure 2.2 Hunting Sites in the Poplar River area

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Box 2.2 Some harvesting sites in the Pauingassi area



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Resources in the boreal forest are highly dispersed, with especially favoured resources often found in specific and small patches or places. *Akiwi-gikendamowining*, the land-based knowledge of Anishinaabeg, is especially important in locating these patches. Box 2.3 provides an illustration of a highly localized and difficult-to-find medicinal plant harvesting site on *Pinesewapikung Sagaigan* (Weaver Lake), upstream from the Poplar River community.



Preparing a beaver hide (H. Neufeld 1950's)

Box 2.3 Medicinal plant harvesting site on *Pinesewapikung Sagaigan* (Weaver Lake)

There are certain medicines that are hard to find, and sometimes we have to travel far to pick them. A few years ago, maybe eight or nine years... our late friend Howard Bruce started to suffer, he was having a hard time breathing. One of our elders told us to make some medicine for him, he told us to get two types of plants. One of them is called *mitigomishiin* [Scrub Oak]. Somebody remembered that there was some close by, but we didn't know exactly where it was.

Some of us went out by boat right away to look along the shore [of *Pinesewapikung Sagaigan*] for the *mitigomishiin*. One of our elders offered tobacco before we left to help us find the medicine. We left our camp on the bay of the lake, close to *Kitche Assin* ("Big Rock"). We travelled east and followed the shoreline around to the north side and around *Muskegomoosagaaning* ("the bay where the muskeg comes down to the lakeshore"). We stopped several times to look around for the medicine and we were gone most of the day. We passed *Paagitinigewening* (the prayer offering place) and then *Gookooko'oo saagasaweningminitik* (an island which is named after an old lady whose name was Owl and where people used to smoke tobacco for ceremonies). When we got to *Sagatowipowitik* (the last rapids upstream on the Poplar River before Weaver Lake) we found the medicine. An elder offered tobacco to the medicine first and then we picked the medicine and took it back to our camp.

There are only a few places around here where this *mitigomishiin* [Scrub Oak] grows and we were happy to find it that time.

Elder Abel Bruce (November 5, 2014)



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The locations of preferred resource patches shift over time in response to ecological change, especially following forest fires. Wildfire is a key driver of change and continuity in the boreal forest, affecting the availability of preferred plant and animal resources. The location of trapping and hunting sites shifts over time in response to the movement of animals and changes in habitat associated with ecological succession. Because of these shifts in location, effective hunting and trapping requires access to harvesting sites across the entire nominated area. When desired animals become more scarce in one area, people join friends and relatives in other areas where those animals are more abundant. In this way, animals and their habitats under stress are able to recover in those areas as hunting is shifted to other areas. When populations are again healthy, harvesting efforts can move back to those areas that have rested.

This shifting of harvest locations in response to ecological change is enabled through the sharing of land, a reflection of the principle of *ji-gichi-inenimidiyang* (maintaining respectful relationships with other people), as described below under Trapline Areas.





The landscape of the nominated area reflects this shifting or rotational use of harvest sites—an adaptation to the highly uneven distribution of resources in the boreal forest—through the widespread distribution of these sites throughout the nominated area. By way of illustration, the distribution of moose-harvesting sites within the nominated area is a reflection of a long-standing and well-developed *akiiwi-gikendamowining* (land-based knowledge) of moose behaviour and habitat.

Moose are hunted through most of the year, except mid-summer when the meat is less tasty. The shorter, cooler days of autumn and the leafless fall forests provide ideal conditions to hunt moose as they concentrate along the rivers, lakes, and forest openings to mate. During this rutting season when bull moose are in search of females, Anishinaabeg mimic the bull and draw the animals into an open area. In winter, when Anishinaabeg track moose in the snow, a successful hunt depends on correctly interpreting animal movement. Knowledge of resource availability following fire is critical to determining the location of successful moose-hunting sites. Figure 2.3, developed from interviews with elders, shows the shifting availability of moose habitat over time following fire, with the availability of preferred moose browse declining through time following fire (Miller 2010).

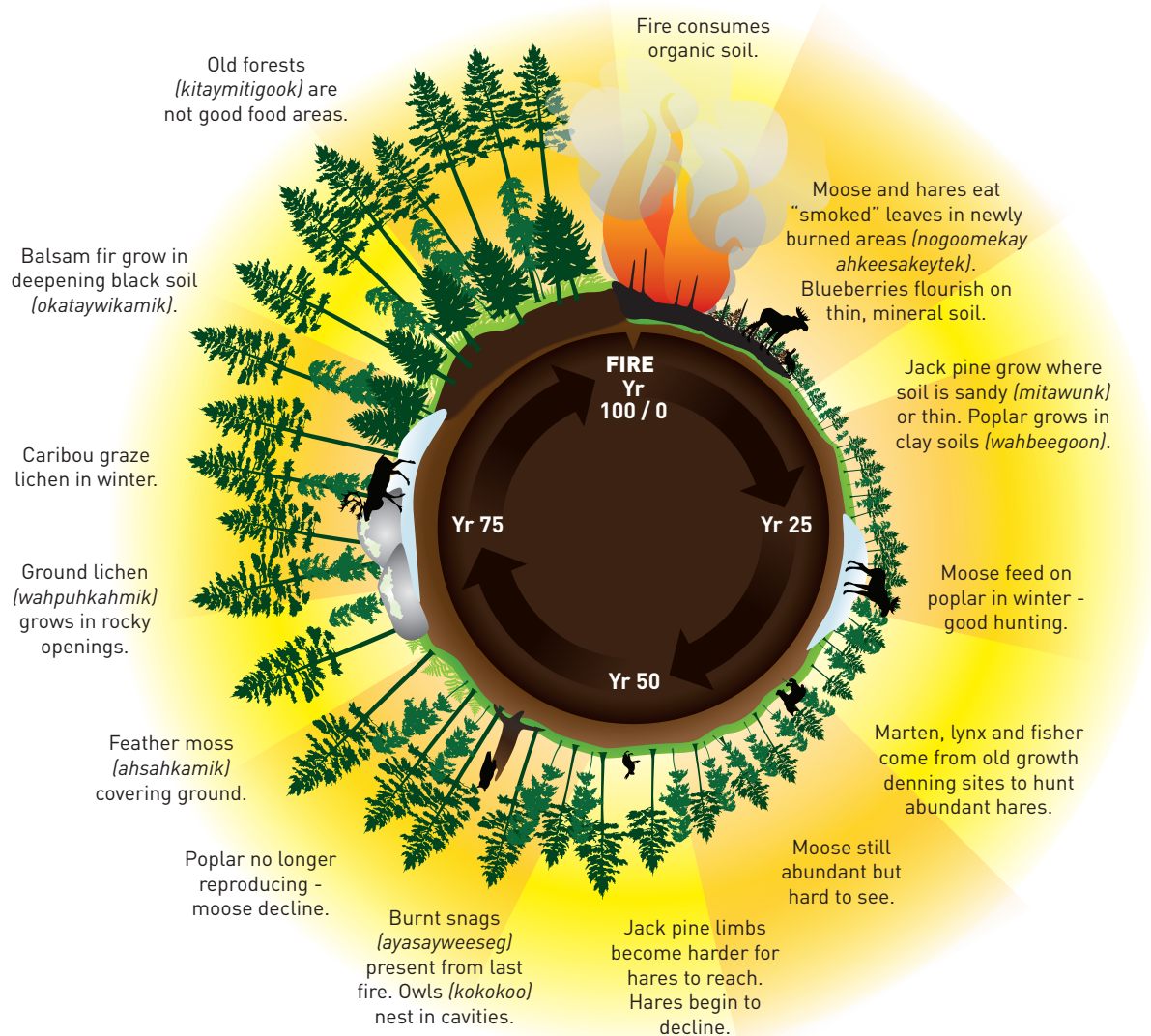


Figure 2.3 Anishinaabe knowledge of resource availability following forest fire (adapted from Miller 2010)





Figure 2.3 also shows knowledge of productive blueberry patches that can be found three to 10 years after a fire. Some elders say they have travelled half a day by foot from camp sites in order to harvest berries at prime collecting areas that had burned several years earlier. Many other animals that are hunted and trapped frequent these berry patches, including bears, game birds, and foxes.

Another type of harvesting site includes those places that are used more regularly over the years, since their habitat values are less subject to change over time. For example, places where waterfowl can be harvested in most years include rapids where migrating waterfowl concentrate at the open water in the early spring, before the ice has melted from the lakes and rivers. As summer approaches, waterfowl nest in the shoreline vegetation along the lakes. There are also well-known resting spots for waterfowl migrating south in the autumn. These are all known as good places to hunt waterfowl.



Harvesting blueberries (R. Pengely 2009)



Fishing with a gill net (© H. Otake 2010)

Spring and autumn spawning sites for fish are also well known and provide reliable harvesting sites for brief periods each year. Important spring-spawning fish include lake sturgeon, suckers, and walleye. Fall-spawning species include whitefish and lake trout. Anishinaabeg fish on all of the larger lakes and rivers in Pimachiowin Aki. Gill nets are used on lakes, including under the ice in winter using a specially designed jig for pulling the net under the ice. Fishing with a hook and line is also common in Pimachiowin Aki. Anishinaabeg have used seine nets, hooks, lances, harpoons, weirs, and traps to harvest fish for centuries.

Some harvesting sites in Pimachiowin Aki have been intentionally managed to increase the local abundance of desired plants and animals. One of the most impressive examples of culturally modified harvest sites are the *manoomin* (northern wild rice) harvest areas that are found across the nominated area. Archaeological evidence in Pimachiowin Aki, on Rowdy Lake and the Bloodvein River, indicates that Anishinaabeg were cooking wild rice in pots at least 1,200 years ago (Boyd and Surette 2010).

Elders of some communities in Pimachiowin Aki have explained how wild rice stands were planted and tended as part of customary livelihood practices. Anishinaabeg plant *manoomin* by carefully selecting locations with the correct water depth, clarity and bottom conditions, and then either sow pre-soaked, specially selected seeds, or place them in mud balls so they sink to the bottom of the water.





"We went to the Etomami [River] to gather wild rice up—stayed three weeks... There were seven families from Little Grand Rapids and five from Berens River—over fifty people there at a camping ground on the west side of the river... We used to take two bags back to Eagle Lake [Moar Lake]—100 pounds apiece (each the size of a flour sack). We used it carefully during the winter—enough to keep us till May."
Elder Adam Bigmouth (in translation, 1938 & 1940, in Brown n.d.: 31–2)

Manoomin stands planted by Anishinaabeg are under the stewardship of the person or family who did the planting. Harvesting is under that person's or that family's guidance. *Manoominikewin* (tending of wild rice stands) can also include trapping beaver, which alter desired water levels by building dams, and clearing out competing vegetation such as water lilies (Davidson-Hunt *et al.* 2012: 119).

Manoomin is a culturally important food and medicine for Anishinaabeg, and an important part of ceremonial feasts. *Manoomin* is also an important source of food and shelter for a variety of animals that Anishinaabeg harvested, including beaver, muskrat, ducks, and geese. Wild rice stands provide important habitat for "millions of migratory and resident birds that permanently and temporarily live in the boreal" (Dohan and Voora 2010a). The shallower margins of *manoomin* stands are often habitat for *wiikenzh*, or sweet flag (*Acorus americanus*), an important medicinal plant to Anishinaabeg. *Manoomin* stands are significant for their role in supporting the biodiversity of the boreal forest, providing a source of food, medicine, and shelter for other animals.



Manoomin (wild rice) ready to harvest (© H. Otake 2012)

A second form of culturally modified harvest sites are places, known as *bashkosigewining*, where Anishinaabeg use the customary controlled burning of shoreline wetlands, to enhance habitat for animals that are in turn hunted, particularly muskrats and ducks. Burning of wetlands improves duck and waterfowl habitat by providing greater abundance of *okaadaak* (a wild carrot eaten by waterfowl) and by promoting earlier and more vigorous re-growth of grasses and reeds that provide protective cover for nests (Davidson-Hunt *et al.* 2012: 102).

The use of controlled fire—*Anishinaabe ishkote*—to create *bashkosigewining* is practiced during the early spring, when the lakes are still covered by clear ice with no snow. These fires only burn the dead material from the previous year and do not spread because the ground is still frozen or wet. Spring fires are also used to keep trails open, and protect cabin and camp sites from wild fire by cleaning up dead grasses and other combustible material.

A third form of culturally modified harvest site is the birch grove from which birch bark is harvested. Culturally modified birch trees have had portions of their bark removed but the tree remains alive. These trees are found among the larger stands of paper birch that grow along the main rivers of the nominated area. Birch bark harvested from culturally modified trees is used for making baskets, horns for calling moose in the autumn hunt, and historically, as a material for covering wigwams and for building canoes.



Trees which have had their bark removed are left with a distinctive dark scar. If done properly removing the bark does not kill the tree (J. Shearer 2008)



Birch bark panels to cover homes
(A.I. Hallowell Collection, 1930s
American Philosophical Society)

*"We never stayed in one place for long. We never had tents. They would get large strips of birch and use that to cover the poles that were tied together like a roof."
Elder Mary Ann Keeper (in translation, March 22, 1984)*

Each type of culturally-modified harvesting site—wild rice stands, shoreline wetlands that are burned, and birch bark harvest sites—demonstrates the subtle influences Anishinaabeg have within the landscape, enhancing the natural conditions that promote particular plants and animals that are harvested by Anishinaabeg. Culturally modified harvest sites attest to the ways in which Anishinaabeg enhance the natural diversity of the boreal forest and demonstrate the importance of Anishinaabe knowledge and oral history in explaining human influences that might go unnoticed by a casual observer.

*"The medicines have kept us alive and helped to cure sickness. The bush is our drug store and we are grateful for all those plants that are happy to give up their lives to help us. We need to honour those plants and to make sure they are looked after."
Elders Abel Bruce and Albert Bittern (November 5 to 15, 2013)*

In summary, harvesting sites in Pimachiowin Aki illustrate how Anishinaabe harvesting practices and knowledge express an intimate understanding of the land, including locations of site-specific resources, animal behaviour, and ecological processes, enabling effective adaptation to the highly localized and shifting availability of resources. These sites reflect the cultural tradition of *Ji-ganawendamang Gidakiiminaan* by expressing the principle of honouring the Creator's gifts through continued harvesting that sustains and enhances the natural diversity of the boreal forest. Harvesting sites are places on the landscape at which Anishinaabeg demonstrate their respect for the gift of life that is Pimachiowin Aki.





HABITATION AND PROCESSING SITES

Until the very recent past, Anishinaabeg dispersed across the whole of Pimachiowin Aki during the winter. During the spring and autumn, people camped near seasonal resources to work together in collecting and processing storable food. During the summer months people gathered in larger settlements on lakes with productive fishing resources that supported multiple extended families and their sled dogs. Shelters were usually tents and other temporary shelters such as wigwams (Hamilton 2010). Four of these traditional summer gathering sites are now the First Nation communities of Pimachiowin Aki, where seasonal use has been replaced by year-round habitation in modern houses.

Outside of the contemporary First Nation communities, habitation and food processing sites are found throughout the nominated area, and especially along waterways. Many of these sites have spruce-log cabins, drying racks, and smoke houses made of spruce poles and covered with birch bark or tarps. Others are simply cleared areas, or easily cleared areas, where people erect temporary shelters. At camp sites established near *manoomin* stands, there are often pits in the ground that were used to separate the chaff from the kernel. Spring and fall camps are made near fish-spawning areas, waterfowl-gathering sites, and good hunting areas. Anishinaabeg used these camps for only a few weeks to harvest limited, seasonal resources (Davidson-Hunt and O’Flaherty 2010). In the winter, when hunting and trapping is focused on more dispersed and elusive prey, family groups may spend several months at well-established cabins or clusters of cabins. Such winter cabin sites generally have satellite camps within a day’s journey of the main camp.

More than 650 cabin and camp sites have been recorded to date within the nominated area (see Figure 2.4). Figure 2.5 illustrates some of the cabins and seasonal camp sites recorded by Little Grand Rapids First Nation, and the trails that link these sites with the community.



Meat smoking rack (A. Miller 2007)

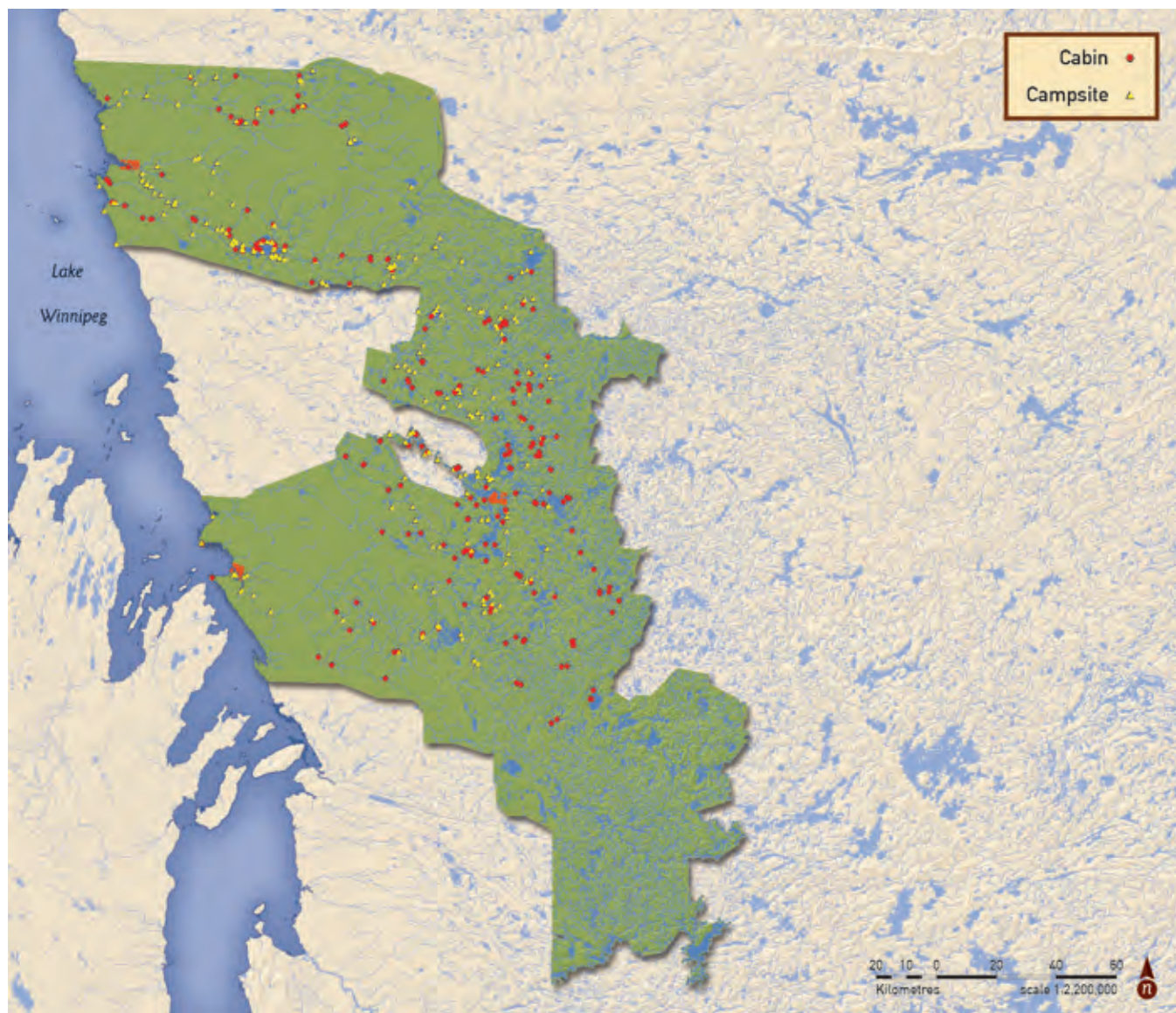


Figure 2.4 Anishinaabe cabin and camp sites in Pimachiowin Aki

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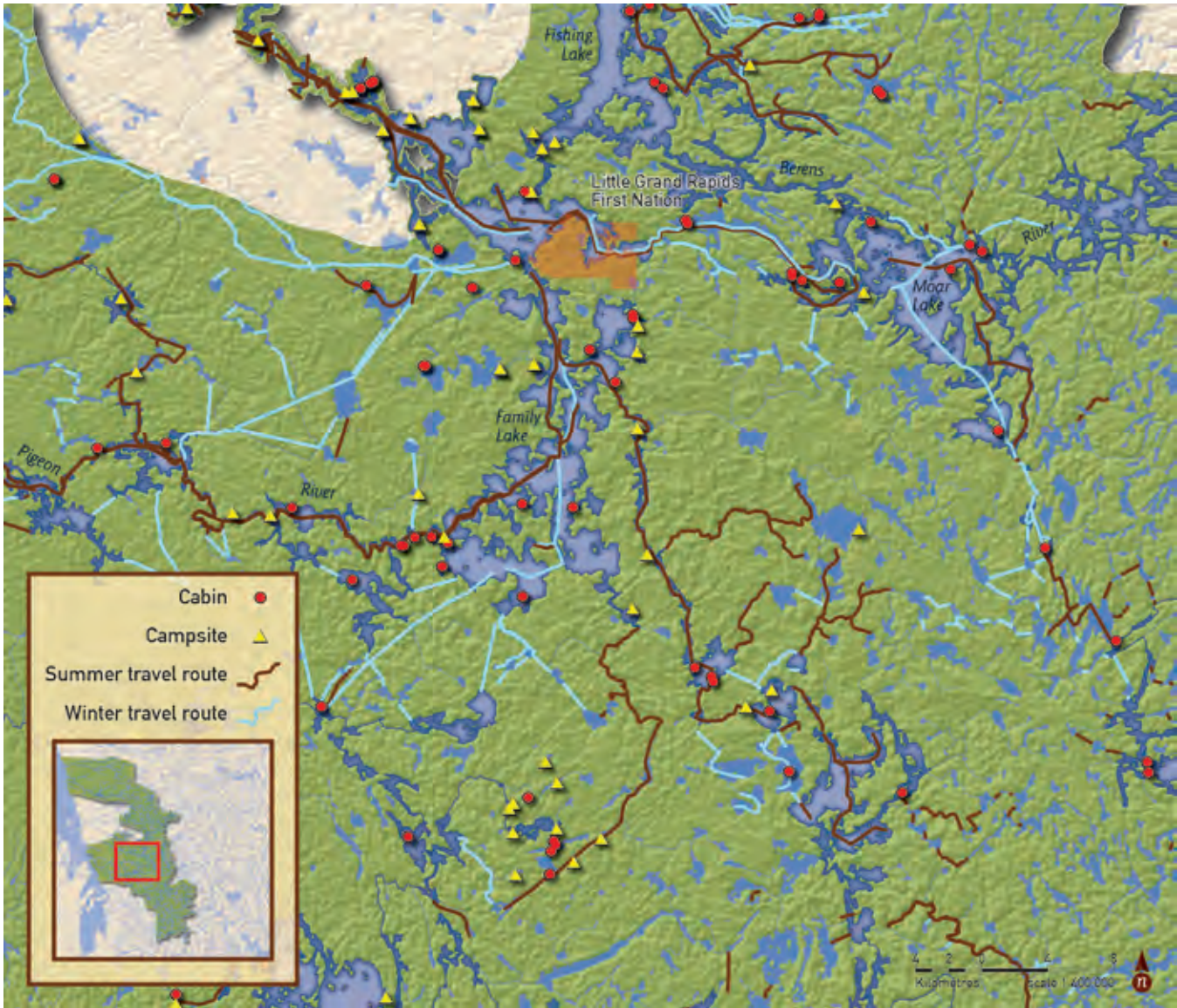


Figure 2.5 Cabins and seasonal camp sites in the Little Grand Rapids area

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The shifting use of the landscape in response to ongoing changes in resource availability is expressed on the land in the way habitation and processing sites are re-used across the generations. For example, when hunters and trappers shift activities to other harvesting areas where there are better opportunities, cabins and other structures may be left behind to decay; however, even where such sites are not currently in use, they remain important in providing a home base for future harvesting, when resource availability and personal circumstances allow for greater use of the area.



Although most habitation and processing sites are used seasonally and may be left unused for long periods, these sites are many generations old and their locations have been established based on proximity to resources, ease of access, good drainage, shelter from elements, and safety from wild fire. Moreover, unused habitation sites are important in oral traditions, acting as physical markers of personal and collective histories, including claims to resources (discussed further under Named Places). Therefore, whatever the current state of repair of specific structures such as cabins, habitation sites remain culturally important because of their association with both historic and future use; that is, these sites retain an active social role in contemporary society.



Habitation sites retain their significance no matter the condition of current structures on the sites (D. Sullivan 2007)

Collaborative research with archaeologists since 2003 has helped to identify sites used within living memory for habitation and harvesting activities. Such sites include summer gathering places, spring and autumn camp sites, cabin sites, burial sites, food-processing sites for cleaning and smoking fish or other meat, fish traps, and potato gardens. Historic and contemporary habitation and processing sites are also often associated with evidence of much more ancient occupation, thereby demonstrating the continuity of Anishinaabe land use over many centuries (Taylor-Hollings 2016).



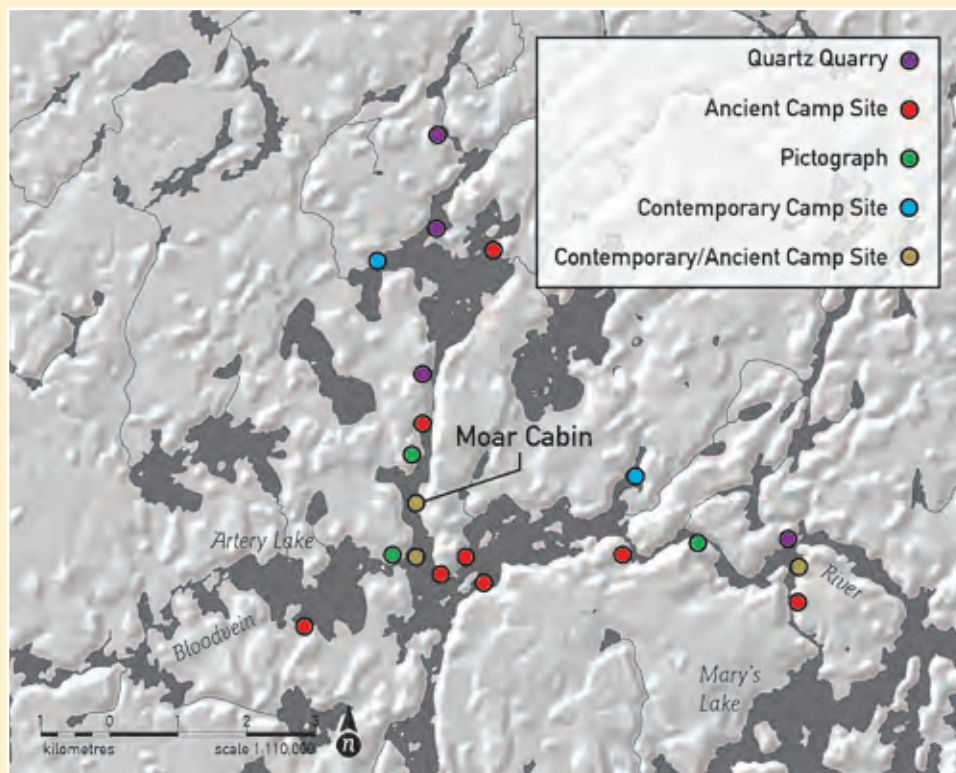


Box 2.4 Evidence of ancient Anishinaabe occupation on Artery Lake

Derek Moar, son of Elder Fred Moar, has a cabin and trapline on Artery Lake along the Bloodvein River. An archaeological survey on Fred and Derek's cabin site uncovered pottery from the Middle Woodland period (see Section 2.b, History and Development) as well as evidence that people camped there about 700 years ago. The Moar family also had a cabin on a nearby island where a single test pit uncovered a small arrowhead demonstrating occupation of the site some 1,000 years ago.

These cabin sites are located near three significant pictograph sites, including the bison and shaman pictographs shown in the photo under Sacred and Ceremonial Sites. Also documented in the immediate area are a number of rare pre-contact quartz quarry locations at which stone material was collected to make tools. Numerous ancient camp sites, including one associated with a quartz tool, have been found on Artery Lake along with longstanding trails and portages.

Based on Taylor-Hollings 2016



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Box 2.4 provides an example of archaeological evidence demonstrating continuous use over millennia of habitation sites on Artery Lake. Archaeological evidence in the nominated area indicates “ancient and historical campsites were located at productive fisheries. This tradition has continued to the present and many cabins are located on or near the ancient campsites” (PRFN 2011: 29). For example, elders showed archaeologists a seasonal camp site where a log cabin dating from the first half of the 20th century is located and test-pit sampling revealed a rare hearth (fire pit) feature from the Late Woodland period (1,300–300 γ A) overlaying another hearth from the Middle Woodland period (2,200–1,300 γ A) (Hamilton *et al.* 2007; Taylor-Hollings 2014). As archaeologist Virginia Petch has



stated, “The sites that have been positively identified to date provide evidence of a long-standing relationship with the land over the millennia. That many of these same areas continue to be used by the Anishinaabeg is testimony to the value of the land in sustaining a people not only for subsistence but also culturally and spiritually” (2010: 39).

In summary, while habitation and processing sites in Pimachiowin Aki are occupied and used for generations, and even for millennia, these sites are not permanently modified; they blend in seamlessly with the forest. When these sites are abandoned, they retain a significant footprint in oral traditions. Therefore, habitation and processing sites reflect the cultural tradition of *Ji-ganawendamang Gidakiiminaan* in two ways. First, the development and use of these sites contributes to the continuity of all life on the land. Second, these sites support the shifting use of the land for *akiing ondaaji'idizowin* (customary livelihood practices); these sites express the principle in *Ji-ganawendamang Gidakiiminaan* that Anishinaabeg must continue to honour the Creator's gifts. Through oral traditions and archaeology, habitation and processing sites demonstrate the antiquity and continuity of the cultural tradition within the nominated area.

The extent of archaeological investigation in Pimachiowin Aki, including research on pictographs (discussed below under Sacred and Ceremonial Sites), has been increasing in recent years as part of land management planning processes by Pimachiowin Aki partners. Some 285 archaeological sites, including pictograph sites, have been documented within the nominated area (Figure 2.6).



First Nation community members participate in archaeological research (Pimachiowin Aki Corp. 2015)



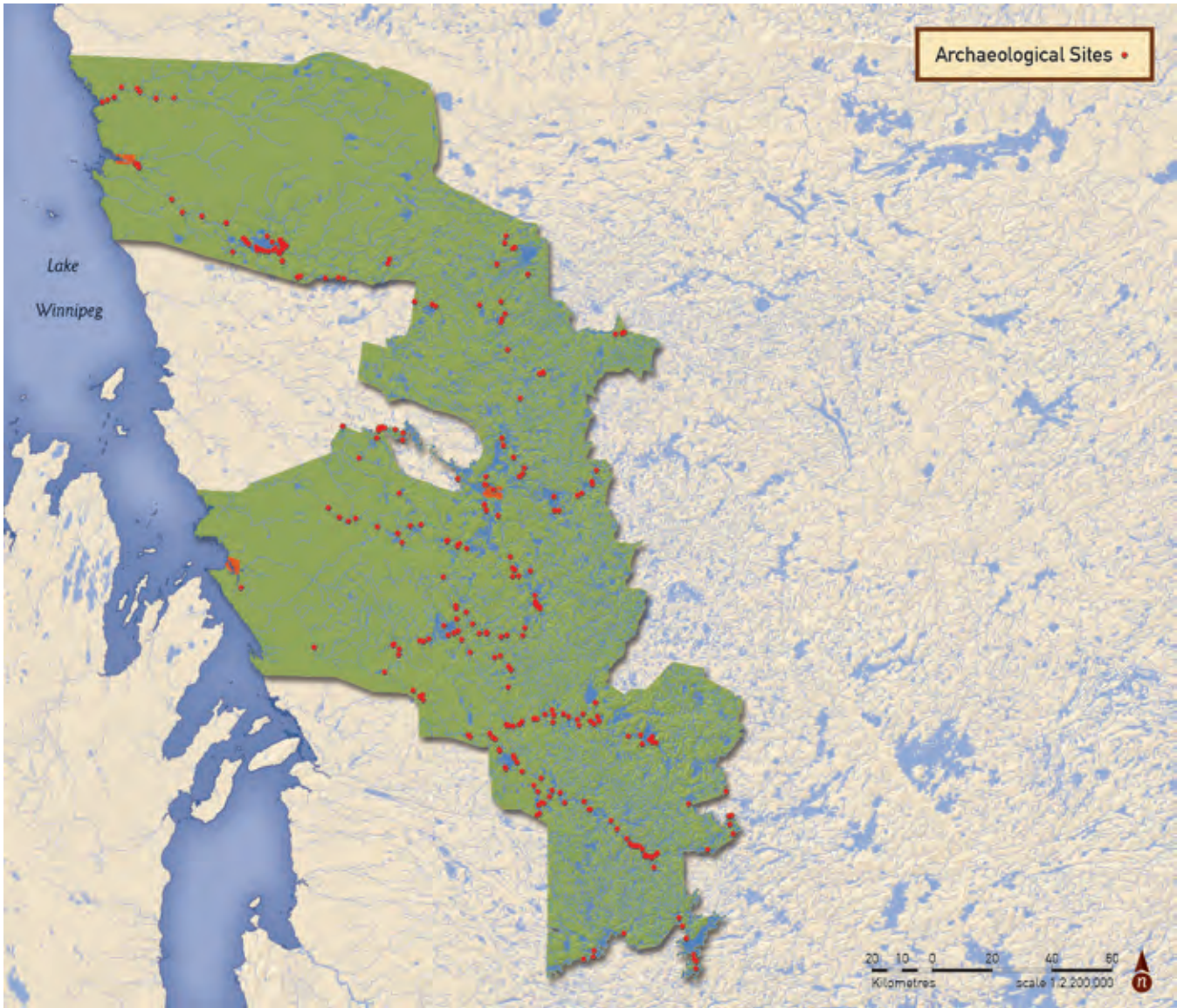


Figure 2.6 Documented archaeological sites in the nominated area

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TRAVEL ROUTES

Travel routes, and waterway travel routes in particular, are essential for supporting the shifting use of a broad landscape in response to changing and uneven distribution of valued resources. Waterway travel routes are also important for facilitating travel and communication between communities, upholding the sharing and cooperation that maintain harmonious relations among Anishinaabeg of Pimachiowin Aki. Moreover, travel routes, including portages that are used and maintained across the generations, reflect the principle in *Ji-ganawendamang Gidakiiminaan* of respecting the Creator's gifts by not significantly modifying the landscape.

Each of the four First Nation communities is located on one of four *gete bimishkaawin* (cultural waterways), which are the main travel routes that link the communities to one another and to seasonal land use camps found throughout the landscape (see Figure 2.7). Branching out from the cultural waterways is an extensive network of summer and winter travel routes that connect harvesting and habitation sites across the entire nominated area (see Figure 2.8 for a closer view of one part of this network of waterway travel routes).



Waterway travel routes have been used by Anishinaabe for generations
(Pimachiowin Aki Corp. 2009)



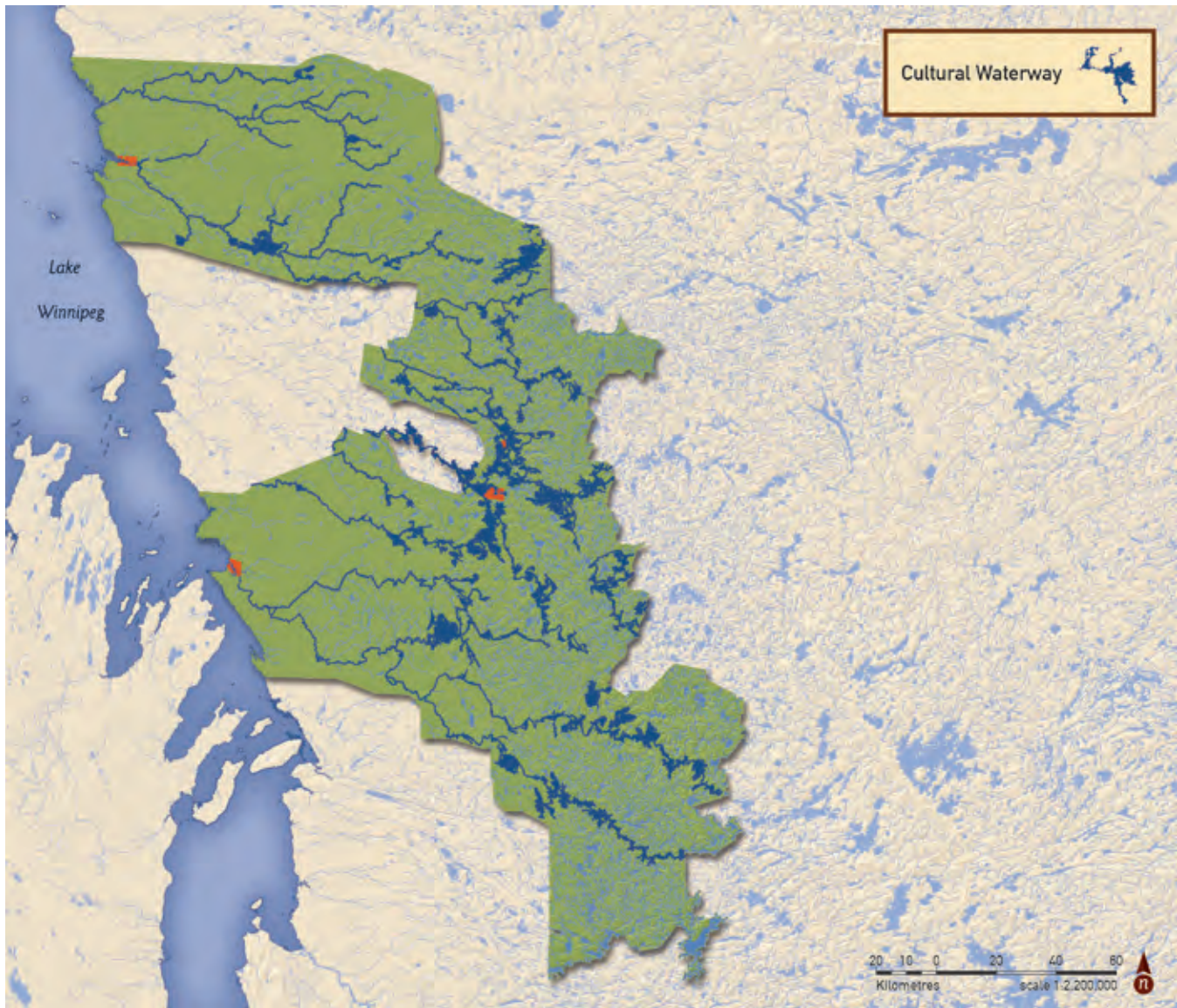


Figure 2.7 Anishinaabe *gete bimishkaawin* (cultural waterways)

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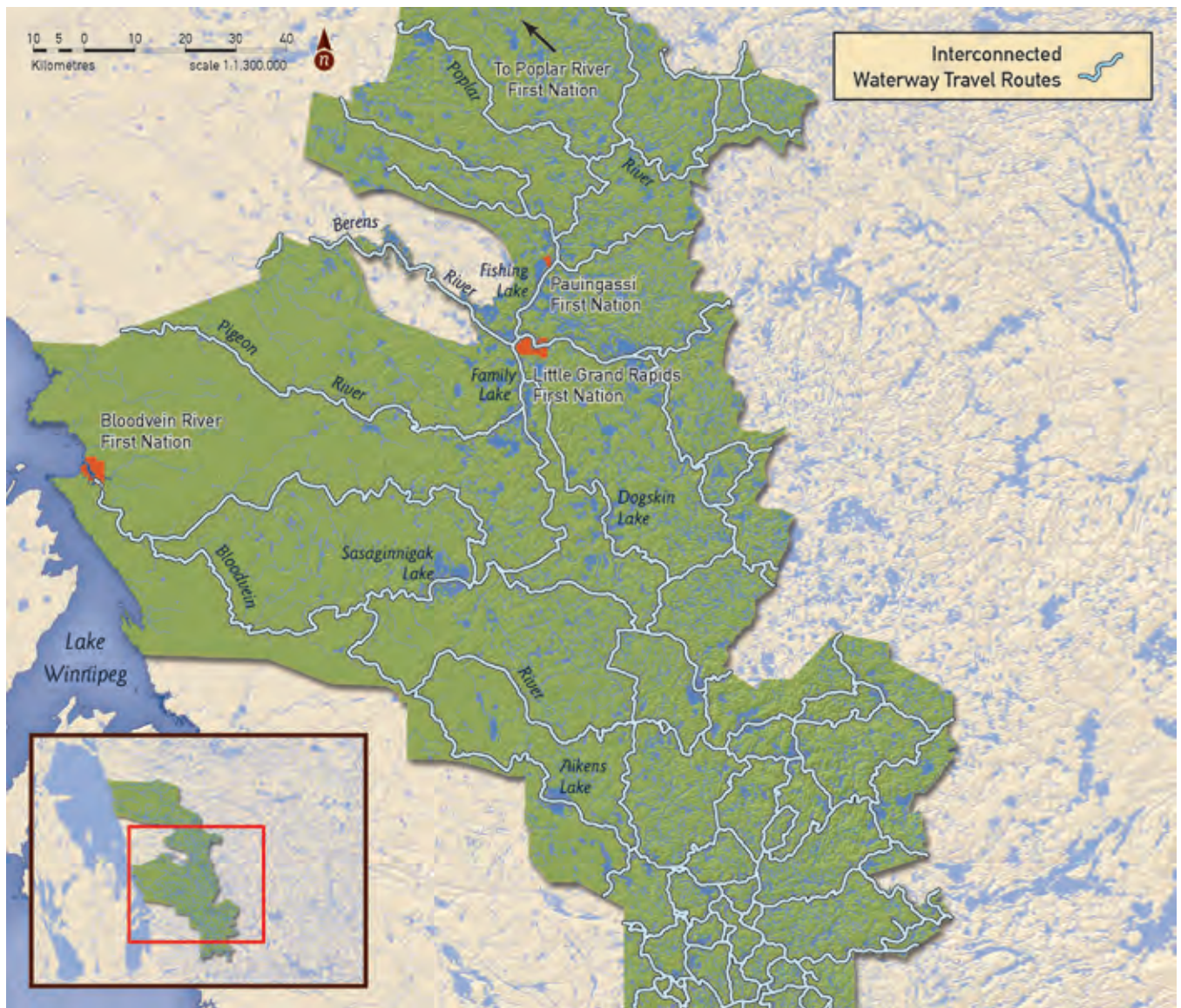


Figure 2.8 Waterway travel routes in the Pauingassi, Little Grand Rapids, and Bloodvein River areas

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Waterways are the arteries of Pimachiowin Aki, carrying the lifeblood of the land and people. They are especially important for providing connectivity across the nominated area, carrying the medicine-bearing waters from muskeg (peat-forming wetlands) out to the rest of the land. The significance of waterway travel routes is shown in the way 70 percent of cultural attributes documented to date in Pimachiowin Aki are found along waterways.³

Waterway travel routes are used year-round, except in fall and spring when ice is forming or breaking up and travel is more dangerous. In addition, the highly complex and unpredictable drainage pattern in Pimachiowin Aki, coupled with an abundance of rapids and partially submerged rocks (Figure 2.9), makes travel by water potentially dangerous at all times.

³ Calculated using a 100-metre GIS buffer on 1:50,000 National Topographical Database waterways, including “water bodies” and “water courses” but excluding “wetlands”.



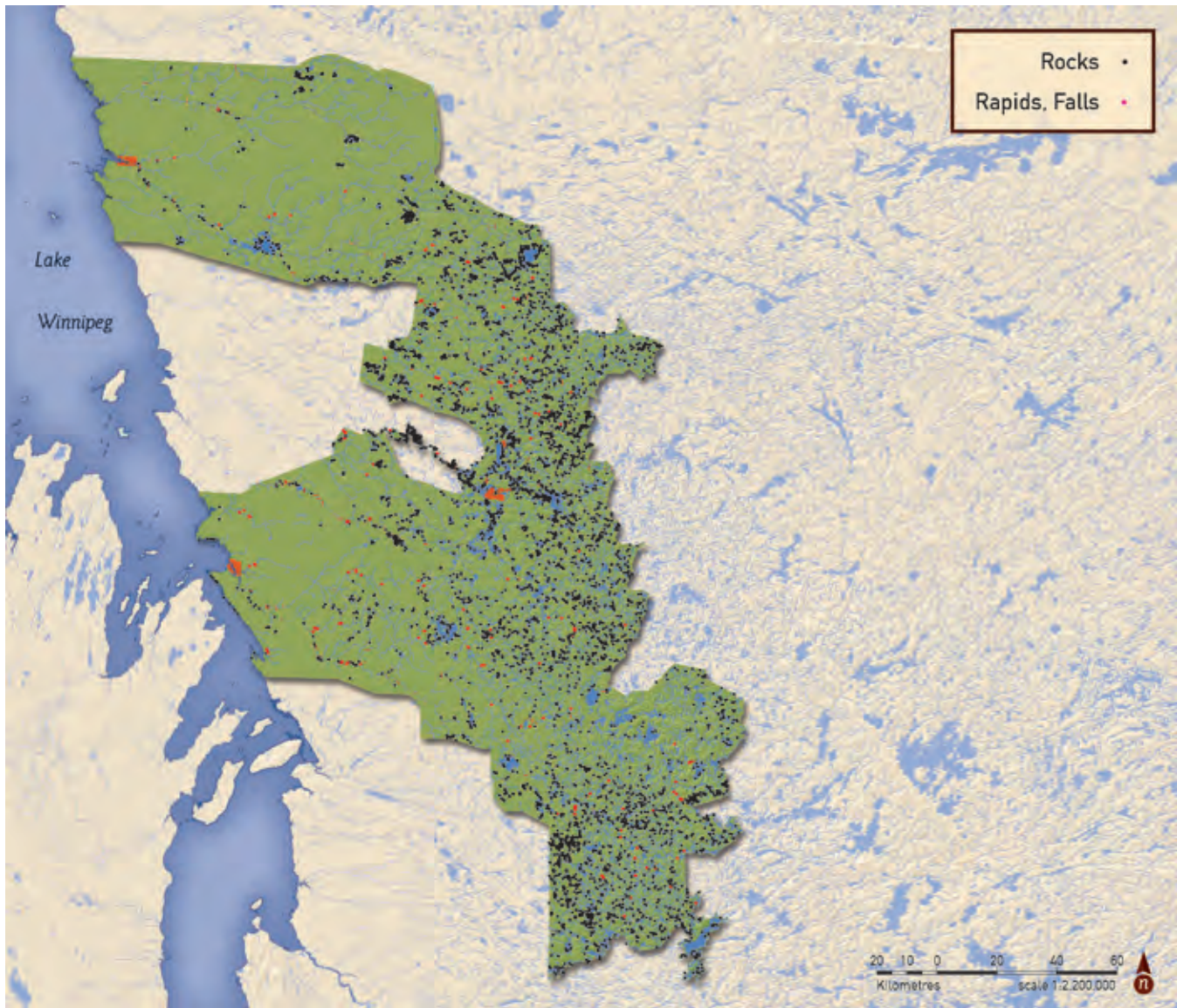


Figure 2.9 Rapids and other natural barriers/hazards

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Anishinaabeg have a detailed knowledge for navigating the landscape of Pimachiowin Aki and have developed well-established travel routes that enable efficient movement across the entire nominated area. These routes include portages, created and maintained by Anishinaabeg for centuries to bypass dangerous rapids, chutes and waterfalls. Because heavier, motorized boats are common today, portages on the main rivers are sometimes lined with debarked logs that boats are rolled over to make portaging easier. In addition, some waterway channels have been cleared of rocks to make passage easier and safer during



Anishinaabeg of Pimachiowin Aki are a water-based people
(Pimachiowin Aki Corp. 2009)





periods of low water. People from outside Pimachiowin Aki who travel by boat on these rivers today are not likely to know that many formerly narrow and shallow passages were widened and levelled long ago by Anishinaabeg, especially for the freighting of furs and supplies up and down the *gete bimishkaawin* (cultural waterways).

Ancient winter trails, previously used and maintained for use by dog-team sleds, have been adapted more recently for use by snowmobile. Winter snowmobile trails in the forest are widely used today for getting out to cabin and camp sites in winter as well as moving around the land to trap, hunt, fish, and gather fuelwood. Traditional winter and summer travel routes in the Pauingassi area, used for generations by Anishinaabeg, are depicted in Figure 2.10.



On a showshoe trail (© H. Otake 2006)



A snow machine (skidoo) trail accessing a trapline camp (C. Burlando 2007)





Figure 2.10 Anishinaabe travel routes in the Pauingassi area

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NAMED PLACES

Integral to the network of Anishinaabe travel routes are the named places that act as landmarks that enable navigation of the Pimachiowin Aki cultural landscape. When travelling across the land, Anishinaabeg tell stories associated with particular named places they encounter along the way. Anthropologist A.I. Hallowell described how Anishinaabeg constantly discuss the names for rapids as they travel along their waterway travel routes; in this way, named places “function as anticipatory signs of the features of the country to be encountered between them” (1955: 196).

In addition to being landmarks that aid in navigation, named places are associated with customary teachings about the activities of legendary figures, animal behaviour or habitat, personal or family history, family claims to harvesting areas, and moral principles. Especially important are oral histories of significant, or memorable, actions by people, animals, and spirit beings at specific places; such memorable acts are the basis for evocative





storytelling and suggest an intimate knowledge that can only be revealed through oral traditions. The name for each particular place serves as a kind of verbal reference to larger, shared cultural understanding about the importance of that place (see Box 2.5). The site itself becomes a reminder of both the story and the particular lesson being passed on through oral traditions. By linking named places with oral traditions, the landscape becomes “a social actor, evoking memories and eliciting stories” (Matthews and Roulette 2010b: 17).

Box 2.5 Significance of named places to Anishinaabeg

Our own place names on the landscape are telling stories of the land we recognize as the traditional territory of our people, the Anishinaabeg of Asatiwisiipe Aki (Poplar River land), and all the life that surrounds us.

Listening to and talking about our place names is like reading a book. They tell stories of the landscape, the animals, birds, fish, plants and people. These named places ensure that these stories will carry on, sometimes for thousands of years. When my father and grandfather would come back from the land they would talk about and describe the places where they had been and tell us the names of those places. They were teaching us the stories of the land so we would always remember them. Sometimes we would go to places we had never been before and we were able to recognize where we were and we knew the name of that place.

When my father was describing where he had been, he would say to us *kee’apay namaytoowag*, which means he could still feel the presence of people who had been there before. The stories of our ancestors are connected to those places and to us by the place names.

Sophia Rabliauskas (November 5, 2014)



Figure 2.11 shows a sample of named places recorded by Poplar River First Nation.



Figure 2.11 Sample of named places documented by Poplar River First Nation

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In summary, while some place names simply describe the topography or speak of a productive berry patch or plant life found in the area, other names document the personal and collective histories of the people who have travelled through, observed, and made use of the land. These are the types of places that Anishinaabeg are instructed to memorize at a young age through a memory exercise called *mikawiwin*, in which children are taught to fix the image of particular part of the landscape in their mind. They stand in one spot and rotate 360 degrees while focussing their attention on the sights, sounds, smells, and feel of the place (Matthews and Roulette 2010b: 27). Through the commitment of particular sites to memory and through association with stories, sites become both a known, stable geographic reference point to aid in travel and a mnemonic prompt for shared cultural understandings. Learning the names of places on the landscape is an integral part of how Anishinaabe navigate the landscape.

The naming of places throughout the nominated area, brings the land within the fold of Anishinaabe culture, investing the land with the beliefs, values, and knowledge of *Ji-ganawendamang Gidakiiminaan*. In this way, named places provide the basis for the nominated area to be tangibly and directly associated with Anishinaabe oral traditions that carry the cultural tradition of *Ji-ganawendamang Gidakiiminaan*. Named places also invest the land with the histories of Anishinaabe occupation and use, reinforcing both personal and collective ties with the land.

SACRED AND CEREMONIAL SITES

Sacred and ceremonial sites are important nodes on the Pimachiowin Aki cultural landscape, serving as places where Anishinaabeg acknowledge dependence on the Creator and the Creator's helpers in the pursuit of a good life. In this way, sacred and ceremonial sites express the importance in *Ji-ganawendamang Gidakiiminaan* of observing respectful behaviour toward other beings, and in particular those spirit beings—the Creator's helpers—who control, among other things, the abundance and behaviour of animals, the potency of medicines, the weather, and other natural phenomena.



Thunderbird nest (© H. Otake 2010)

“There are some places where people go and fast. They fast for four days without water and food. They do this to ask for help and to pray for those who are suffering. Sometimes they dream of things that will help them.”
Elder Abel Bruce (November 5 to 15, 2013)

Sacred and ceremonial sites are found throughout the nominated area but to protect these very important and sensitive places, few have been documented by Anishinaabeg. Those sites that have been documented are shown in Figure 2.14, which presents an aggregated view of all cultural attributes in Pimachiowin Aki. There are many different kinds of ceremonial sites, including locations set aside for community healing ceremonies that involve drumming and singing of sacred songs, or the use of special structures such as a sweat lodge or shaking tent, in order to communicate with powerful spirit beings. There are also special islands and other places where people, especially youth, go to receive spiritual guidance through visions or dreams.

“They had a small wigwam made of leaves down the hill. If any one of us was sick, we were taken into this wigwam. That’s what they used to do. They cleaned us up after they finished and that was their way of saving us from dying. ... They saved a lot of people when they did that and we kept still while these things were going on. We didn’t fool around while this was going on.”
Elder Mary Ann Keeper (in translation, March 22, 1984)





Preparing a sweat lodge (Pimachiowin Aki Corp. 2010)



"There is a cliff on the shore of a river where shaking tent ceremonies were performed. Rattling sounds are heard here. Anishinaabeg know this rock is owned [or claimed] by memegwesiwag. Anishinaabeg make tobacco offerings here."

Solomon Pascal (in translation, January 2014)

Ceremonial sites, and especially those for healing, must be clean, meaning areas of bare earth and typically flat, sandy sites that are swept clean. They are set aside specifically for ceremonial purposes and have a direct association with a spirit being that is central in the efficacy of ceremonies. As Mathews and Roulette explain, ceremonial sites are "claimed by a spirit being on behalf of a clan for a ceremonial institution. The land is thus designated permanently for ceremonial activity" (2010b: 21). For example, with a Thunderbird acting as his ritual partner, renowned healer Fairwind (*Naamiwan*) of Pauingassi drew people from other communities to receive medicinal and spiritual treatments at his drumming site (see Box 2.1, above, for more on Fairwind).

"There are bagidinaasiwin in the rocks at either end of Pinesewapikung Sagaigan. People offer tobacco when they enter the lake and ask the Thunderbirds to be gentle with them so they can have a safe trip across the lake. That lake is shallow and gets rough if it is windy."

Elders Abel Bruce and Albert Bittern (November 5 to 15, 2013)

There are countless *bagidinaasiwin*, offering sites where Anishinaabeg leave gifts for spirit beings, the Creator's helpers, in order to receive favour in travelling or hunting. Offerings include anything of value such as tobacco, money, bullets, or even matches and lighters. Such sites may be small depressions in bedrock or round boulders that have powers to move and affect people's lives (known as grandfather stones). Anishinaabeg make offerings to spirit beings any time demonstration of respect for the Creator and other beings is called for, including when encountering potential hazards while travelling or after harvesting plants and animals.



Offering site on the Poplar River

"Before hunters go out they offer tobacco and pray for a successful hunt. ... After the moose is killed they offer tobacco to the spirit for giving its life. They will cover up what is left, the guts or bones, with the hide or brush. They will cut the moonzomoode [beard] and hang it in a tree."
Elder Abel Bruce (November 5 to 15, 2013)

Continued successful harvest of plants and animals requires *gibimi-giiwewatoon*; that an offering be made to give back or return something to the land. In this way, Anishinaabeg show respect for the Creator's gift of life and the self-sacrifice of other beings in giving their life for Anishinaabe survival. For example, to acknowledge and respect the spirit of harvested animals, a traditional prayer is said when duck wings and moose beards are hung in trees, and when beaver and fish bones are returned to the water. Thus, harvesting sites are, at the same time, sites of ceremonial offering.



Moose's beard hung in a willow after a successful hunt in order to demonstrate respect for the moose's sacrifice (Davidson-Hunt *et al.* 2011)

"The tobacco plant we burn represents zaagi'iwewin (kindness), because plants are kind by letting us pick them. They teach us to be kind to each other."
Elder Abel Bruce (November 5 to 15, 2013)

Tobacco is especially important in communicating with spirit beings. When the smoke from burning tobacco drifts in the air, Anishinaabeg believe it is passing into the spirit world of existence and is therefore used to send messages and offer gifts (Matthews and Roulette 2010a). As elders Abel Bruce and Albert Bittern explain, "Tobacco was the first plant that the Creator made on the earth. That is why when we pray, hunt, fish, pick medicines, use trees, and for many other reasons, we offer tobacco first, to honour that first gift of life, and to show our respect. We take a small bit of tobacco in our hand and either burn it in a fire or place it on the earth, or smoke the tobacco in our pipes" (November 5 to 15, 2013).

Showing respect for the Creator's helpers is also demonstrated through sanctions or rules on visiting, speaking about, or pointing at sites associated with those spirit beings. Such places are referred to here as sacred sites because they are only to be visited by people who have a special relationship with the spirit beings associated with those sites.

One type of sacred site people avoid visiting or disturbing out of respect is Thunderbirds nests. These are shallow pits encircled with large and medium-sized boulders. At Weaver Lake, *Pinesewapikung Sagaigan* (Thunderbird Mountain Lake), near Poplar River First Nation, construction of a telecommunications tower in the late 1960s destroyed much of the Thunderbird nest found there; later, to no one's surprise, a lightning strike destroyed that tower. There are numerous Thunderbird nests in Pimachiowin Aki; however, to protect their cultural sensitivity, most of these sites have not been documented (Petch 2010).

Another type of sacred site associated with powerful spirit beings are the islands and rock faces where the *memegwesiwag* (little rock people) live. People are warned never to point at these places for fear of offending the *memegwesiwag*. However, there are particular Anishinaabeg who develop closer relations with these spirit beings. Box 2.6 offers an account of a woman who watched her husband visit the *memegwesiwag* at their home on *Manidoominis* (Spirit Island) near Pauingassi First Nation.





Box 2.6 Manidoominis (Spirit Island), home to little rock people

Elder David Owen of Pauingassi relates the story of a woman who watched from the mainland as her husband's canoe entered the cliff on the northwest side of the island to visit the *memegwesiwag* who live there (translated into English, Matthews *et al.* 2010):

In Pauingassi, for instance, they call it "Spirit Island", *Manidoominis*. This was another place where one [*memegwesi*] was seen. This is what one old man said at the shore to his wife. He apparently said to his wife, "I'm going to go on a visit". He was visiting those very ones.

When he boarded [his canoe], his wife didn't see where he had gone. Looking around, suddenly she noticed him paddling by, turning towards Spirit Island. Near the face of the cliff, he disappeared. He was visiting the *memegwesiwag*! Amazing! This is the type of story they told of them.

Ishke iya'iing Obaawingaashiing, Manidoominis gaa-idamowaad. Mii aaniish imaa miinawaa gaa-gii-izhi-waabamaagobanen-, gaa-gii-izhi-ikidogobanen bezhig akiwenzi imaa niwanaanig wiiwan iya'aa Twaamad. Ayi'ii akawe nga-mawadishiwe odigoo' iinzan, odinaan. Miiwan ini wiiwan. Miiwa' iniweniwa' e-gii-mawadisaad.

Mii e-ani-boozid, mii gaawn ogii-waabamigosiin aandi gaa-ani-izhaad mii ini wiiwan. Ingodin iinzan ayinaabid wedi mishawagaam gaa-gii-waabamaad e-made-bimakizhiwenid. Mii wedi gwekiwan manidoominising. Mii imaa gaa-izhi-aasamaabikaanig, mii imaa apan. E-gii-mawadisaad memengweshiwa'! Maamakaaj! Mii iwe gaa-inaajiminj o'o dinoowikaan.



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"There are rock paintings at Dog-skin that are sacred because the people of Little Grand Rapids believe that those paintings were made by the [little] rock people. The rock people were part of creation and were here from the beginning."

Joseph Levesque, Sr. (in translation, January 8, 2014)

Memegwesiwag are credited with creating certain pictographs, including to beautify their homes within cliff faces. Some pictograph sites are used for communicating with *memegwesiwag*, including through the presentation of offerings to demonstrate respect and make requests for assistance in travel or hunting (see Box 2.7).



This island is a place "never to be pointed at" so as to avoid offending *memegwesiwag* (© H. Otake 2010)

Box 2.7 *Memegwesiwag* rock paintings and hunting success

Elder Kenneth Owen of Pauingassi First Nation explained the importance of a particular pictograph in communicating with the *memegwesiwag* responsible for the painting, in order to seek the assistance of these spirit beings in securing a successful hunt (in translation, Matthews and Roulette 2007).

There is a cliff-rock-painting of a snapping turtle [on a certain river]. When someone travels along over there, they'd cut some tobacco. They would hope to kill a moose, they would say. Sure enough, that was exactly what would happen. That person would get the blessing to kill a moose. This is the reason they put tobacco in their pipe. They would say, "I will kill a moose", as they placed tobacco in their pipe. That was the purpose of the cliff rock-paintings.

Mii wedi ezhi-ayaamagak mikinaakwaabikinigan bezhig. Awiya e-bimishkaad wedi, mii gaa-izhi-giishkizhamowaad asemaan. Mii ezhi-bagosenimaad nga-awi-nisaa' moonz gii-ikido. Debwe dash mayaa gii-izhiseni obagosendamowin. Ji-gii-miinigoowizid nisaad moonzoon. Mii iweni gaa-gii-biindaakwa'oonaad ini. Nga-awi-nisaa' moonz gaa-gii-inaad ini gaa-gii-biindaakwa'oonaad. Mii iwe gaa-inaabadakin iniweniwan mazinaabikiniganan.

The creation and use of some pictographs are closely associated with the practice of medicine, including shamanistic ceremonies. Anishinaabeg consider the red ochre used in pictographs to be a powerful medicine. Ochre is an iron oxide pigment that was crumbled and mixed with the oil from lake sturgeon or other fish (and perhaps isinglass from lake sturgeon), or perhaps bear fat, to make a painting paste. Pictographs act as a veil, *biindigewin*, through which spirit beings and medicine people passed into each other's worlds. The paintings are typically found in places associated with powerful spirit beings: next to water, at the intersection of sky, earth, water, underground, and underwater (Steinbring 2010).





In some cases, pictographs are interpreted by scholars as having been produced by Anishinaabeg to mark significant personal events or associations between certain clans and areas used for traditional land use and ceremony. Figure 2.12 illustrates a pictograph found at Sasaginnigak Lake that shows two kingfishers, one of the clan emblems for Anishinaabeg in Pimachiowin Aki. This particular pictograph was probably painted in the early 1800s by members of the Kingfisher clan who wintered at Sasaginnigak Lake and used this lake as part of their family harvesting area (Petch 2010).



Figure 2.12 Kingfisher representation at Sasaginnigak Lake
(photo courtesy of J. Steinbring; sketch courtesy of G. Rajnovich 1994; see Petch 2010).

Hundreds of pictographs have been documented at over 30 locations across Pimachiowin Aki, with the Bloodvein River waterway containing the most numerous and varied collection of pictographs in Canada (Petch 2010). One set of panels on Artery Lake is among the largest collections on the Canadian Shield (Rajnovich 1994), with numerous paintings of handprints, animals, canoes, snakes, and other symbols along a spectacular cliff face. At Sasaginnigak Lake, one pictograph depicts a frog-like being on a rock face just above a small set of rapids. Although this painting has not been scientifically dated, it is the same in form and material as other pictographs in the Lake-of-the-Woods Style, which is associated with the Shield Archaic period (see History and Development). If the Sasaginnigak frog is as old as others of this period, “it is among the oldest rock paintings in Canada (and very possibly in North America)” (Steinbring 2010).



Pictograph panel at Artery Lake with bison image, see Box 2.4
(© H. Otake 2010)

Anishinaabe pictographs in the nominated area provide a tangible connection between the present—in which Anishinaabeg can recall and interpret the use of pictographic symbols—and an ancient past associated with Shield Archaic traditions dating back several thousand years. In fact, “no area of North America more perfectly demonstrates such continuity from early times down to the contemporary residents of the Central Canadian Shield” (Steinbring 2010).

The influence of ancient pictograph designs on contemporary Anishinaabe culture is evident in the Anishinaabe Woodland Art tradition (see Box 2.8).

Box 2.8 Anishinaabe Woodland Art Tradition

The origin of the Woodland Art tradition is most often associated with Anishinaabe artist Norval Morrisseau, whose style reflected the aesthetics of Anishinaabe pictographs and sacred scrolls: heavy black outline, interior segmentation of shapes revealing interior forms (the so-called “X-Ray” style), and “power lines” linking the spirits of different beings in an image. Morrisseau lived for a number of years in Red Lake, Ontario, adjacent to the nominated area. He paddled extensively throughout the region studying the pictographs that inspired his art.

The Woodland style is integral to contemporary expressive culture in Pimachiowin Aki and continues to resonate in young Anishinaabe artists. While originally motivated by ancient teachings, the Woodland Art tradition is used today to convey “sacred teachings, express colonial ills, and offer a commentary on issues facing Indigenous peoples today” (Robertson 2010). The Woodland Art tradition expresses a unique Anishinaabe relationship to land and is indicative of the continuity of Anishinaabe cultural values in Pimachiowin Aki.



Great Earth Mother, a silkscreen print by Norval Morrisseau
(© The Manitoba Museum, Winnipeg, MB
<http://www.manitobamuseum.ca>)

TRAPLINE AREAS

“Before the Government of Manitoba set up registered traplines each family would have a traditional area where they would live and trap and look after... There were no lines on a map showing the area, but everyone knew where it was. The head of the family would make the decisions in regards to the land. If there was a shortage of beaver or muskrat for example they would leave that area alone for awhile, until these populations increased. They did this to ensure future use of these resources.”
Ed Hudson (September 2013)

Trapline areas within Pimachiowin Aki are important for coordinating Anishinaabe use of the land across the nominated area in a way that reflects the cultural tradition of *Ji-ganawendamang Gidakiiminaan*, and in particular the principle of *ji-gichi-inenimidiyang* (maintaining respectful relationships with other people).

There is a general practice among Anishinaabeg that specific family groups are associated with the stewardship of specific areas, and these areas have boundaries that are known both within the group and among their neighbours. These family harvesting areas consist of the area in which an extended family has an ongoing history of trapping, hunting, and fishing (Deutsch 2010; Quill 2006). Although the extent of such areas may change over time, Anishinaabeg can trace out their approximate boundaries.

Today, these family harvesting areas continue to be important to how Anishinaabeg make use of the land, and are confirmed within a larger system of provincial government-registered trapline (or fur-harvesting) areas which were delineated in consultation with and under the guidance of Anishinaabeg. As Dunning (1959: 27) noted, “Government registration of the trappers and territories was based on the 1947 grouping of trappers and their own definition of existing trapping areas.” The current trapline areas held by members of the four First Nations in Pimachiowin Aki are shown in Figure 2.13.



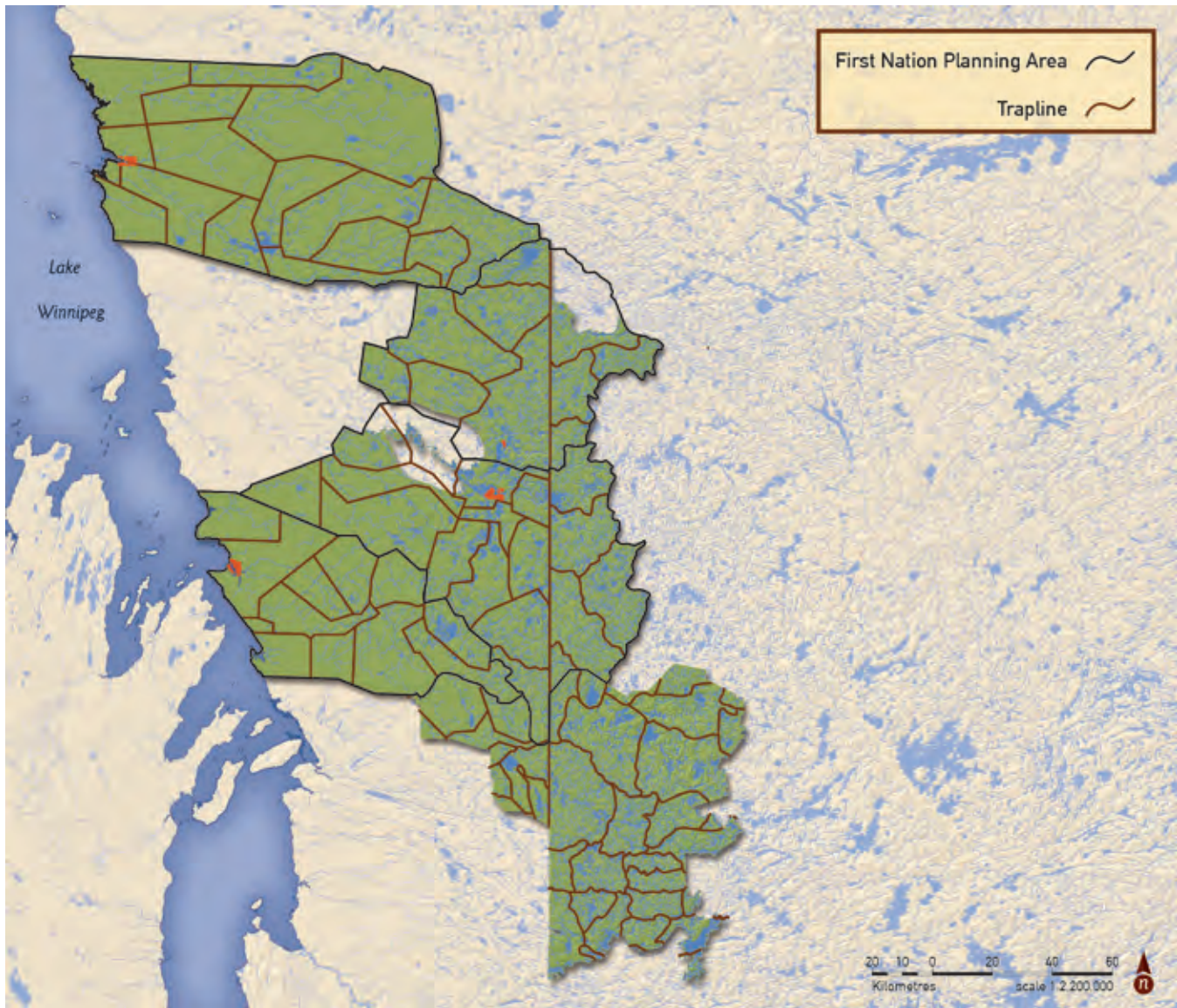


Figure 2.13 Trapline areas within Pimachiowin Aki

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While the registered trapline areas were created by the provinces to regulate only the harvest and commercial sale of wild furs, for Anishinaabeg these trapline areas continue to express their ancient roles in land tenure and customary governance. Trapline areas, and different portions of larger trapline areas, are associated with specific extended families that have a long history in those areas. Permission from the head trapper within one of these extended families is required for anyone else to make use of that family's area. Respect for head trappers continues to be the cornerstone of customary governance of traplines in Pimachiowin Aki.

“Teachings are shared through drumming, singing, community gatherings, offerings. For as long as we remember, the elder that has the most knowledge and wisdom is the community leader. This elder would perform traditional drum songs and provide traditional medicine for healing.”
Solomon Pascal (in translation, January 2014)

Customary governance in Pimachiowin Aki is based on respect for those with the greatest experience and success in hunting, trapping, trade, and healing ceremonies; while these are primarily head trappers, they also include respected elders with long and productive lives on the land. These people are regarded as the most important keepers of the land; the people with wisdom and experience who are responsible for ensuring *aadizookewin* (the teachings) of *Ji-ganawendamang Gidakiiminaan* guide use of the land and relations between each other in respect of the land.

Claims to authority over trapline areas are demonstrated through knowledge of the locations of sacred sites and the ability to recount oral traditions of named places and the memorable actions of people at those places (as discussed under Named Places). Such knowledge confirms the historical relationships between specific extended families and specific areas.

Although the role of head trapper is generally transferred from father to son, authority to lead decision-making is not hereditary but is achieved through demonstrated success in stewardship of land and people. Following the principle of *ji-gichi-inenimidiyang* (maintaining respectful relations with other people) within the cultural tradition of *Ji-ganawendamang Gidakiiminaan*, customary leaders are highly esteemed for their role in enabling people to achieve *bimaadiziwin* (the good life).

The principle of *ji-gichi-inenimidiyang* guides how traplines in the nominated area are used by Anishinaabeg. For Anishinaabeg, maintaining respectful relations with one another while using the land requires a cooperative approach.

For example, not all livelihood activities are confined to family trapping areas. Hunting, fishing, and gathering of plants (especially medicines) requires travel over a larger and more diverse range of lands than those contained solely within a single family harvesting area or trapline. Anishinaabeg will therefore harvest resources while travelling through other peoples' trapline areas. It is customary to seek permission from or inform the head trapper before travelling through their area and harvesting resources. In most cases such requests are granted and in this way the strong personal and family influence over trapping is balanced with the broader collective needs and interests in other resources.



Harvesting *maskig*, sphagnum moss (T. Ruta 2000)





Moreover, while commercial trapping activities are conducted within the confines of registered trapline areas, individuals and families can trap in different trapline areas, working under the head trappers of those areas. This is both a means for learning the skills required of a successful trapper, as well as a way to focus trapping in areas with more productive fur-bearer resources. Therefore, rather than being zones of exclusive resource use, trapline areas are the basis for enabling Anishinaabeg to shift harvesting activities across a broad landscape in response to changing plant and animal populations.

In summary, trapline areas reflect the cultural tradition of *Ji-ganawendamang Gidakiiminaan* in the way they are a framework for Anishinaabeg *akiing ondaaji'idizowin* (customary livelihood practices) in the nominated area. Working on principles of mutual respect and cooperation, Anishinaabe customary governance of trapline areas enables people to join friends and relatives in the pursuit of seasonal livelihood activities on widely separated portions of the landscape (Deutsch 2013). Customary governance of trapline areas promotes respectful relations between people through shared use of land and respect for the leading role of people with the greatest experience in decision-making about the use of a trapline area.

Because the First Nations of Pimachiowin Aki have long histories of inter-marriage, cooperation, and good relationships, the coordinating role of customary governance also applies to resource use between the traditional land use areas of each of the four Anishinaabe communities within Pimachiowin Aki. It is this shared history and the continuing importance of customary governance in maintaining respectful relations between people that are the basis for ongoing collaboration among First Nations in the Pimachiowin Aki nomination process.

Conclusion: A Complete Representation of *Ji-ganawendamang Gidakiiminaan*

The nominated area provides a complete representation of how the living cultural tradition of *Ji-ganawendamang Gidakiiminaan* (Keeping the Land) guides Anishinaabe perception and use of the Pimachiowin Aki cultural landscape. The tangible evidence of the Anishinaabe cultural tradition within Pimachiowin Aki includes resource harvesting places, cabin and seasonal camp sites, harvest processing sites, traditional travel routes, named places, sacred and ceremonial sites, pictographs and other sites of archaeological significance, and trapline areas. All of the attributes documented to date within Pimachiowin Aki are depicted in Figure 2.14, which gives an overview of the geographic distribution of cultural attributes (traplines are not shown because they cover the entire nominated area).

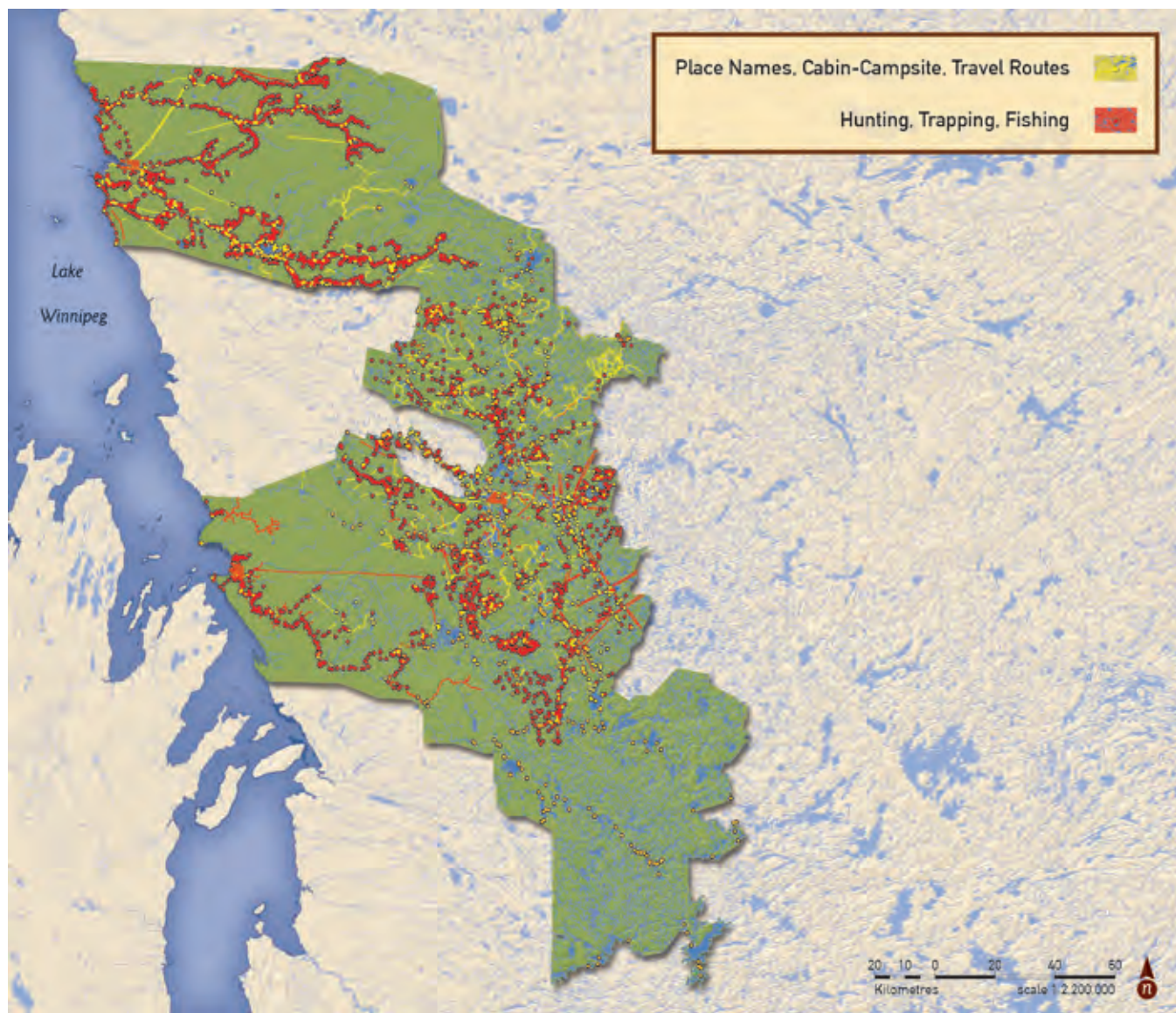


Figure 2.14 Composite map of cultural attributes (excluding traplines)

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The interconnectedness of attributes and associations that express the cultural tradition of *Ji-ganawendamang Gidakiiminaan* is well illustrated by a description of a trapping party travelling to their trapping areas (see Box 2.9).





Box 2.9 Woodland caribou hunt – Abel and Norman Bruce

Norman: In the winter we travelled together, my dad the late Sandy Bruce, his brother the late Jim Bruce and Abel and his brother Albert, to our traditional trapping area, which is called *Mukwastigwaan* [Bear Head]. There is a lake there shaped like a bear's head. We almost always see caribou along the way.

Abel: Our friend the late Victor Bruce came with us too. We shared that area, me and my brothers and Norman's family. It was good to work together like that when you wanted to do something.

To get to the *Mukwastigwaan* area we have to travel through two other traplines. Out of respect for those guys we ask them or let them know we are going to go through their traplines. We don't trap there, but they don't mind if we hunt as we travel. If we kill a caribou or moose there, we will bring them some meat if we can.

Norman: We left right from here that time travelling north on the open muskeg by snowshoes. We pulled small sleighs and we had a dog pulling a sleigh with some of our stuff. Before dark we tracked caribou heading west toward some high bluffs. We used to see them over that way on the bluffs digging in the snow looking for that black moss [rock tripe] that grows on the rocks, which they like to eat. We call it *asiniwakwaanag*. We like to use it to make soup.

Abel: We made camp soon after we saw the tracks. There is a good place there where we always stop, which is about half ways to our main cabins on the *Mukatewisipi* [Black River]. We had a good camp; we slept in our tents, which had small stoves. We planned to look for those caribou the next day. Before we went out in the morning we had a ceremony, we smudged, prayed and offered tobacco to the Creator and to the spirits of the caribou so that we would have a good hunt.

Norman: We killed three male caribou that time and all of us were happy.

Abel: After we finished skinning and cutting up the caribou we covered up what was left over, we pray again and offer tobacco to give thanks to the Creator and to the spirits of the caribou for giving up their lives for us. We have to show respect for those caribou so that we can have a good hunt again. We kept going the next day. It wasn't far after we passed *Kamashkosiwagamak*, which means marshy lake. Then we came to *Mukatewisipi* [Black River], named because the water looks dark. We hit the river at *Kagoniakwisipeens* which is a creek named after a small point on the river, and traveled east from there along the river.

Me and my brother Albert stopped at our cabin, which we still use today, just after the *Kapetachewanagin*, which means there is a cluster of seven rapids, one after another. In the spring when the river opens, we have to use a long portage road to get past those rapids.

Norman: The rest of us continued travelling along the main river and passed *Otagoonswiningwipowitik*, a rapids named after something sitting on a tree branch. After that we passed the *Sasagiwipowitik*, the rapids named after a pelican, *Mukwastigwaanpowtikoons* and *Mukwastigwaanwipowitik*, which are the Little and the Big Bear Head Rapids. Then we went past *Sigaakositwipowik*, which is the rapids named after a skunk's foot. It was near the end of the day when we finally passed the last rapids before our cabin at *Mukwastigwaanwisipeens*, or Bearhead Creek.

That was a good trip, we spent the rest of the winter trapping there and travelling around. We had a good cabin and you can still see parts of it today.



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The cultural attributes and associations that reflect the meaning and significance of *Ji-ganawendamang Gidakiiminaan* form a coherent whole. The nominated area contains a complete, interconnected network of cultural sites that are linked to one another by waterway travel routes and set within a framework of trapline areas that are the basis for cooperative land management. Named places serve as guideposts for navigating the landscape both physically and culturally by expressing shared understandings of the nature and significance of the nominated area. The complete network of attributes and associations in the nominated area thereby enables Anishinaabeg to effectively adapt to the patchy and shifting nature of the boreal forest in a way that demonstrates respect for creation.

Anishinaabeg have protected and sustained Pimachiowin Aki's natural environment as a sacred trust with the Creator while living on this land and harvesting its resources for millennia. The beliefs, values, knowledge, and practices of *Ji-ganawendamang Gidakiiminaan* have helped ensure that Pimachiowin Aki's ecosystems are healthy, intact and functioning naturally.





2.a(ii) THE BOREAL SHIELD AND PIMACHIOWIN AKI ECOSYSTEMS

The preceding section describing the cultural tradition of *Ji-ganawendamang Gidakiiminaan* vividly illustrates the relationship between Anishinaabeg and the boreal shield environment. Based on knowledge passed down from generation to generation over millennia, *Ji-ganawendamang Gidakiiminaan* guides Anishinaabe actions and decisions to ensure the long term health and sustainability of nature and of the communities in Pimachiowin Aki. This knowledge, illustrated further in the following section, helps in understanding Pimachiowin Aki's significant natural values within the boreal biome.

The largest biome on Earth, the boreal biome, is a circumpolar region defined by a cold climate, lying between tundra to the north and temperate forests and plains to the south. The North American portion of the global boreal biome is subdivided into distinct ecological zones based on significant variations in climate, surface materials, vegetation, and wildlife: boreal shield, boreal plains, taiga shield, taiga plains, boreal cordillera, and taiga cordillera (Ecological Stratification Working Group 1996). The North American boreal shield is the largest of these six ecological zones with an extent of 1.5 million square kilometres. Pimachiowin Aki is situated entirely within the North American boreal shield (Figure 2.15).



Figure 2.15 North American boreal shield, North American boreal biome, and the global boreal biome

The World From Space (Orthographic)





The boreal shield is very distinctive from the other ecological zones within the North American boreal biome. Underlain by ancient Precambrian granitic bedrock, it has a hummocky knob and ridge terrain. It is a mixture of exposed bedrock and thin glaciomoraine, fluvioglacial, and colluvial surface materials, with numerous eskers (Ecological Stratification Working Group 1996). The boreal forest cover is dense and extensive.

Just as the North American boreal biome comprises different ecological zones, the boreal shield comprises distinctive large-area ecosystems (e.g., wetland, rockland, needleleaf forest). These large-area ecosystems exhibit distinctly different vegetation, soils and surface water patterns. For instance, wetland large-area ecosystems are a mosaic dominated by bogs, fens, swamps, riparian zones, and lakes, interspersed with small upland patches. Large-area ecosystems range from about 2,000 to 10,000 square kilometres and support large-scale ecological processes such as seasonal migration of woodland caribou and distinctive wildfire regimes.

Pimachiowin Aki's representation of multiple large-area ecosystems is outstanding. The description of these ecosystems below follows a description of the key features and processes that create and maintain ecosystem and species diversity in the boreal biome, including Pimachiowin Aki.

Drivers of Boreal Ecosystem and Species Diversity

The ecosystem and species diversity in the boreal biome are created and maintained by various drivers (features and processes) interacting with one another. These key drivers are climate, bedrock geology, landforms, topography, surface materials, soils, hydrography, hydrology, and wildfire. Some of these drivers are extremely slow or lengthy in duration, such as the erosion of the hard, granitic boreal shield bedrock extending over four billion years, or continental glaciations that are separated by millions of years. At the other extreme, some drivers operate rapidly. Wildfire occurs almost every year within the nominated area.

CLIMATE

The confluence of two boreal climatic regions in Pimachiowin Aki (Environment Canada 1998), a long north-south extent, as well as Lake Winnipeg's influences on temperature and precipitation over the western part of the nominated area, contribute to climatic variability that sustains ecosystem and species diversity within the nominated area.

Pimachiowin Aki's sub-humid, mid-boreal, continental climate exhibits great temperature extremes, as is the case for the entire boreal biome (Bonan and Shugart 1989). Temperatures during the long cold winter average -17.8 degrees Celsius and during the short, warm summers average 16.5 degrees Celsius. The average annual temperature is only around 0 degrees Celsius (Environment Canada 2014) and frost can occur in any month. The mean annual precipitation is 621 millimetres, with over 25 percent falling as snow, another dominant feature of the boreal shield.

The significant climate gradients and strong seasonality in Pimachiowin Aki imply that many species function at or near their physiological limits, constraining their distribution and favouring diversification of life history strategies (e.g., migration, hibernation, seasonal changes in habitat selection). For example, in winter, insect-eating birds are no longer present and large mammals such as moose become more concentrated in areas of dense forest cover. The effects of climate gradients or seasonality on species presence and abundance have contributed to



Winter is the dominant season and snow is a principle feature that shapes the boreal ecosystem (© H. Otake 2006)





the high level of biodiversity maintained in the nominated area. This strong seasonality influences Anishinaabe livelihood strategies as well. In the colder months Anishinaabeg disperse widely across the nominated area to hunt and trap, travelling long distances on frozen waterways and wetlands.

BEDROCK GEOLOGY, LANDFORMS, AND TOPOGRAPHY

Pimachiowin Aki displays the complete geomorphological evolution of the North American boreal shield, from the ancient beginnings of the Precambrian bedrock, to continental glaciations, to the formation and retreat of Lake Agassiz (the largest glacial lake on Earth), to the creation of vast organic deposits by plants. Vast expanses of four-billion-year old bedrock lie exposed in the central portion of the nominated area due to glacial scouring and subsequent wave-washing by Lake Agassiz. Greenstone belts, the most ancient features in this bedrock, are separated by large areas of younger granitic rock.

Multiple glaciations over the last few million years have modified the character of the exposed bedrock, and left many remarkable rock features and landforms. Following the last glaciation, water from melting glaciers formed Lake Agassiz, which further modified the landscape. Previously deposited glacial or glaciolacustrine sediments were washed and winnowed, exposing the Precambrian bedrock. Pimachiowin Aki demonstrates the major features that Lake Agassiz left on the boreal shield. The most distinctive of these features is the wave-washed bedrock (Cowell 2011). Wave action in Lake Agassiz created boulder pavements, in which finer sediments were washed away from till sheets on the lake floor. Wave action also created shoreline terraces and beaches.

The complete geomorphological evolution of the North American boreal shield found in Pimachiowin Aki is a fundamental driver for the ecosystem diversity that has developed and is maintained within the nominated area.

The topography is complex and diverse. Undulating elevated terrain in the east (approximately 420 meters above sea level) transitions to low-lying, flat plains in the west (217 meters above sea level). However, the transition is not gradual; the terrain in the central area is relatively rugged, creating elevation changes over short distances. Boulder pavements and ancient shoreline terraces and beaches add landform and topographic diversity throughout the nominated area.

This diversity of landforms and topography profoundly affects drainage conditions and thus creates the patterns of wetlands, lakes, and water flow. It also has an impact on local soil chemistry and geochemical cycling through the landscape. All these factors contribute to the establishment and maintenance of a complex mosaic of diverse ecosystems across the nominated area.

SURFACE MATERIALS AND SOILS

Multiple glaciations, Lake Agassiz and topography produced a rare juxtaposition of characteristic boreal shield surface materials in Pimachiowin Aki. These materials include vast expanses of glacial till deposits, exposed bedrock, and organic and glacial lake mineral deposits (Figure 2.16). Glacial tills dominate in the southeast portion of Pimachiowin Aki. Exposed bedrock dominates the central area. Expanses of organic and glacial lake mineral deposits dominate the western portion of the nominated area. These large surface material zones determine, in part, the distribution of ecosystems and associated processes such as the wildfire regimes and woodland caribou seasonal migrations.



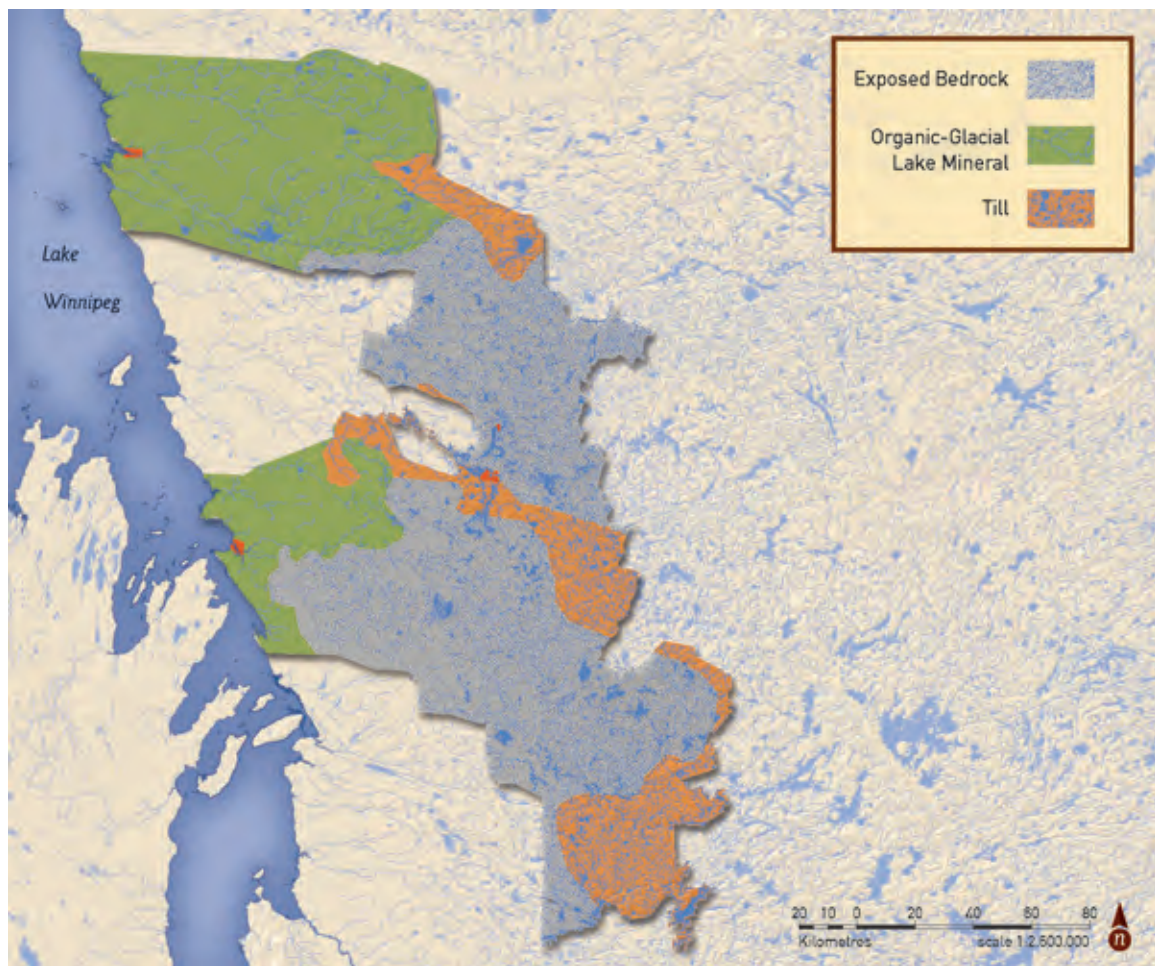


Figure 2.16 Dominant surface materials change from glacial tills in the east, to wave-washed exposed bedrock in the central areas, to organic and glacial lake mineral deposits in the west

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The distribution of soil types in Pimachiowin Aki reflects the surface materials, topography, and cold climate. The more productive mineral soils dominate the southeastern portions of the nominated area, while a mixture of less productive, arid, very thin soils and areas with exposed bedrock dominate the central portions. Peatlands and peaty-phase mineral soils dominate the northwest and western portions. Organic soils are dominant in the organic and glacial lake mineral deposit surface material zone and are also found in the bottom of bedrock depressions throughout the rest of Pimachiowin Aki. Small areas of more productive mineral soils also occur in the organic and glacial lake mineral deposit surface material zone, predominantly along the major rivers, where deeper, fine, well-drained lake deposits are more common. Permafrost is present in some peatlands, mostly in the north of the nominated area.

The arrangement of characteristic boreal shield surface materials, together with the distribution of major soil types are further drivers for the establishment and maintenance of the mosaic of ecosystems found in Pimachiowin Aki.





HYDROGRAPHY AND HYDROLOGY

"Water is sacred. It is the source of life and should therefore be respected and protected. The waterways are like the arteries of Mother Earth and flow along, receiving and depositing nourishment for all plants and animals."

Pauingassi Lands Management Plan (Pauingassi FN and Manitoba 2012: 11)

"The water represents life to the Anishinaabe people. The creator gave the responsibility to women to create life and to care for the health of the water. Life begins by being surrounded by water in our mother's womb. In our ceremonies it is the women's responsibility to carry that water and share it with others. In our stories and teachings it has always been the grandmothers who watch over the water and they are still carrying out that sacred responsibility today. We were also taught that the water is very spiritual and that we need to acknowledge that spirit in our prayers each day."

Sophia Rabliauskas, December 15, 2011



Four major rivers with numerous fall and rapids flow across the nominated area (Pimachiowin Aki Corp. 2012)

The nominated area includes about 3,200 lakes larger than 8 hectares, 5,000 smaller permanent freshwater marshes and pools, and nearly 32,000 kilometres of shoreline wetlands, a multitude of interconnected rivers, streams, and lakes. The rivers flowing through the nominated area provide ecological connectivity across the landscape, supporting the movement of nutrients, plants and animals, and enabling gene flow. The rivers and interconnected lakes are also the main travel routes of Anishinaabeg, essential to sustaining the Anishinaabe way of life in Pimachiowin Aki, as earlier described in Section 2.a(i).

The four largest rivers in the nominated area are the Poplar, Berens, Pigeon, and Bloodvein. They range from 165 to more than 500 kilometres in length. The Bloodvein River is entirely within Pimachiowin Aki. The majority of the Poplar and Pigeon rivers are located within the nominated area.

There are three distinct drainage patterns that contribute to the hydrological complexity and aquatic ecosystem diversity of the nominated area (Figure 2.17). More common dendritic and parallel drainage patterns occur in the organic and glacial lake mineral deposit surface material zone and western portions of the exposed bedrock surface material zone (see Figure 2.16). An uncommon, deranged drainage pattern is also found in the nominated area. Melting glaciers left a landscape with many irregularities of elevation, and an enormous volume of water that collected in the low points. The resulting drainage system is very complex, since there are numerous water courses, lakes, and swamps, some interconnected and some in small, local drainage basins of their own. Pimachiowin Aki features the most extensive deranged drainage pattern unaltered by dams, diversions, or bridges in the North American boreal shield.



In summary, Pimachiowin Aki exhibits remarkable hydrological complexity and connectivity because it overlaps several adjacent third-order watersheds (Figure 2.18), with different broad drainage and surface water patterns (Figure 2.17). Hydrological complexity arises from the variable topography and surface deposits, which strongly influence and channel water flow. Hydrological complexity and connectivity in turn contribute to diversity and integrity of wetland and other types of freshwater ecosystems.



Extensive shoreline peatlands (L. Gerrish 2011)





Figure 2.17 Drainage systems follow a deranged pattern in the eastern and central areas, and dendritic or parallel patterns in the west

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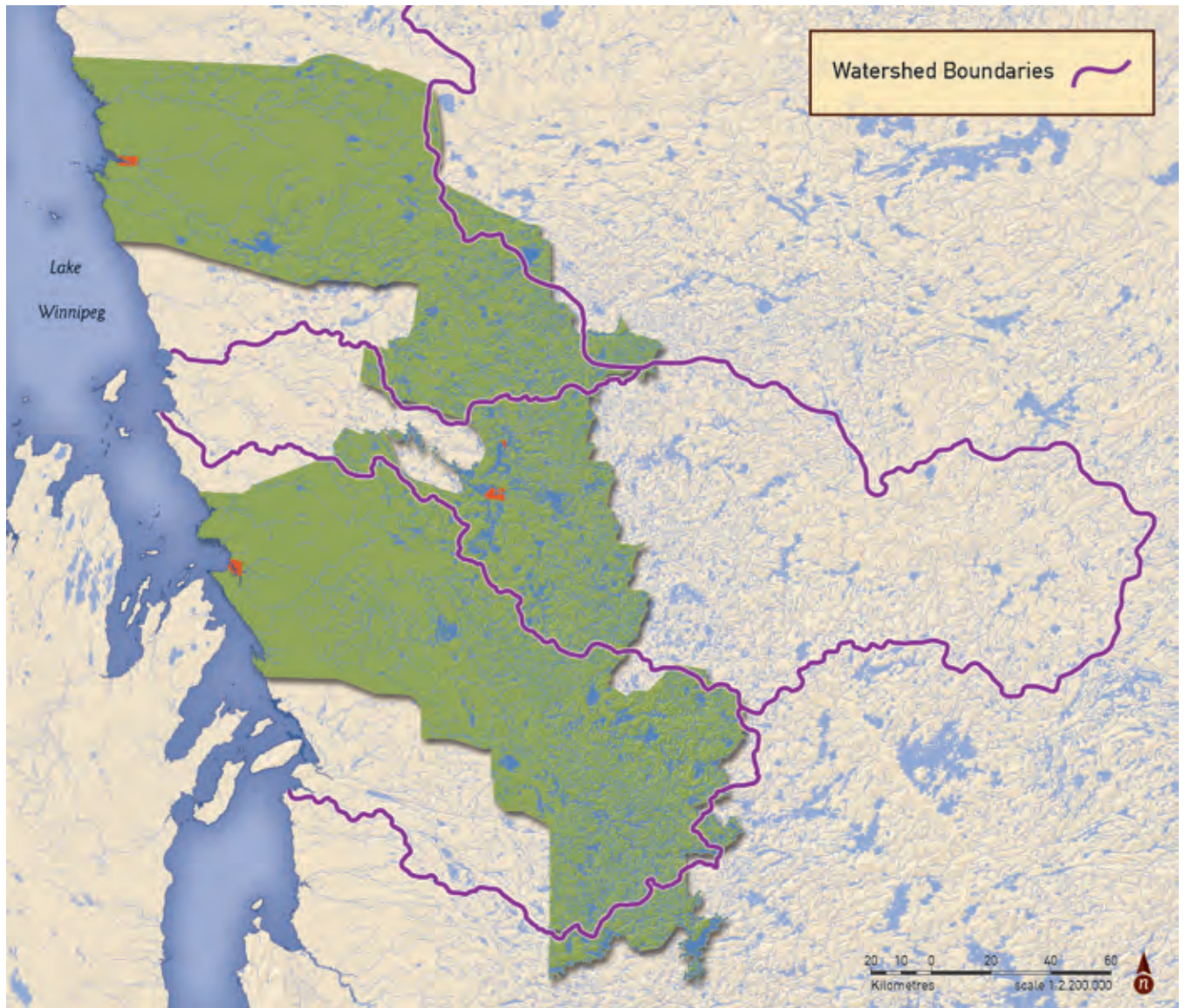


Figure 2.18 Three adjacent third-order watersheds overlap Pimachiowin Aki

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WILDFIRE

Wildfire is the keystone ecological driver for change and renewal in the boreal shield (Bonan and Shugart 1989; Weber and Flannigan 1997). Two different fire regimes occur in Pimachiowin Aki, and this strongly contributes to the diversity of ecosystems and species.



More frequent and extensive wildfires occur in the central and easterly portions of the nominated area (Ontario Ministry of Natural Resources and Forestry 2009)





Wildfire plays a major role in regulating ecological processes such as nutrient cycling and energy flow in the boreal shield (Ehnes 1998). Wildfire is critical for restoring soil fertility in the boreal forest. It strongly contributes to the pattern of vegetation types and age classes across the nominated area (Figure 2.19). This diversity of terrestrial vegetation types and age classes, as well as the standing wood left after a fire, contribute to the broad diversity of habitats required by boreal plants and animals. For example, the abundance of herbs and young shrubs promoted by fire provides plentiful food for moose and other animals. Within 10 years after fire, tree saplings form a canopy and either eliminate or greatly reduce many of the plant communities that establish soon after fire. Fire intolerant species such as ground lichens appear later and become increasingly abundant as the plant community ages.



Figure 2.19 Vegetation and habitat diversity after a fire, by time since fire

Wildfire is also important for maintaining aquatic ecosystem productivity throughout Pimachiowin Aki and especially in the rocky terrain and poor soil cover of the exposed bedrock surface material zone, as evidenced by the diversity of fish species in the lakes (Science Team 2002). A significant amount of the carbon released by fires enters water bodies and is carried downstream to the western portion of the nominated area, increasing nutrient availability and productivity of the waters there.

The influence of fire on terrestrial ecosystems is well understood by Anishinaabeg (see Figure 2.3). Anishinaabeg use fire in localized areas to enhance wildlife habitat or manage vegetation, as discussed in Section 2.a(i).

The nature of boreal wildfires varies greatly across different landscape types, from year to year, and even within a single fire. Fire frequency, intensity (i.e. proportion of the above-ground plant cover killed by the fire), and severity (i.e. proportion of the surface organic material burned off by the fire) are key parameters to understand the ecological effects of fire. They are the basis for distinguishing between fire regimes in a given area. Fire regimes in the boreal shield are influenced primarily by climate, surface materials, and the distribution of large water bodies (Bergeron 1991; Hellberg *et al.* 2004; Larson 1997; Suffling *et al.* 1988; Zhang and Chen 2007).

Pimachiowin Aki represents two different fire regimes. In the central and easterly portions of the nominated area, and surrounding areas, where bedrock outcrop and till surface materials are predominant, about 575 fires burned almost 16,000 square kilometres from 1977 to 2008. This pattern of frequent and extensive wildfire represents one of Pimachiowin Aki's fire regimes. A different fire regime is found in the western part of the nominated area, and surrounding areas, where about 400 fires burned about 3,000 square kilometres during the same period. Expansive wetlands and Lake Winnipeg limit the number of large fires that occur in the organic and mineral lake deposit surface material zone, leading to the lower average annual area burned and a longer period between major fires.

Between 1977 and 2008, wildfires that occurred within the nominated area burned nearly 8,000 square kilometres, or the equivalent of one-quarter of Pimachiowin Aki's total area, with some areas burned over several times during that period. Figure 2.20 shows the most recent year when an area burned, since 1970, in ten-year age classes.

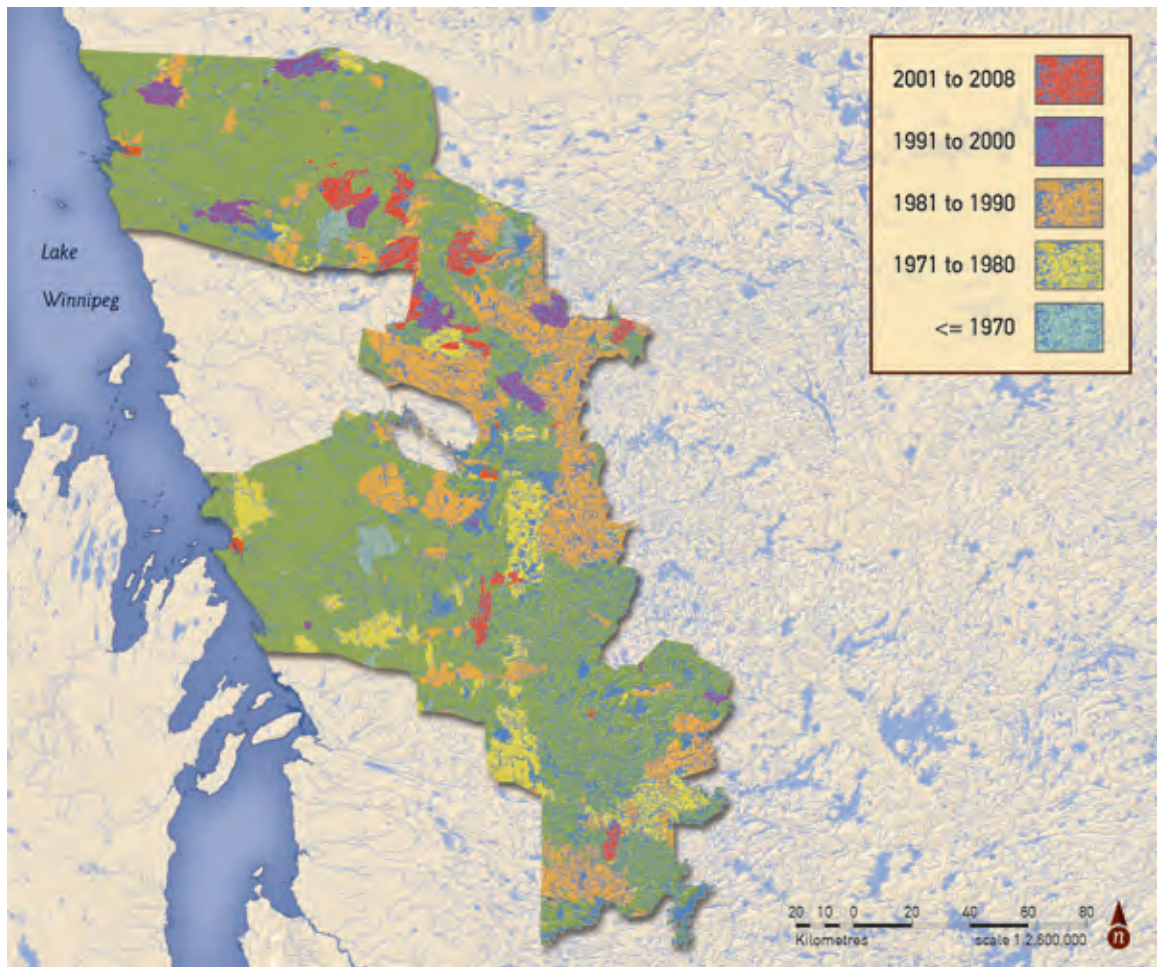


Figure 2.20 Fire history (showing decade when last fire occurred)

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Ecosystem Diversity

Four large-area ecosystems are found in Pimachiowin Aki: Wetland, Rockland, Needleleaf Forest, and Mixed Wetland-Rockland (Figure 2.21). As discussed earlier, large-area ecosystems are characterized by different vegetation, soils, and surface water patterns and support distinctive large-scale ecological processes such as seasonal migration of woodland caribou and wildfire regimes. The presence of four distinct large-area boreal shield ecosystems in Pimachiowin Aki is exceptional and strongly contributes to the proposed Outstanding Universal Value of Pimachiowin Aki.



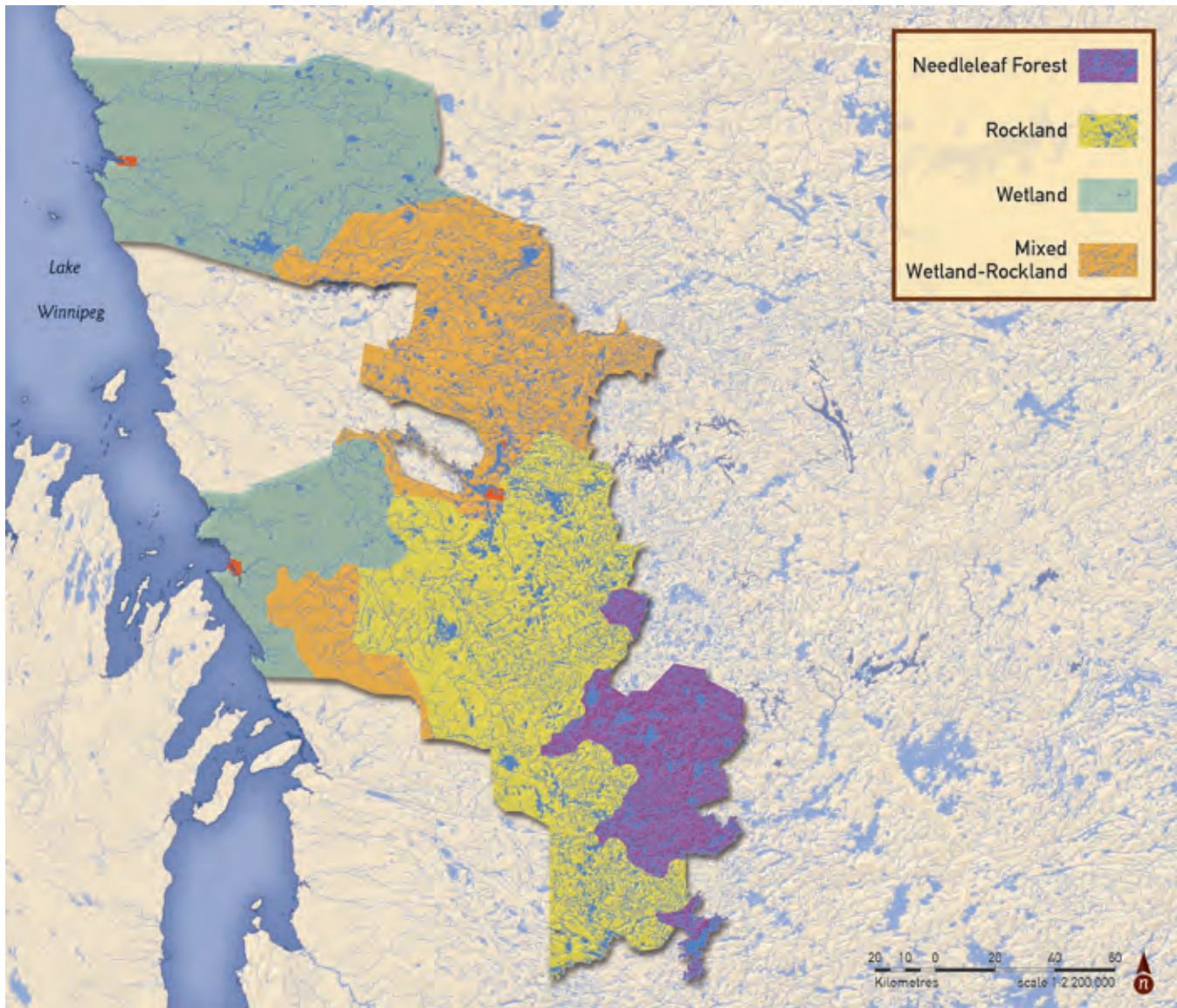
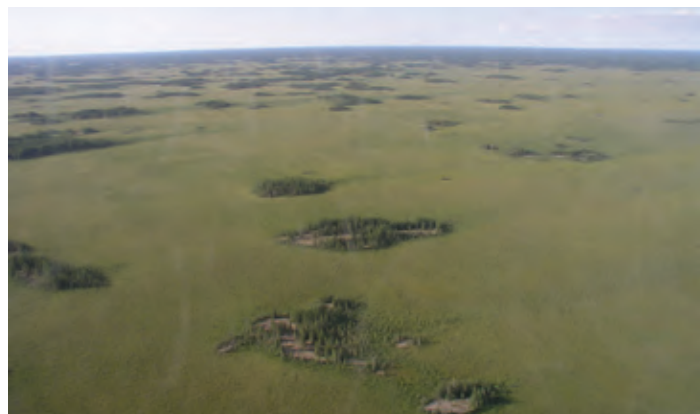


Figure 2.21 Large-area ecosystems

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WETLAND

Pimachiowin Aki includes two separate occurrences of the Wetland large-area ecosystem; a northern 6,800 square kilometre area, and a southern 2,700 square kilometre area. There are few lakes and most of them are small. Groundwater is near the surface throughout much of the area. Surface and ground water drain into rivers and into Lake Winnipeg. Dendritic and coordinated drainage patterns prevail (Figure 2.17). The rivers and streams that meander through these lowlands are generally slow-moving and warmer than elsewhere in the nominated area.



Aerial view of the Wetland ecosystem (© J. Ehnes 2012)





Fluctuating ground and surface water levels and flows, variations in groundwater nutrient availability and peat-forming processes are the key drivers of soil and vegetation complexes. The nearly level terrain, shallow water table, and localized areas of nutrient-rich groundwater have produced extensive and diverse wetland complexes in which poorly drained organic soils dominate. Local areas of poorly developed mineral soils also occur. Large wildfires are uncommon due to the large expanses of waterlogged ground and the shielding effect of Lake Winnipeg to the west.

Vegetation reflects the presence of waterlogged, organic soils: diverse mosaics of sedge fen, sphagnum bog, and sparsely treed peatlands dotted with scattered exposed bedrock outcrops and raised mineral sites. Fen and swamp are more prevalent than elsewhere in the nominated area because there is more mineral-rich groundwater. Black spruce, tamarack, wetland shrubs, sedges and sphagnum mosses are the dominant plant species. Some vegetation stands are old because large wildfires are uncommon.

ROCKLAND

It is noteworthy that Pimachiowin Aki is sufficiently large to exemplify the ecological and evolutionary processes of the Rockland ecosystem, a rarely occurring ecosystem type within the global boreal biome (see Section 3.2.b).

The Rockland large-area ecosystem (9,000 square kilometres) has a high density of small- and medium-sized lakes, few large or very large lakes, and numerous rivers of varying size in a deranged drainage pattern (Figure 2.17). Streams flowing down the steep and rocky slopes have high rates of flow and clear, cool water. Land areas are characterized by a mixture of exposed granitic bedrock, poorly developed mineral soils, and small or narrow peatlands. The better-developed and more productive mineral soils typically occur in the deeper glaciolacustrine deposits found along the major rivers. Large wildfires are very frequent due to the high proportion of relatively dry uplands.



Aerial view of the Rockland ecosystem (© H. Otake 2010)

Rock lichen/feathermoss communities and jack pine/black spruce woodlands dominate the vegetation cover. Ground lichens and dry-ground haircap mosses dominate the very patchy plant cover, while small clumps of mosses, grasses, herbs, and/or jack pine and black spruce occur on the thin mineral soils found in bedrock crevices and depressions (Figure 2.22). The woodland understory is typically sparse except for feathermoss/reindeer lichen ground cover. Trembling aspen, white spruce and balsam fir stands tend to occur on the pockets of deeper, fine-textured soils, especially along rivers and lakes; however, white spruce and balsam fir are scarce because they are not adapted to regenerate quickly after fire.

Vegetation occurs in highly diverse patterns due to soil and hydrological processes and fire disturbance. Large patches of vegetation undergoing post-fire succession range widely in age but are young on average, due to the frequent large wildfires. Woodland caribou use the less common older burned areas in the winter, feeding on the ground lichens that are their primary winter food.



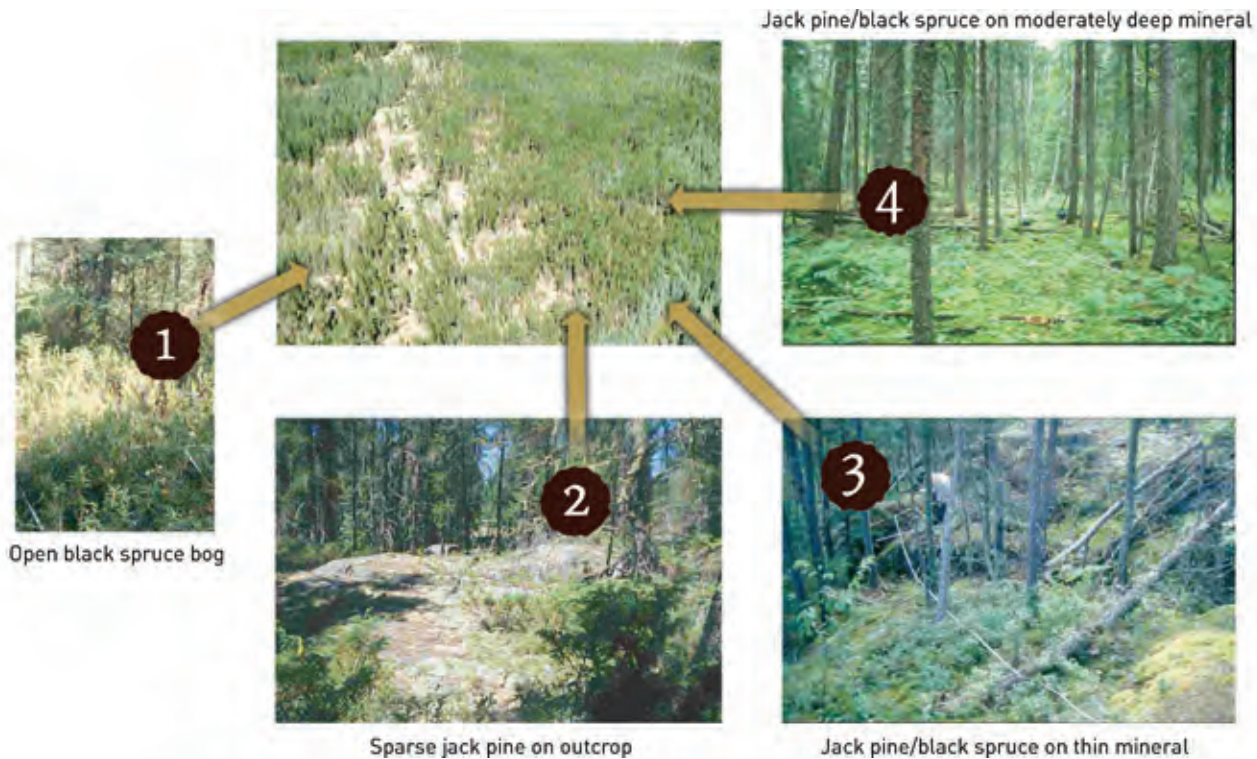


Figure 2.22 Vegetation and habitat diversity in the Rockland ecosystem

NEEDLELEAF FOREST

The Needleleaf Forest large-area ecosystem (2,700 square kilometres) has a high density of various-sized lakes and numerous large to small rivers in a deranged drainage pattern (see Figure 2.17). It is characterized by less exposed bedrock and considerably more areas of mineral soil than the Rockland ecosystem. Better-developed and productive soils are much more common. Large wildfires are frequent due to the high proportion of uplands.

Forest dominates the vegetation cover, with jack pine and/or black spruce feathermoss forest being the most common type. Trembling aspen stands are more abundant than elsewhere in the nominated area. White spruce and balsam fir are scarce because they are not adapted to regenerate quickly after frequent large wildfires.



Aerial view of the Needleleaf Forest ecosystem (© H. Otake 2010)

While the dominant drivers for vegetation patterns are the same as for the Rockland ecosystem, the regeneration and growth patterns they produce are different because mineral soils are deeper and more widespread.



MIXED WETLAND-ROCKLAND

The Mixed Wetland-Rockland large-area ecosystem (6,100 square kilometres) includes a water body density that is considerably lower than in the Rockland and Needleleaf Forest large-area ecosystems. Drainage patterns are diverse, shifting from deranged in the south and east to a mixture of dendritic and parallel in the northwest. This ecosystem is characterized by a highly variegated patchwork of wetlands and exposed bedrock outcrops that range widely in size.

Woodlands dominate the vegetation cover, with jack pine and/or black spruce-rock lichen/feathermoss upland and sparsely treed black spruce bog being the most common vegetation types. The proportion of sparsely treed peatland cover is considerably higher than in the Rockland and Needleleaf Forest large-area ecosystems, and broadleaf and mixedwood forest cover is lower than elsewhere in the nominated area. Compared with the Wetland large-area ecosystems, sedge fens are much less common and surface water is much more abundant. Compared with the Rockland large-scale ecosystem, there is a considerably higher proportion of sparsely treed peatland in the Mixed Wetland-Rockland large-area ecosystem.

While the dominant drivers for vegetation patterns are the same as for the Wetland and Rockland large-area ecosystems, the patterns they produce are different because the surface material and topography are highly variegated.

SPECIES DIVERSITY

The exceptional diversity of large-area ecosystems found in Pimachiowin Aki contributes to the presence of a wide diversity of representative boreal plants and animals for the boreal shield.

Pimachiowin Aki supports a high proportion of the North American boreal shield species, including characteristic and iconic species as well as more than 20 species of conservation concern (COSEWIC 2014). In Pimachiowin Aki there are more than 700 vascular plant species, approximately 400 mammal, bird, amphibian, reptile and fish species, and thousands of invertebrate, bacterial, and fungal species (see Appendix G.2.8, Species Lists). The remoteness and vastness of the nominated area have precluded detailed floral and faunal surveys, so numbers of species presented below are estimates calculated using available studies and authoritative range sources (e.g., Banfield 1974; Bird Studies Canada 2014; Cadman *et al.* 2007; Dobbyn 1994; Manitoba Museum Herbarium 2014; NatureNorth 2014; Science Team 2002).

FLORAL DIVERSITY

The 700 vascular plant species in Pimachiowin Aki, belonging to more than 110 families, provide an excellent representation of plant diversity in the boreal shield. Figure 2.23 provides Anishinaabe names for some of the plants that are important to Anishinaabeg in Pimachiowin Aki.



Figure 2.23 Sample of Anishinaabe plant names (adapted from Davidson-Hunt *et al.* 2012)

Syllabics	Roman Orthography	Common Name	Latin Name
ᑯᐅᓪ	Ookeehg	Jack pine	<i>Pinus banksiana</i>
ᐱᕈᓴᓂᓪ	Auhkeemuhdehg	Black Ash	<i>Fraxinus nigra</i>
ᓴᐱᕐᕐᕐ	Muhnhusday	Balsam Poplar	<i>Populus balsamifera</i>
ᐱᕐᕐᕐ	Auhsuday	Trembling Aspen	<i>Populus tremuloides</i>
ᐱᕐᕐᕐᕐᓪ	Weekwusuhdehg	Birch	<i>Betula papyrifera</i>
ᐱᕐᕐᕐᓪ	Kuhwunduhg	Black spruce	<i>Picea mariana</i>
ᓴᐅᐱᕐᕐᕐᓪ	Mushkeekoowahdek	Tamarack	<i>Larix laricina</i>
ᐱᕐᕐᕐᕐᕐᓪ	Eeseesuhwaymeenuhn	Choke cherry	<i>Prunus virginiana</i>
ᐱᕐᕐᕐᕐᕐᓪ	Auhnneepeemeenuhdug	Highbush cranberry	<i>Viburnum trilobum</i>
ᓴᐅᕐᕐᓪ	Moosoomeenuhn	Mooseberry	<i>Viburnum edule</i>
ᓴᐅᕐᕐᓪ	Meskoomeenuhn	Raspberry	<i>Rubus idaeus</i>
ᓴᕐᓪ	Meenuhn	Blueberry	<i>Vaccinium myrtilloides & V. angustifolium</i>
ᓴᐅᕐᕐᓪ	Muhkooseeemeenuhn	Lingonberry	<i>Vaccinium vitis-idaea</i>
ᓴᐅᕐᕐᕐᕐᕐᓪ	Seekeepeeskeewushkoon	Fireweed	<i>Epilobium angustifolium</i>
ᓴᐅᕐᕐᕐᓪ	Mushkeekoopuhkoohn	Labrador tea	<i>Ledum groenlandicum</i>
ᓴᐅᕐᕐᓴᕐᓪ	Mushkeekoomuhchaash	Pitcher plant	<i>Sarracenia purpurea</i>
ᓴᐅᕐᕐᕐᕐᓪ	Ooshkeydaypuhgoohn	Yellow pond lily	<i>Nuphar variegatum</i>
ᐱᕐᕐᕐᓪ	Puhsaykuhnuhg	Common cattail	<i>Typha latifloia</i>
ᓴᐅᕐᓪ	Muhnnoomeehn	Wild Rice	<i>Zizania palustris</i>
ᐱᕐᕐᕐᓪ	Weekaynsh	Sweet flag	<i>Acorus calamus</i>
ᐱᕐᕐᕐᓪ	Waahkoonak	Rock tripe	<i>Umbilicaria spp.</i>
ᓴᐅᕐᕐᓪ	Meskoomeenuhn	Raspberry	<i>Rubus idaeus</i>

Latitudinal and zonal differences in plant distribution and abundance within Pimachiowin Aki reflect variation in climate topography, soil, and other ecological drivers. For example, tamarack is widespread throughout the nominated area but is considerably more abundant in the Wetland ecosystem. Studies indicate that more than 90 native plant species have either a northern or southern range limit in the nominated area.



Tamaracks showing fall colours (D. Sullivan 2007)

"We greatly value the poplar tree as an important food source for beaver and rabbits [snowshoe hare] that we have depended on for food, for the making of snares from poplar saplings, and for medicinal use of the bark. We use white spruce for building because it doesn't crack and break and the boughs have been important for bedding in winter camps. We use red-osier dogwood for medicines, basket making and tobacco, and we know the importance of this shrub to moose. We eat the wild strawberries and the bunchberries."
Poplar River Land Management Plan (PRFN 2011: 13)



Manoomin (wild rice) grows extensively throughout Pimachiowin Aki
(L. Gerrish 2011)

As described in Section 2.a(i), Anishinaabeg of Pimachiowin Aki use many of the plants found in the nominated area for food, medicine, and other purposes. *Manoomin* (northern wild rice) is the only cereal native to North America. An annual aquatic grass, it grows in clear, shallow, mud-bottomed streams and lake margins with high organic content. Wild rice has special cultural significance to Anishinaabeg of Pimachiowin Aki, where it grows in abundance due in part to the practice of *manoominikewin* (customary tending of wild rice). By sowing new wild rice stands, Anishinaabeg enhance an important food source not only for Anishinaabeg, but also for many types of ducks, and other birds and animals, including muskrats. *Manoomin* can be seen as nourishing the broader community of life where it grows. Pimachiowin Aki is one of the few places in North America where *manoomin* grows in its traditional range in free flowing waters.

VERTEBRATE DIVERSITY

The North American boreal shield animal assemblage consists of approximately 400 vertebrate species, including some 55 mammals, 235 birds, 90 fishes, 8 amphibians, and 14 reptiles. Pimachiowin Aki provides remarkable representation of the vertebrate diversity found in the North American boreal shield. The nominated area overlaps the ranges of more than 80 percent of the boreal shield's vertebrate species, including characteristic and iconic species such as wolf, lynx, moose, woodland caribou, common loon, and great grey owl.

All mammal, fish, amphibian, and reptile species, except for some bats, are year-round residents. These species have a variety of adaptations to survive Pimachiowin Aki's long, cold winters (e.g., hibernation by bears; metabolic changes in amphibians). The long, cold winters limit the number of bird species that remain in the North American boreal shield all year long.

Large portions of the North American boreal shield have been altered by industrialized development, as shown by the "cumulative human footprint" in Figure 2.24. Figure 2.25 shows that Pimachiowin Aki conserves a very large habitat block within the remaining intact portion of the boreal shield that supports the highest number of vertebrate species.





Figure 2.24 Cumulative human footprint (Lee and Hanneman 2010)

North America Equidistant Conic

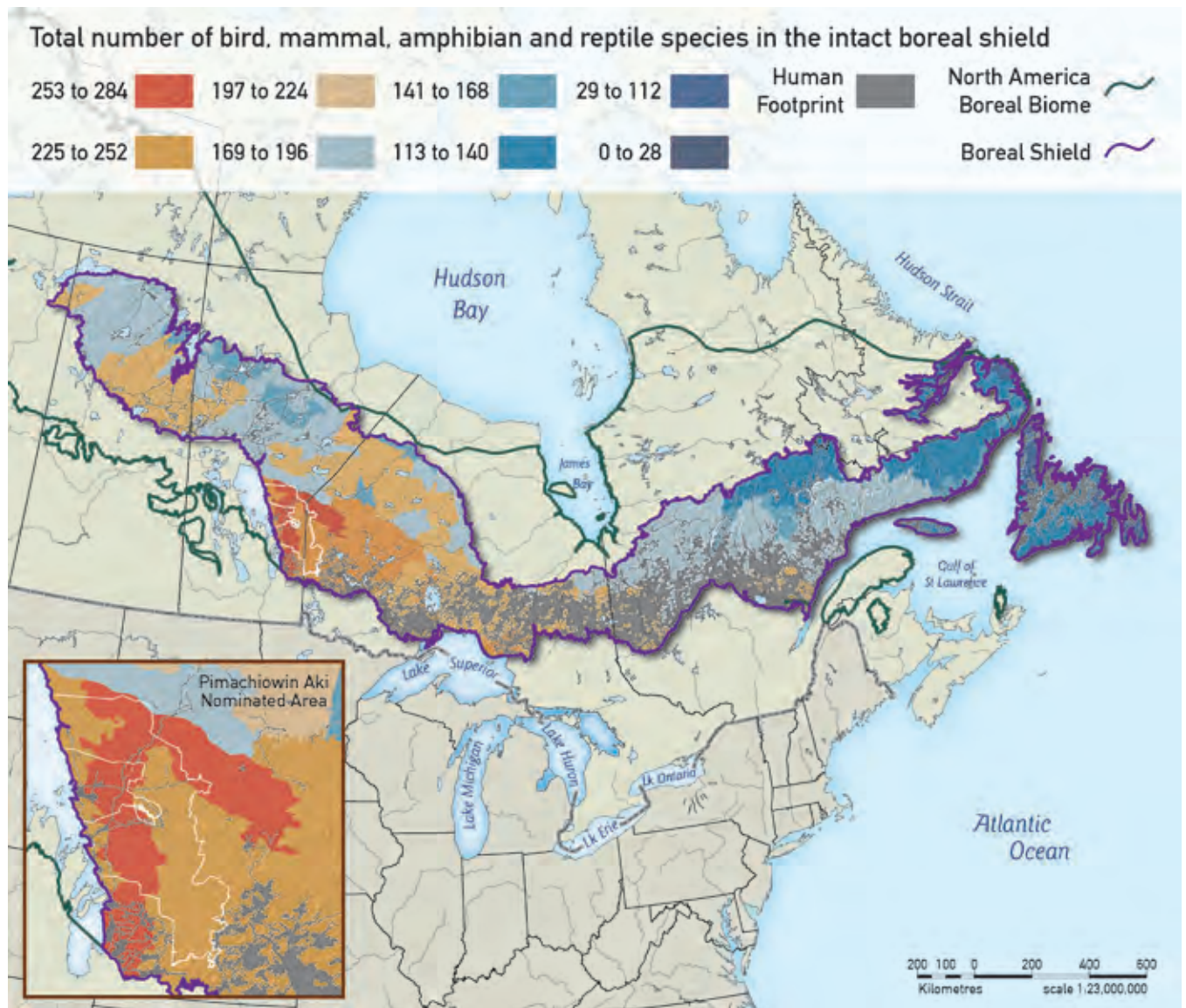


Figure 2.25 Total number of mammal, birds, reptiles and amphibians in the intact portion of the North America boreal shield (compiled from Freemark *et al.* 1999 and Lee and Hanneman 2010)

North America Equidistant Conic





Mammals

Forty-three mammal species, or 80 percent of the approximately 55 species occurring within the North American boreal shield, are known or thought to occur in Pimachiowin Aki. Figure 2.26 provides Anishinaabe names for some of the mammals that are of importance to Anishinaabeg.

Figure 2.26 Sample of Anishinaabe mammal names (adapted from Davidson-Hunt *et al.* 2012)

Syllabics	Roman Orthography	Common Name	Latin Name
ᑭᑦ	Moos	Moose	<i>Alces alces</i>
ᑭᑦᑎᑦ	Atik	Caribou	<i>Rangifer tarandus</i>
ᑭᑦᑭᑦᑎᑦ	Wawashkayshee	Whitetail Deer	<i>Odocoileus virginianus</i>
ᑭᑦ	Muhkwa	Black Bear	<i>Ursus americanus</i>
ᑭᑦᑭᑦᑎᑦ ᑭᑦᑎᑦ	Wuhbeeshkeemuheekuhn	Grey Wolf	<i>Canis lupus</i>
ᑭᑦᑭᑦᑎᑦ	Muhkuhdamuheekuhn	Black Wolf	<i>Canis lupus</i>
ᑭᑦ	Bishiew	Lynx	<i>Lynx canadensis</i>
ᑭᑦᑭᑦᑎᑦ	Kweekwuhuhkay	Wolverine	<i>Gulo gulo</i>
ᑭᑦᑭᑦᑎᑦ	Wabishayshee	Marten	<i>Martes americana</i>
ᑭᑦᑎᑦ	Oojeek	Fisher	<i>Martes pennanti</i>
ᑭᑦᑎᑦ	Aachitamoo	Red Squirrel	<i>Tamiasciurus hudsonicus</i>
ᑭᑦᑎᑦ	Waboose	Snowshoe hare	<i>Lepus americanus</i>
ᑭᑦᑎᑦ	Amik	Beaver	<i>Castor canadensis</i>
ᑭᑦᑎᑦ	Washushk	Muskrat	<i>Ondatra zibethicus</i>
ᑭᑦᑎᑦ	Neegeek	Otter	<i>Lontra cabadensis</i>

The majority of mammals are rodents including mice and voles, squirrels, muskrat, and beaver. Carnivores, which comprise the majority of the fur-bearers, include fisher, lynx, mink, pine marten, red fox, river otter, weasel, wolf, and wolverine. Mammal species of national conservation concern include woodland caribou, wolverine, little brown bat, and northern bat.



Pine marten (© H. Otake 2012)

*"Anishinaabe hunters know when and where they are most likely to find moose over the course of the year. ... Hunters know that when the seed pods of fire weed (*Epilobium angustifolium*, *zhingobiinsiwashkoon*) are fully developed in July and August, the moose will be fat from a summer of feeding on aquatic plants. Windy days in the fall are said to have *moonzooyaaniman*, 'moose wind' and are ideal for hunting as the sounds of branches moving in the wind hide the sound of an approaching hunter's feet from keen eared moose."*

(Davidson-Hunt et al. 2012)



Moos (Moose) are a favoured source of meat by Anishinaabeg (© H. Otake 2011)

The two large ungulates found in Pimachiowin Aki are the moose and woodland caribou. Moose, the largest member of the deer family, is an iconic species of the boreal forest. Moose are highly valued and significant to Anishinaabeg and are a favoured source of meat and hides. Woodland caribou (*atik*), also an iconic species, lends its name to the two large provincial parks forming part of the nominated area: Woodland Caribou Provincial Park in Ontario and Atikaki Provincial Park in Manitoba (*atikaki* is Ojibwe for land of the caribou).

The woodland caribou is an umbrella species, a species with a large home range and a high sensitivity to development (Lee and Hanneman 2010). Protecting a landscape that meets the needs of an umbrella species provides for the needs of many other species. Very large, diverse landscapes are required to meet the specialized habitat requirements of woodland caribou and to allow for their natural migration and seasonal movement patterns.



Pimachiowin Aki provides an extensive range of woodland caribou habitat (© H. Otake 2012)

The Committee on the Status of Endangered Wildlife in Canada (COSEWIC) lists woodland caribou (boreal population) as Threatened. Their range in North America has been steadily shrinking due to encroachment of industrial activities. Figure 2.24 shows the cumulative human footprint in the southern boreal shield, demonstrating Pimachiowin Aki's importance as caribou habitat and underscoring the significant contribution Pimachiowin Aki can make in conservation efforts for this Threatened species. The nominated area provides extensive areas of summer and winter range, and critical calving and rearing habitat (Figure 2.27), used by at least three distinct herds of woodland caribou (Foster and Harris 2010).



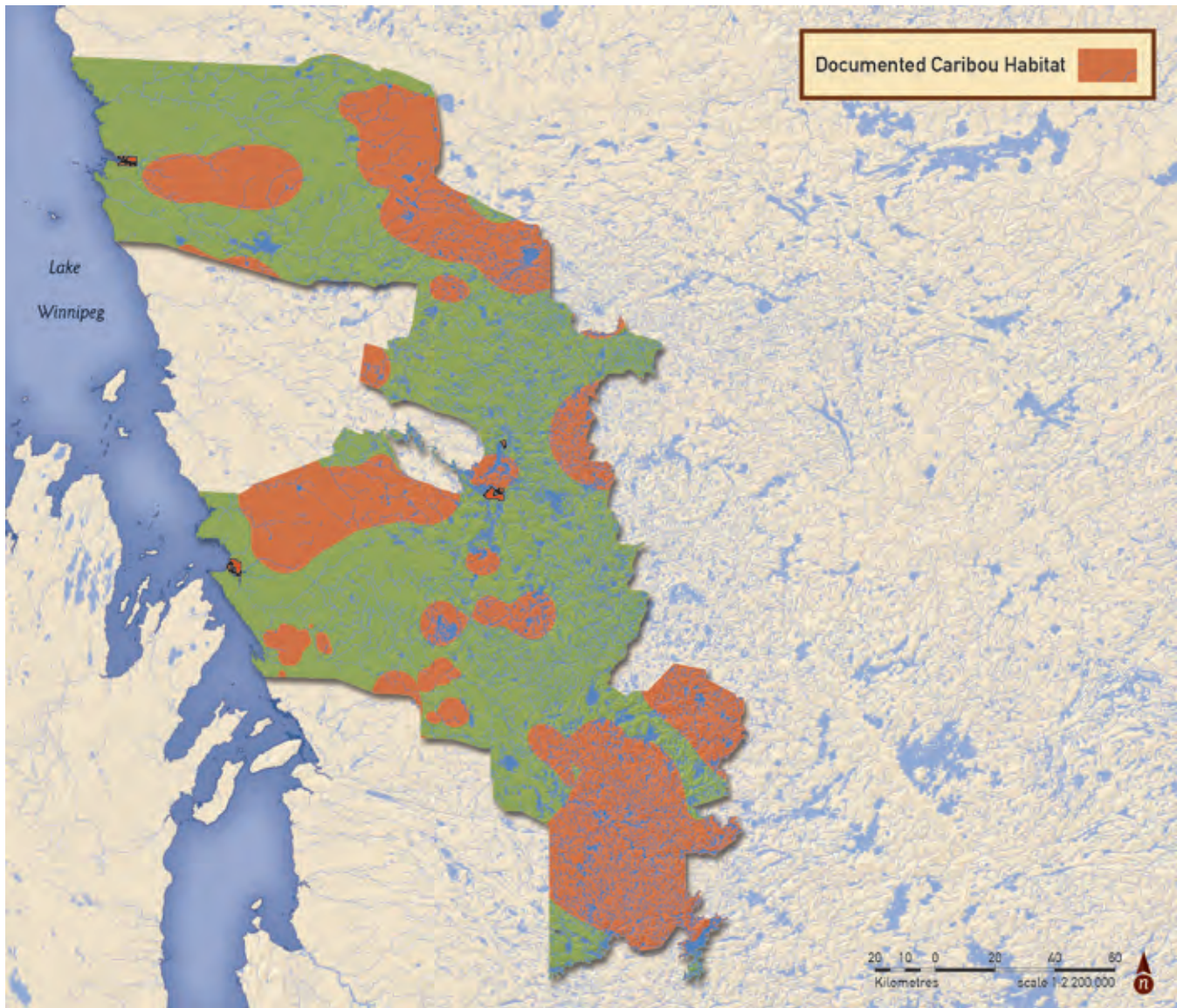


Figure 2.27 Documented woodland caribou habitat in Pimachiowin Aki

Canada Lambert Conformal Conic

In addition to Anishinaabe hunters, wide-ranging wolves are the principal predator of both moose and woodland caribou. Pimachiowin Aki exhibits the highly evolved interrelationships among wolves, caribou, and moose (Bergerud 1992; Seip 1992). In natural areas, a high moose density typically supports a relatively high wolf density. To minimize contact with wolves, woodland caribou prefer areas where moose densities are low, such as very wet peatlands with rock-outcrop islands and treed islands on large lakes, both of which provide poor moose habitat (Boreal Caribou ATK Reports 2011; Carr *et al.* 2007; Stuart-Smith *et al.* 1997; WPMC 2006). Rock outcrop islands in the very wet peatlands provide refuge from predators in the winter and islands on large lakes provide refuge in summer. Both types of areas are abundant in the nominated area.

As described in Section 2.a(i), fur-bearing mammals have formed the basis for the long-established Anishinaabe trapping tradition. Fur-bearer population data are not systematically collected over the nominated area, but given the abundance of aquatic, riparian, and upland habitats, and the dispersed Anishinaabe harvesting that occurs, fur-bearer populations are considered healthy and within ranges of natural variability. Beaver, fisher, fox, lynx, and marten, are all important fur-bearers sought by Anishinaabe trappers.





During the winter, snowshoe hare are an important source of food and fur for Anishinaabeg, who learn from an early age how to spot tracks in the snow and set snares to catch the animal. The snowshoe hare is also an important prey animal for most fur-bearing predators. Anishinaabe trappers carefully observe areas where there are abundant tracks of snowshoe hare as these are places where fur-bearing predators, especially lynx, will frequent. By watching snowshoe hare populations, trappers gain food and fur as well as the opportunity to trap fur-bearing predators (Davidson-Hunt *et al.* 2012).

The cyclical predator-prey relationship between lynx and snowshoe hare is well-demonstrated throughout the nominated area. Lynx will feed on other species such as meadow vole and grouse, or moose and caribou carrion left by wolves, but more than 70 percent of their diet is snowshoe hare. Snowshoe hare populations are known to follow a cycle of about 10 years and when the snowshoe hare population declines, so too does the lynx population (Krebs *et al.* 2001). Anishinaabeg storytelling speaks to the close relationship between the lynx and snowshoe hare.

One day Hare [snowshoe hare] asked a couple of lynx cubs to scratch his back and soon he was torn to pieces. The cubs started to roast Hare. The grease could be smelled for a long distance and soon two older lynx smelled it. They crept up to the wigwam and one lynx said to the other, "Something smells greasy, our kids must have killed something." They looked into the wigwam and sure enough, there was Hare on a roasting stick with grease dripping.

"We'll take the thing away from them and eat it ourselves," said one of the lynx. So they jumped into the wigwam and tried to grab the roast hare but the young ones wanted their share so they grabbed the hot hare too. It was so hot they burned their faces. That is why the lynx have the expression on their faces that they have today.

(adapted from Hallowell and Brown 1992: 173)



Lynx and snowshoe hare (© H. Otake 2013)

Birds

The 220 native bird species known or thought to occur in Pimachiowin Aki comprise more than 90 percent of all bird species regularly found within the North American boreal shield. Remarkably, this includes 164 of the 180 widely distributed boreal shield bird species (Ehnes 2011). About 12 percent of the approximately 175 bird species that breed within Pimachiowin Aki are resident year-round. Figure 2.28 provides Anishinaabe names for some of the bird species that are important to Anishinaabeg of Pimachiowin Aki.



Figure 2.28 Sample of Anishinaabe bird names (adapted from Davidson-Hunt *et al.* 2012)

[illegible]

Waterfowl, passerine birds, and neotropical migrants are prominent, given Pimachiowin Aki's central continental position, the diversity of aquatic and terrestrial habitats, proximity to Lake Winnipeg, and the presence of some mixed forest in the nominated area (Foster and Harris 2010). The nominated area lies within the Mississippi and Central flyways for migratory waterfowl in North America. Each spring, Pimachiowin Aki's lakes, rivers, and wetlands attract large numbers of waterfowl. They arrive here to make seasonal use of Pimachiowin Aki's extensive breeding habitats or as a resting place while travelling farther north to the Hudson Bay coast and beyond. Waterfowl are a particularly important food source in the spring and fall, providing both meat and eggs.



Cape May Warbler



American Redstart



Whip-poor-will



Rusty Blackbird



Evening Grosbeak



Canada Warbler



Bird species photographed during a 2011 field survey in Pimachiowin Aki (© C. Artuso 2011)

At least 14 bird species of conservation concern have large and diverse habitats in Pimachiowin Aki, with potential to sustain breeding populations. Examples include the Canada warbler, common nighthawk, eastern whip-poor-will, olive-sided flycatcher, short-eared owl, and rusty blackbird (Bird Studies Canada 2014). Having declined by more than 75 percent in recent decades, these species depend heavily on the intact boreal forest (Jeff Wells, personal communication). Trumpeter swan, a species formerly listed as extirpated in Manitoba, was recently found breeding in Pimachiowin Aki (Christian Artuso, personal communication).

Amphibians and Reptiles

All of the eight North American boreal shield amphibian species occur in Pimachiowin Aki as well as three boreal shield reptile species.

Some of the common amphibians and reptiles are the spring peeper, leopard frog, western painted turtle, and the red-sided garter snake. Wood frogs also live in the nominated area. Species of national conservation concern found in the nominated area include northern leopard frog and common snapping turtle (Cook 1984; NatureNorth 2014; Ontario Nature 2014).

Fish

“Fish have always played an important role in the subsistence economy of the Anishinabek. The archaeological record indicates that ancient and historical campsites were located at productive fisheries. This tradition has continued to the present and many cabins are located on or near the ancient campsites.”
Poplar River Land Management Plan (PRFN 2011: 29)

Sixty-two of the 92 North American boreal shield fish species occur within Pimachiowin Aki. Species of national conservation concern include lake sturgeon, shortjaw cisco, and silver lamprey (Scott and Crossman 1973;



Syllabics	Roman Orthography	Common Name	Latin Name
ᑯᓈᕐ	Oohkuhseh	Walleye/Pickerel	<i>Sander vitreus</i>
ᑯᓂᓄᗁᔭ	Oohshuhkuhshkuhnuhmookeyh	Sauger	<i>Sander canadensis</i>
ᑲᖅᑳᑦᑎᓱᙿᕐ	Keecheekaanohshayseh	Northern Pike	<i>Esox lucius</i>
ᑰᓃᕐᕐ	Auhteekuhmayg	Lake Whitefish	<i>Coregonus clupeaformis</i>
ᑴᓇᓵᓚᑦ	Oodonepe	Cisco/Tullibee	<i>Coregonis artedi</i>
ᓀᕐᕐᕐᕐ	Nuhmaykoos	Lake Trout	<i>Salvelinus namaycush</i>
ᑴᓇᓵᓚᑦ	Oodonepe	Cisco/Tullibee	<i>Coregonis artedi</i>
ᑲᖅᓶᑏᒃᑐᑦᓸᑦ	Meeskoonuhcheekuhnayseeh	Redfin Sucker	<i>Moxostoma spp.</i>
ᓪᕐᕐᕐ	Meesuheh	Burbot/Mariah	<i>Lota lota</i>
ᓀᕐᕐ	Nuhmay	Lake Sturgeon	<i>Acipenser fulvescens</i>

A man with a beard, wearing a camouflage cap, sunglasses, and a grey jacket, is shown from the chest up. He is wearing green work gloves and is using a green mesh net to catch a fish. The fish is partially visible in the net. He is standing on a wooden dock or pier. In the background, there is a calm lake and a clear blue sky. The overall scene is bright and sunny.

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Conclusion: A Complete Example of the North American Boreal Shield

Pimachiowin Aki is a vast area that provides a remarkable example of the North American boreal shield's evolution, ecological processes, and ecosystem and species diversity.

Pimachiowin Aki is highly intact ecologically, in contrast to much of the North American boreal shield. This is partly due to the nominated area's remoteness, beyond the mainstream of Canada's modern cities, towns, and services (Figure 2.24). Equally important, Anishinaabeg have long occupied the land and used its many animals and plants to sustain their communities and way of life, and have done so without disrupting the ongoing ecological processes that are characteristic of the boreal shield. As described above and in Section 2.a(i), based on long experience and accumulated knowledge, they have continuously adapted their use of the ecosystem, taking account of seasonal and cyclical changes in resource availability to maintain an essential balance. Through their cultural tradition of *Ji-ganawendamang Gidakiiminaan* (Keeping the Land) Anishinaabeg have upheld a sacred trust with the Creator to care for *aki*, which continues to be healthy and whole.

2.b HISTORY AND DEVELOPMENT

After the Creator finished making everything on the earth—the land, water, plants, animals, fish, birds, everything—he decided to create human beings. He took pieces of mud from the four directions and made them into the shape of a man. Then he took a *miigis* [cowrie] shell, blew his breath into it and placed it in the man he had made. The man came to life. The Creator gently took this man in his hands and lowered him onto the earth and said, “I lower you down onto the earth. This is my beautiful garden and I am asking you to take care of it.”

Gaa-ishkwaa giizhitooj gakina gegoon gaa-dibenjigej o'omaa akiing; o'owe aki, nibi, gaa-nitaawigigin, awesiwag, giigoowag, bineshiishag, gakina gegoon, mii gii-inendam ji-ozhi'aaj bemaadiziniij. Ogi-odaapinaan azhishki endaso-inaamaninig onji gaa-izhi-ozhijiishkiwaginaaj anishinaaben. Miigisan gaa-izhi-boodaanaaj, biinjiya'ii gaa-izhi-asaa ini bemaadiziniij. Mii gaa-izhi-bimaadiziniij. Mii gaa-izhi-zaginikenaaj ini bemaadiziniij niniisina ayaabe ogii-inaan. Ningitigaanim o'owe gaa-onizhishing, ginandawenimin ji-naagajitooyan.

Elders Abel Bruce and Albert Bittern, November 5, 2013

“Every living thing, including the smallest insect, was given a job to do, to make sure the life our Creator made will always be there.”

Elders Abel Bruce and Albert Bittern (November 5 to 15, 2013)

Anishinaabe stories provide *aadizookewin* (teachings) about the landscape, animal behaviour, and Anishinaabe cultural practices, including the cultural tradition of *Ji-ganawendamang Gidakiiminaan* (Keeping the Land). For example, Anishinaabe stories often remind listeners that even the smallest of creatures has a role to play in creation and should therefore be respected. The importance of observing respectful behaviour toward other beings, and all life on *aki*, is illustrated in the story of how the trickster-transformer known as Wiisakejaak created the land on which Anishinaabeg live. Stories about Wiisakejaak, set in ancient times when people and animals understood one another's language, describe the actions (often comical), misfortune, and shrewdness of Wiisakejaak.

In one part of a very long story, Wiisakejaak must survive a great flood that covers all of the land, even the high hills. Wiisakejaak gathers the animals on a raft and decides to dive down in the water to get some mud from the bottom to use in re-creating the land for the animals to live on. But the water is too deep and Wiisakejaak is unable to reach the bottom. Several of the animals volunteer to try but, like Wiisakejaak, each is unable to reach the bottom. Finally, the tiny muskrat tries, only to float dead to the surface after a time below much longer than any of the others. While mourning their dead friend, Wiisakejaak notices muskrat is clutching something in his





tiny hand: some mud from the land far below. Wiisakejaak blows into the little ball of mud and it begins to grow, expanding into a vast island on which Anishinaabeg and other indigenous peoples live today.

While Anishinaabe stories from Pimachiowin Aki speak of the formation of land from a giant flood, and a time when there were no trees on the land, no stories speak about the land being covered in great sheets of ice.

Continental Glaciation (30,000–11,800 γ A)

The most recent ice age in North America produced the Laurentide Ice Sheet some 30,000 γ A. The impact of glaciation largely obliterated the signs of past geologic forces, except where expanses of exposed boreal shield reveal Precambrian bedrock formed some 2–3 billion γ A, and led to the prevailing landforms found within Pimachiowin Aki today. This geological history is also important because it influenced the manner in which the nominated area was occupied by the early ancestors of Anishinaabeg.

Approximately 13,000 γ A, glacial ice had reached its maximum southerly extent into present-day Minnesota and Wisconsin in the United States of America. At this time, Pimachiowin Aki was completely covered by ice. Evidence of the impact of glaciation can be seen throughout the nominated area. Most common are extensive, scoured bedrock surfaces heavily striated by boulders and other large debris carried at the base of the ice. For Anishinaabeg, these features are evidence of where Wiisakejaak has travelled, pulling along his *odaabaagan* (toboggan) and scouring *aki* (the earth) while it was still young. Other erosional forms include rounded holes on the bedrock referred to as “buckets” by Anishinaabeg. These landforms are believed to have been formed by the hydraulic action of massive sheet floods flowing beneath the ice.



“Buckets” (© H. Otake 2010)

Although the glaciers did not leave deep or extensive sediments on the bedrock of Pimachiowin Aki, common surface material features include veneers of glacial till, fans of sand and gravel, and various types of moraines. Fans of sand and gravel can be found in pockets, often in depressions, or on the downstream side of rock hills where water flowed from the ice front into a glacial lake. Thick moraine deposits have been identified near Indian House Lake (Eagle Finlayson moraine).

Glacial Lake Agassiz (11,800–7,800 γ A)

About 11,800 γ A the continental ice sheet began to melt faster than it was expanding and began a gradual retreat to the northeast. Meltwater and surface runoff from an area that eventually exceeded 2 million square kilometres collected along the front of the ice sheet. An extensive glacial lake formed between the ice front and higher land to the south, within the depression of the Earth’s crust created by the weight of two-kilometre-thick glacial ice. By about 11,000 γ A, all of the Pimachiowin Aki nominated area was free of glacial ice but completely covered by the waters of the glacial lake that we now refer to as Lake Agassiz.

Lake Agassiz was present between about 11,800 and 7,800 γ A and at its greatest extent covered more than 800,000 square kilometres (Marshall 2010). Pimachiowin Aki is located in what would have been the centre of Lake Agassiz (see Figure 2.30). The features left behind by this lake and the impact of these features on ecosystems are evident in Pimachiowin Aki.



Figure 2.30 Maximum extent of Lake Agassiz (Marshall 2010)

North America Equidistant Conic

Glacial lake deposits cover up to 20 percent of Pimachiowin Aki (see Figure 2.16, Surficial materials). Fine-grained deposits that were formed in deep waters are quite extensive in the northwestern portion of Pimachiowin Aki, along the drainage basins of cultural waterways that flow into Lake Winnipeg. Former glacial lake basins are now occupied by lakes and wetlands. Former glacial lake shorelines, which mark temporary pauses in the overall lowering of Lake Agassiz, have also been recognized in Pimachiowin Aki. Waves and ice carved out shorelines in higher land areas.

Boulder pavements and exposed, wave-washed bedrock surfaces are by far the most characteristic landscape features left by Lake Agassiz in Pimachiowin Aki. Ice-rafted boulders, deposited on the former lake floor by retreating icebergs, are also present. Boulders are understood by Anishinaabeg to have been used by Thunderbirds to build their nests.





Ice-rafted boulder (© H. Otake 2006)



Ice-scoured, wave-washed bedrock (© H. Otake 2010)

In its final phase (ca. 8,000 γ A), Lake Agassiz drained west across the bedrock surface towards present-day Lake Winnipeg, leaving rock basins filled with residual water. As fresh snowmelt and rainfall replenished these early lakes, they overflowed and created stream and river segments. These were generally poorly coordinated and often with short basin-to-basin connections that formed local drainage systems. Smaller basins, not connected to the newly developing drainage system became closed peatland basins. Taken together, these features form Pimachiowin Aki's deranged drainage pattern (Figure 2.17), which exhibits no coherent arrangement of rivers and lakes given the watersheds are still young and continuing to evolve. Anishinaabeg explain that the rivers were straight in ancient times, when the land was young, and that Wiisakejaak waved his hand back and forth to make the rivers winding so Anishinaabeg would not be able to find animals so easily.



An example of Wiisakejaak's handiwork (© H. Otake 2012)

Pollen core and related studies of southern Manitoba and adjacent parts of northwestern Ontario reveal how vegetation recolonized newly exposed lands, including Pimachiowin Aki, following glaciation (Shay 1984). About 11,500 γ A, spruce forests grew along the southern margins of the glacier and the newly formed Lake Agassiz. By about 10,000 γ A, as the climate warmed and changed rapidly, Pimachiowin Aki was still covered by glacial lake water but these waters were gradually receding from east to west. Prairie grassland communities grew along the southern and western margins of the lake and spruce forests spreading from the east may have begun to develop on the eastern margins of Pimachiowin Aki (Shay 1984). These vegetated areas expanding on the margins of a retreating Lake Agassiz would have been productive places for people to access food sources (Pettipas 2011; Taylor-Hollings 2016).

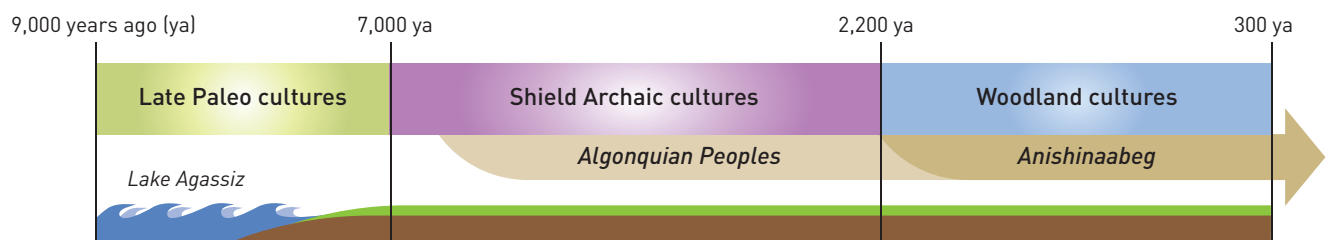
Early Culture History (9,000–300 ya)

Contemporary oral traditions in Pimachiowin Aki include stories about a time when there were no trees on the land, which may date from the time after the retreat of Lake Agassiz.

The origins of human occupation in Pimachiowin Aki can be dated to the Late Palaeo Plano cultures (ca. 9,000–7,000 ya), which are a precursor or distant relative to the Anishinaabeg of Pimachiowin Aki (Petch 2010). Between 9,000 and 5,100 ya, central North America experienced a marked climatic warming and drying trend during which the Pimachiowin Aki area became more habitable. Late Palaeo cultures are associated with hunters of smaller herd animals, such as bison and caribou, that inhabited prairie grassland and tundra communities along the south and west margins of Lake Agassiz.

Figure 2.31 presents a simplified chronology of the sequence of cultural occupations relevant to Pimachiowin Aki. The nominated area contains archaeological evidence of Late Paleo Plano cultures, Shield Archaic cultures, and most recent, the Algonquian Woodland Tradition. An Agate Basin-type spear point found at Rowdy Lake, within Woodland Caribou Provincial Park (McLeod 2004), and dated some 7,000 to 9,000 ya to the Palaeo period (Petch 2010), provides archaeological evidence for the earliest indigenous occupancy in Pimachiowin Aki (see also Steinbring 2010; Taylor-Hollings 2016).

Figure 2.31 Simplified sequence of cultural traditions



Climate warming contributed to the diversification of vegetation and animals, which resulted in new technology and subsistence patterns that define the Shield Archaic period (ca. 7,000 to 2,200 ya). In the Shield Archaic period, some livelihood activities become more noticeable in the archaeological record; for example, elaboration of fishing technology suggests an increase in the importance of fish as a dietary resource. Shield Archaic cultures are considered ancestral to present-day Anishinaabeg, and were characterized by a common set of tools, subsistence and settlement patterns, and cosmology. These early inhabitants are credited with introducing the practice of painting pictographs (Petch 2010). Pictographs in Pimachiowin Aki are therefore “a highly significant vestige of these [Shield Archaic] traditions” (Steinbring 2010).

Shield Archaic sites confirmed in Pimachiowin Aki include the following: Sasaginnigak Lake, where an Oxbow projectile point was found; Weaver Lake, where a bifacially worked grey quartz projectile point and a rare trihedral adze blade were found (Petch 2010); Paishk Lake, where a First Nation resident found a quartz Oxbow projectile point (Taylor-Hollings 2016); six sites along the Bloodvein River (Taylor-Hollings 2016); three sites on the Gammon River (Reid 1980); and one Shield Archaic site at Sydney Lake (Reid 1980).

By 7,800 ya, Lake Agassiz had disappeared, leaving a network of rivers, streams, and lakes that gradually transformed into the present aquatic network. This network was soon populated by a variety of fish species from southern refugia (Marshall 2010). Spruce forests likely covered all but the southwest extremities of Pimachiowin Aki, where a mixed deciduous-coniferous forest was present for some time. Fur-bearing mammals, members of the deer family, and a variety of bird populations gradually colonized the stabilizing environment. By at least 3,000 ya, the boreal forest of Pimachiowin Aki was a well-established patchwork landscape, as illustrated in Figure 2.32.



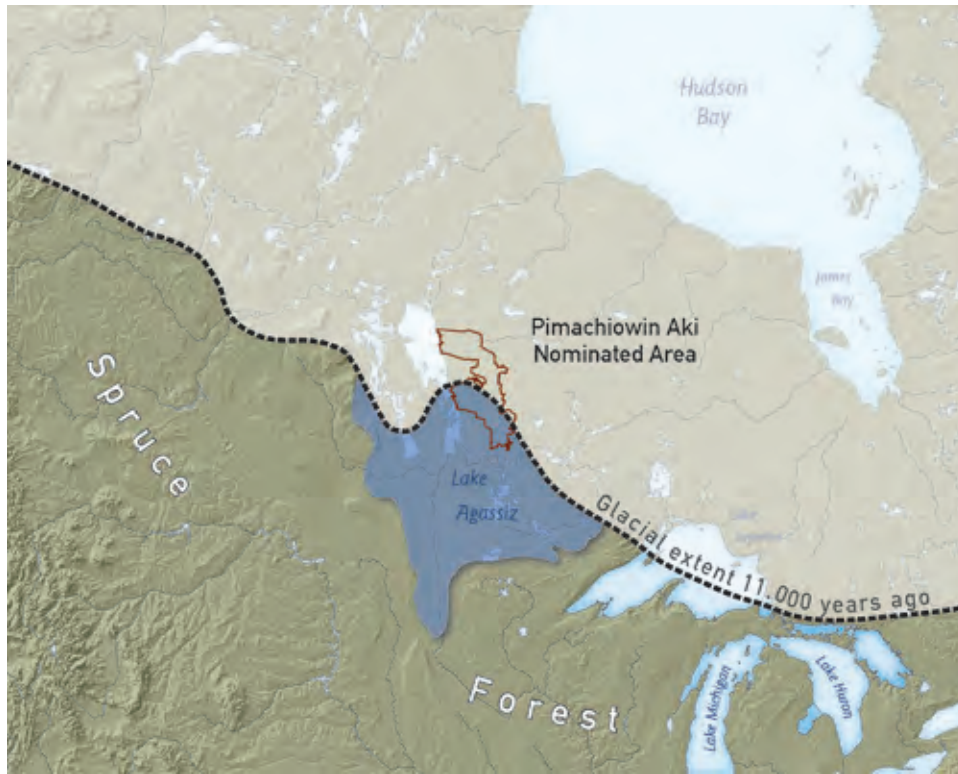


Figure 2.32 Evolution of forest cover (11,000 ya)

North America Equidistant Conic

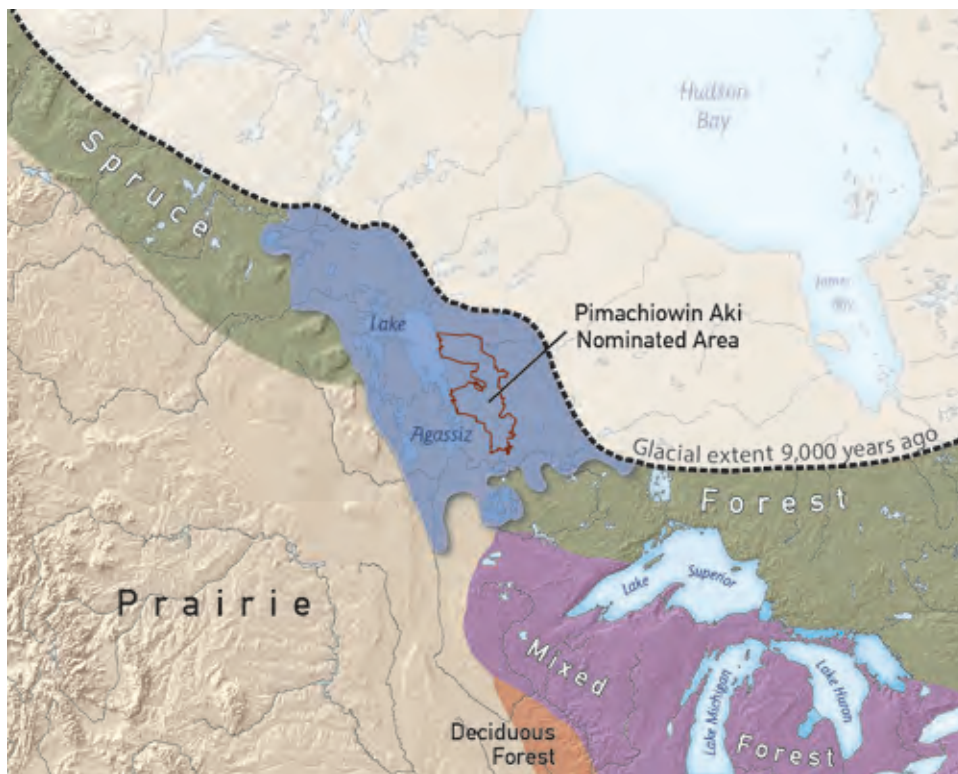


Figure 2.32 Evolution of forest cover (9,000 ya)

North America Equidistant Conic



Figure 2.32 Evolution of forest cover (6,000 ya)

North America Equidistant Conic

By 2,200 ya, a generalized subsistence pattern emerged in which people dispersed during winter for hunting and trapping, and came together in larger groups at productive fisheries in the spring, summer, and fall; that is, the outlines of a hunting-gathering-fishing way of life that persists into the present (Petch 2010). This period is identified with Algonquian Woodland cultures, for which evidence has been found throughout Pimachiowin Aki.

Middle Woodland cultures are associated with the introduction of hand-formed ceramics and a new set of technologies that were clearly different from the preceding Shield Archaic period (Petch 2010: 24). Bow and arrow technology was developed during this period, as were finely crafted stone tools made from non-local (traded) materials and animal products such as bone, antler, claw, teeth, and shell (Petch 2010). Middle Woodland cultures are also associated with the widespread use of seine nets, gaff hooks, and spears for fishing sturgeon, suckers, and catfish during the spring spawn as well as hooks and line for fishing all species throughout the year. Because the making and use of seine nets requires a fairly large number of people working cooperatively, this technological innovation corresponds with the formation of expanded seasonal communities at summer gathering sites (Matthews and Roulette 2011: 7) and a more complex social organization (Cleland 1982).



Summer fishing settlement showing a cluster of dwelling types
(A.I. Hallowell Collection, 1930s American Philosophical Society)





The Late Woodland period (1,300–300 γ A) is associated with few changes in tools, suggesting a stable subsistence economy that continued into the historic Anishinaabeg period. One notable innovation is the gill net, which permitted intensive exploitation of the brief fall spawning period for whitefish and lake trout. “Like the spring fishery, the fall fishery was a labor-intensive operation and undoubtedly a community enterprise” (Cleland 1982: 775). The gill net is associated with an increased and more reliable fall and winter food supply that enabled an increase in the population of the region. The contemporary Anishinaabe culture in the nominated area is firmly and tangibly rooted in the Late Woodland period (Petch 2010; Taylor-Hollings 2016).

Historical Period (300 γ A – present)

Adoption of new technologies and ideas has been part of Anishinaabe culture from ancient times. Anishinaabeg adopted trade goods when they were affordable and easy to integrate into a seasonal and mobile way of life (Hamilton 2010).

When European trade goods arrived in Pimachiowin Aki in the early 17th century, they were traded through long-established indigenous trade networks (Petch 2010). With the arrival of the fur trade in Pimachiowin Aki in the mid-18th century, Anishinaabeg capitalized on new opportunities to exchange the products of their customary livelihoods for new trade items and new technology such as steel traps, guns, and snare wire.

The area that now includes Pimachiowin Aki was known to fur traders in the early 19th century as the East Winnipeg Country, covering the watersheds of those rivers flowing westward into Lake Winnipeg (Lytwyn 1986). The East Winnipeg Country formed the western portion of what was known as Le Petit Nord (the Little North). It stretched from the boreal shield country north and west of Lake Superior, ending at the shores of Lake Winnipeg in the west and at the Hudson Bay Lowlands in the north (Figure 2.33).





Figure 2.33 Le Petit Nord

North America Equidistant Conic

The headwaters region separating the East Winnipeg Country of Le Petit Nord from the watersheds flowing into Hudson Bay—where the earliest and largest trading posts were located—consisted of myriad twisting and turning waterways separated by ridges and swamps. Here, an inexperienced traveller could easily become lost. This deranged drainage pattern (see Section 2.a(ii)) provided a geographic buffer that limited the expansion of fur trading networks into the nominated area (Lytwyn 1986; Petch 2010). As a consequence of their isolation, lasting up to the late 18th century, “Anishinaabeg could decide how much fur they would harvest and where they would take it for trade” (Lytwyn 2010). Anishinaabeg were able to hunt, fish, gather, and socialize as they moved across the land, which meant that long journeys did not hinder trading.



Pimachiowin Aki’s drainage pattern limited the expansion of fur-trade networks (A.I. Hallowell Collection, 1930s American Philosophical Society)





Between 1796 and 1821 increased competition for furs led to the expansion of trade routes up the Poplar, Berens and Bloodvein rivers. Trading posts were built on the major lakes and rivers in the region, and traders were sent to the winter hunting lodges of Anishinaabeg families in order to secure every available pelt (Lytwyn 2010). This period of intense trading activity saw a marked increase in the presence and settlement of Euro-Canadians (Lytwyn 2010). Equally important, the frenzy of harvesting and trading, coupled with disease, led to rapidly declining harvests, especially in beaver, in the first decade of the 19th century (Hamilton 2010; Lytwyn 2010). After 1821, the competitive frenzy in fur trading ended, the beaver population was decimated, and incentives for Anishinaabeg to participate in the fur trade declined markedly.



A deadfall trap for catching beaver (A.I. Hallowell Collection, 1930s American Philosophical Society)

"I watched my granddad work; he used sticks to trap... he used to lay logs on top of sticks that were sticking straight up from the ground. He also puts rocks on top of those logs. He put a piece of string inside the trap with bait. That was how he made a trap out of wood, something like a little house. If anything approached it like a lynx, fisher, anything, fox, or mink, once they go inside and pull the bait, the logs and rocks fall on top of the animal and kill it instantly."

Elder Charlie George Owen (in translation, February 27, 1984)

At this time, in the mid-19th century, referred to as "the fish and hare period," Anishinaabeg in the nominated area relied strongly on fishing and snaring of small prey species for domestic consumption (Hamilton 2010). Fishing has been a central feature of Anishinaabe use of the land for millennia. As Cleland notes, the significance of indigenous fisheries in the region has been overshadowed by the "popular and scholarly attention both historians and anthropologists have given to the dramatics of the fur trade" (Cleland 1982: 776).

"My dad told me that I had to have a net, hooks, and snare. If you ever go hungry, you can set snares for rabbits and set those hooks for fish. If you do that all the time, you won't go hungry. If you use your gun to fish with, you won't kill fish that way. You don't kill everything with a gun."

Adam Owen (March 19, 1984)

In the late 19th century, a lucrative commercial lake sturgeon fishery on Lake Winnipeg (outside the nominated area) was developed under non-indigenous control and largely for export to Europe. In the early days of this fishery, lake sturgeon was not being sold for its flesh but for its oil, used locally in machinery, and as a source of isinglass, which was used in Europe for making jellies and aspics, as a finishing agent for beers and wines, and as a glue. This export fishery resulted in such substantial harvests that, by 1891, some observers recognized the serious threats posed by overfishing (Matthews and Roulette 2011).

As lake sturgeon yields declined in Lake Winnipeg, some commercial harvesting shifted into parts of the nominated area, but this early, interior sturgeon fishery was not well documented at the time. There was, for example, commercial fishing of lake sturgeon on the Berens River, which started in the 1930s and was dominated





by non-resident, non-indigenous interests. In the 1930s and 1940s, the inland commercial sturgeon fishery was part of a largely unregulated resource frontier (WFMC 2008). To make matters worse for local lake sturgeon populations, fishing was concentrated in the spring, during spawning time, which had a significant impact on the ability of lake sturgeon populations to withstand the level of harvesting being done (WFMC 2008). Like the collapse of the fur trade in the mid-19th century, the lake sturgeon fisheries on Lake Winnipeg and the Berens River followed a pattern of rapid resource exploitation to meet international demand, leading to a sharp decline in populations. The status of lake sturgeon populations in the region continues to be a conservation concern (see Section 2.a(ii), Fish).

RELATIONS WITH GOVERNMENT

Formal relations between the First Nations of Pimachiowin Aki and the Canadian government began with the signing of Treaty 5 in 1875 by the Chief of Berens River on the eastern shore of Lake Winnipeg. Under the Treaty, the federal government drafted band membership lists, established a new system of elected chiefs and, years later, designated tracts of land as Indian Reserves for the settlement of Aboriginal people and delivery of federally funded services. Although creation of Reserves was provided for in Treaties, the actual delineation of Reserve communities and subsequent settlement by Anishinaabeg in those communities was a highly uneven and difficult process. As a result, settlement in Reserves occurred much later, as late as the early 1940s for the inland communities of Pimachiowin Aki. Reserves were located at important historic summer gathering places (Section 2.a(i), Habitation and Processing Sites).

In Canada, provincial control of resources is derived from the federal *Constitution Act, 1867* and the *Natural Resources Transfer Act* (1930), but it was not until after World War II that the provinces were able to assert decision-making authority over natural resources in Pimachiowin Aki. This change was due in large part to improved transportation networks as the resource frontier expanded northward. Prior to the mid-1940s, trapping activities were “supervised” through the local Hudson’s Bay Company trader (Dunning 1959). After the mid-1940s, Ontario and Manitoba imposed quotas on beaver harvests and established a trapline registry which assigned to registered trappers the exclusive right to harvest fur-bearing animals within defined trapline areas (Section 2.a(i), Trapline Areas). Creation of a registered trapline system was understood by Anishinaabeg to be akin to a treaty-making process, in which lands were being set aside for the exclusive use of Anishinaabeg (Berezanski 2004), and a confirmation of their customary stewardship responsibilities toward all resources on their traplines, not just fur resources.

The period following the mid-1940s was a highly significant period of change for the Anishinaabeg of Pimachiowin Aki. Government agencies “exerted steadily growing influence upon local Ojibwe communities, in large measure because of step-wise dependence upon external services and resources gradually introduced into the local economy” (Hamilton 2010). The emergence of more permanent settlements, and corresponding decline in time spent on the land, is particularly associated with centralized (Reserve-based) provision of health care and compulsory education, which requires women and children to remain on Reserve while the men go out on the land. Perhaps most influential, however, has been the provision of state subsidies.

Provision of relief supplies to qualified recipients began in the early Treaty period but was greatly expanded in 1946 when the federal government authorized the Hudson’s Bay Company to distribute relief directly and bill the costs back to the federal government. Also in 1946, Aboriginal families with young children became eligible for Family Allowance payments, providing their children attended Reserve schools. In 1966 additional subsidies were made available to First Nation members through the Canada Pension program. Dunning (1959) calculated that for 1954–1955, subsidies made up 42 percent of incomes in Pikangikum First Nation, adjacent to Pimachiowin Aki. Such subsidies allowed for and even encouraged population increase while decreasing reliance on customary livelihood activities.

Beginning in the late 1970s, there began a significant “push” (off of the land) that acted in concert with the “pull” to full-time Reserve settlement: a decline in prices and/or markets for commercially traded goods such as fish





and fur. In spite of continued, substantial outside control of markets, commercial fishing remained an important livelihood activity between the 1950s and 1970s. In part, this was the result of the growth of more affordable air traffic, as well as marketing support from the federal Department of Indian Affairs.

For Anishinaabeg in Pimachiowin Aki, this was a time when the balance of harvesting efforts shifted to fishing. Local Indian Affairs Superintendent, Clifford Swartman, remarked: “In recent years commercial fishing has replaced trapping as their major source of income” (1959, cited in Nikischer 2008). However, in the late 1970s, commercial fishing opportunities declined dramatically in the face of rising costs of transportation, conservation concerns, unstable markets, and concerns for elevated natural mercury levels. In addition, during the 1980s, international markets for fur went into steep decline as a result of international anti-fur campaigns (Berezanski 2004; Chapeskie *et al.* 2005; Hamilton 2010).



School in Pauingassi (© H. Neufeld 1958)



Opening of Omishoosh School in Pauingassi (© M. Matthews 2005)

Declining opportunities for income generation from fishing and trapping has to this day greatly diminished access to independent incomes among Anishinaabeg of Pimachiowin Aki. This loss of income opportunities was a significant catalyst for Pimachiowin Aki First Nations’ efforts to make land use planning decisions for their respective traditional territories over the past 20 years. This in turn spurred a new set of cooperative relations between First Nations and the provinces of Manitoba and Ontario to reach shared goals of safeguarding the future of the land on which Anishinaabeg depend for material and cultural survival.

RECENT CONSERVATION EFFORTS

For millennia, Anishinaabeg have conserved the boreal forest of Pimachiowin Aki as a part of customary stewardship responsibilities. In more recent history, Anishinaabeg have contributed to ecological restoration following over-exploitation of specific resources (i.e. beaver and lake sturgeon) by external (non-indigenous) commercial interests.

In the early decades of the 20th century, Ontario and Manitoba established recreational hunting and fishing regulations and, in the 1940s, registered trapline systems for conservation of fur-bearer populations that are commercially trapped. Environmental assessment and review legislation has been developed in Canada since the 1970s and fully applies to the nominated



Atikaki Provincial Park entrance sign
(Manitoba Sustainable Development 2004)



area. The two provincial parks in Pimachiowin Aki, Woodland Caribou in Ontario and Atikaki in Manitoba, were officially established in 1983 and 1985 respectively. Management plans have been completed for both parks. The Eagle–Snowshoe Conservation Reserve was established in May 2003. Additional details on the history of the establishment of these protected areas are provided in Appendix G.2.7.

In 2002, the First Nations of Pimachiowin Aki committed to the establishment of protected areas in their planning areas and inclusion of these protected areas in a proposed World Heritage site through the *Protected Areas and First Nation Resource Stewardship: A Cooperative Relationship Accord*. This accord, which has since come to be known as the *First Nations Accord* (see Appendix L.27), opens with a pledge:

In this Accord, our First Nations are joining together in the spirit of cooperation and mutual respect. We are joining together so that we may support each other and work together in our shared vision of protecting the ancestral lands and resources of our respective First Nations...

We hereby commit to cooperatively and collectively pursue the shared objective of creating an internationally recognized and designated network of linked protected areas on our ancestral lands (PRFN *et al.* 2002).

In 2004, the Accord First Nations joined with the governments of Manitoba and Ontario to submit a joint proposal to the government of Canada for inclusion of their combined planning areas on Canada's Tentative List of sites to be considered for inscription on the World Heritage List. This partnership between First Nation and provincial governments was essentially an extension of the principles of the *First Nations Accord* to include the existing adjacent protected areas: Woodland Caribou Provincial Park and the Eagle–Snowshoe Conservation Reserve in Ontario and Atikaki Provincial Park in Manitoba.

In 2006, the partnership was affirmed through the establishment of the Pimachiowin Aki Corporation, a non-profit, incorporated body with the goal of establishing a World Heritage Site. The Corporation is the official local institution accountable to conserve, protect, and present the proposed Outstanding Universal Value of Pimachiowin Aki. In keeping with the spirit of partnership that underpins Pimachiowin Aki, the Provinces of Manitoba and Ontario concluded, in 2013, a *Memorandum of Understanding respecting Transboundary Protection and Management of the Proposed Pimachiowin Aki World Heritage Site*. This Memorandum of Understanding describes means by which the provinces, as members of Pimachiowin Aki Corporation, will coordinate the protection and management of Pimachiowin Aki and will do so in a way that will meet or exceed World Heritage standards.

Both provinces have enacted legislation to enable a leading role for First Nations in developing land management plans for their traditional use areas and to provide these areas with protection from development: the *East Side Traditional Lands Planning and Special Protected Areas Act*, by Manitoba in 2009, and the *Far North Act*, by Ontario in 2010. Pursuant to this legislation, each of the four Pimachiowin Aki First Nations completed land management plans.

These plans identify protected areas which are now included in the nominated area. First Nation land management plans and the protected areas created through those plans have been given legal force and effect under the relevant provincial laws, ensuring the continued preservation of the proposed Outstanding Universal Value of the nominated area.



Cooperation and cross-cultural understandings are hallmarks of the Pimachiowin Aki initiative (Pimachiowin Aki Corp. 2010)





To guide implementation of these plans, the First Nations and the provinces created planning teams through a series of bilateral agreements. First Nations and provincial governments are represented equally on the planning teams; many members of the planning teams are directors of or advisors to the Pimachiowin Aki Corporation. The mandates of the planning teams include safeguarding Pimachiowin Aki's proposed Outstanding Universal Value, ensuring sustainable resource use within the planning area, education, training, and monitoring.

Additional information about the plans is provided in Section 5.

The Pimachiowin Aki initiative is significant for the extent of cooperation between First Nation and provincial governments. Decision-making through consensus and cross-cultural understanding has enabled First Nations to advance a vision for their ancestral lands as an Anishinaabe cultural landscape of international importance. The values of protection that are the impetus for the First Nations *Accord* are not focused merely on the maintenance of a healthy, functioning boreal ecosystem but more particularly on sustaining a living Anishinaabe cultural landscape in which effective First Nation-led stewardship is important to the continuity of natural and cultural values as an integrated whole.

PRESENT EXTENT OF NATURAL RESOURCE USE



Making a hare-skin blanket (A.I. Hallowell Collection, 1930s American Philosophical Society)

earned in winter. Although current, low fur prices provide little incentive to trap, Anishinaabeg continue to trap beaver, marten, and snowshoe hare (hare being used primarily for domestic uses and as bait in pine marten traps). The pine marten is the most economically important fur-bearing species, contributing 50 to 70 percent of all fur harvested within Pimachiowin Aki (Dohan *et al.* 2010).

Although commercial fishing was important in the past, currently there is no commercial fishing within the nominated area (Dohan *et al.* 2010). However, both Poplar River First Nation and Bloodvein River First Nation have viable commercial fishing operations on Lake Winnipeg, adjacent to the nominated area.

Principal natural resource uses at this time are those of the Anishinaabeg and those of tourism. Hunting, trapping, fishing and gathering have been practiced for millennia by Anishinaabeg following the cultural tradition of *Ji-ganawendamang Gidakiiminaan*. For most of this long, sustained period of use, these activities were carried out on foot, with snow sleds and dog-teams, and by canoe. With the advent of mass-produced, gasoline-powered engines, particularly for boats and snowmobiles, Anishinaabeg adopted these technologies to support customary land-based activities, which continue to reflect and sustain the principles of Keeping the Land.

For 250 years, until the 1970s, trapping was the primary source of income for most people in Pimachiowin Aki, and the bulk of this income was



Commercial fishing shed at Bloodvein River (© H. Otake 2015)

Manoominikewin, customary cultivation and harvesting of wild rice, is a long-established Anishinaabe practice for both domestic consumption and trade, including sale (Dohan *et al.* 2010). In the later part of the 20th century, commercial wild rice leases were developed under regulation on provincial Crown lands. There are commercial wild rice leases in both Woodland Caribou Provincial Park and Atikaki Provincial Park but no new licences are being issued in these parks.

With the advent of light aircraft, remote fly-in fishing lodges and hunting camps have been established on a number of the lakes and rivers in the nominated area since the 1950s. These operations are licensed by the provinces of Ontario and Manitoba. To date, most tourism in Pimachiowin Aki has occurred in Atikaki and Woodland Caribou provincial parks. The principal activities in the parks include backcountry adventure travel, fly-in fishing, and hunting (Dohan *et al.* 2010). The Bloodvein Canadian Heritage River is a major attraction (see Section 6.c, Results of Previous Reporting Exercises). Existing tourism facilities, outcamps, and trapping or wild rice cabins are permitted in the parks, but there are restrictions on new lodges and outcamps. No new private cabins or boat caches are allowed in Atikaki Provincial Park. New tourism facilities may be considered in Woodland Caribou Provincial Park but only if they are consistent with wilderness park policies and objectives.

Overnight accommodation within the nominated area is provided by 16 main lodges and more than 60 outpost camps, which consist of one or more cabins (Figure 2.34). There are also 10 canoe outfitting operators based outside of the nominated area that offer guided canoe tours within the area.



"Bush planes" are still an important mode of transportation in Pimachiowin Aki (Pimachiowin Aki Corp. 2010)



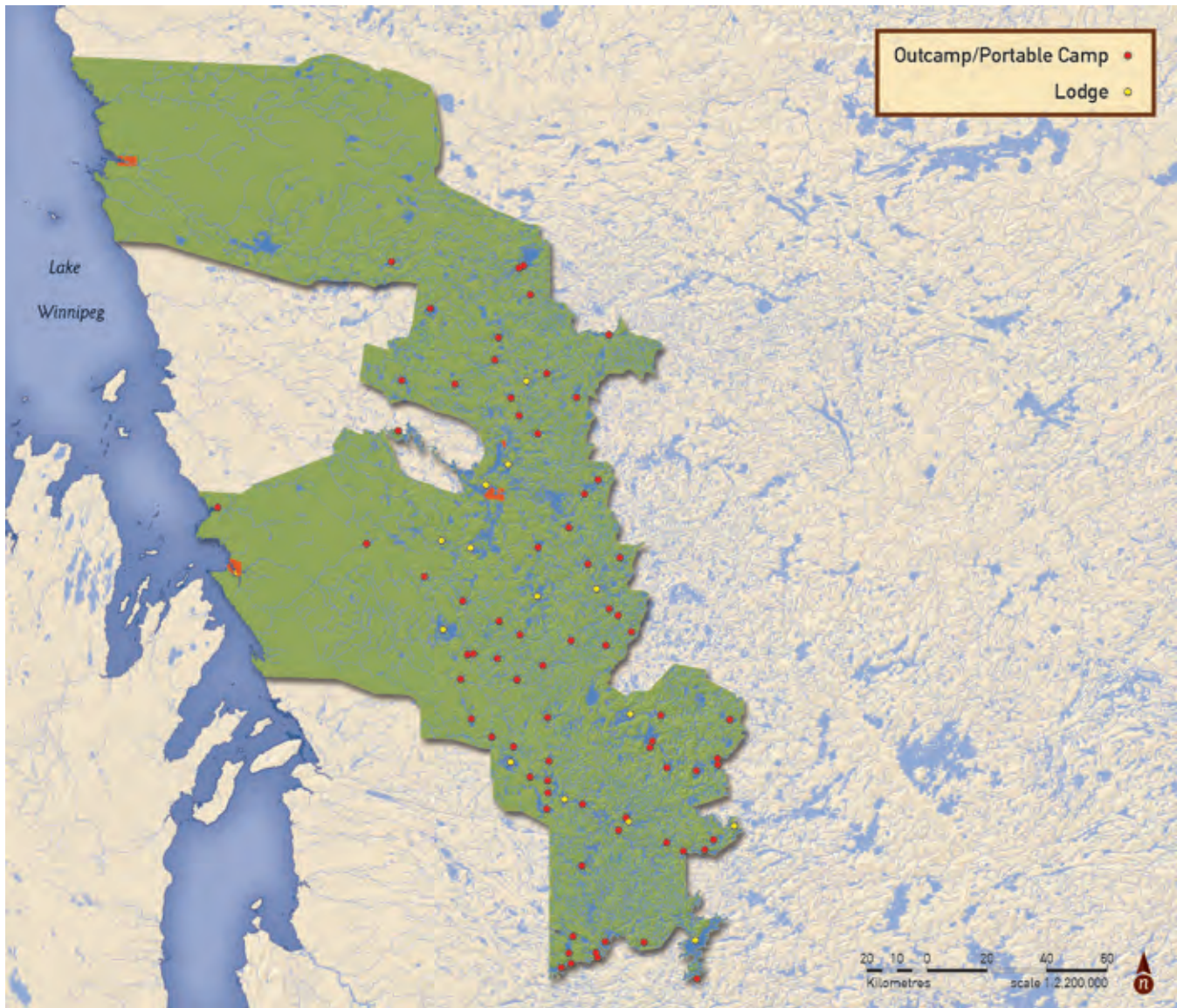


Figure 2.34 Lodges and outpost camps

Canada Lambert Conformal Conic

The provincial parks welcome 5,000 visitors annually, including 3,000 visitors to tourist lodges and camps and 2,000 canoeists. Tourism facilities in the nominated area that are outside of the two provincial parks accommodate approximately 1,500 visitors annually. Remoteness, seasonality and the challenging nature of activities are reasons for the relatively low levels of use by visitors to the nominated area (Dohan *et al.* 2010).



Camp site overlooking rapids on the Bloodvein River (E. Lindberg 2008)

2.c REFLECTIONS ON THE HISTORY AND DEVELOPMENT OF PIMACHIWIN AKI

The development of ecosystems and the chronology of early human occupation within the nominated area were shaped strongly by environmental factors, especially the recession of glacial flood waters that covered all of Pimachiowin Aki more than 7,800 years ago. Anishinaabe oral traditions, in conjunction with knowledge shared by non-Anishinaabe partners, tell a story of a people on *aki* (the land), adapting to environmental and cultural change.

Anishinaabeg of Pimachiowin Aki have enjoyed a long history of remoteness, but not isolation, from the main currents of commercial development that have redefined the Canadian landscape and fuelled the growth of Canada as a nation. Such developments have largely had a negative impact on indigenous cultural traditions in Canada but Anishinaabeg in Pimachiowin Aki have been able to maintain the cultural tradition of *Ji-ganawendamang Gidakiiminaan* because they have continued to make use of the land.

Use of the nominated area for harvesting, habitation, travel, and ceremony is what ensures continuity of the beliefs, values, knowledge, and practices that make up *Ji-ganawendamang Gidakiiminaan*, including the oral traditions through which the cultural tradition is expressed and transmitted across the generations. Under the guidance of elders, Anishinaabeg have retained their language, oral traditions, and knowledge through which the cultural tradition of *Ji-ganawendamang Gidakiiminaan* (Keeping the Land) is carried down through the generations.

“Most people think about a landscape as a physical and natural backdrop for life, a sort of stage upon which life happens. But in the Ojibwe way of thinking, the landscape is alive; it is full of human and non-human beings that engage with the people who know a certain place thoroughly.”
Pauingassi Lands Management Plan (Pauingassi FN 2010)

The Pimachiowin Aki cultural landscape is the living embodiment of how Anishinaabeg live on the land through the cultural tradition of *Ji-ganawendamang Gidakiiminaan*; how they use and keep the land; how they imagine the land. From time immemorial, protection and management of resources in the nominated area have been the responsibility of Anishinaabeg as part of their sacred trust with the Creator to ensure all life on the land is respected. Upholding this sacred trust through *Ji-ganawendamang Gidakiiminaan*, Anishinaabeg have lived on the land without fundamentally altering the boreal forest of Pimachiowin Aki.

Anishinaabe customary stewardship responsibilities that flow from *Ji-ganawendamang Gidakiiminaan* are today supported by the provinces of Manitoba and Ontario to ensure the cultural and natural heritage of the nominated area will be preserved into the future. By supporting the continued importance of *Ji-ganawendamang Gidakiiminaan*, including the central role of elders and other senior keepers of the land in upholding the cultural tradition, the Pimachiowin Aki partners support the continued integration of land and culture in the nominated area.



Aki, the land, is the source of *bimaadiziwin* or *pimachiowin*, the good life
(© H. Otake 2010)





3

JUSTIFICATION FOR INSCRIPTION





3

JUSTIFICATION FOR INSCRIPTION

3.1 JUSTIFICATION FOR INSCRIPTION

3.1.a BRIEF SYNTHESIS

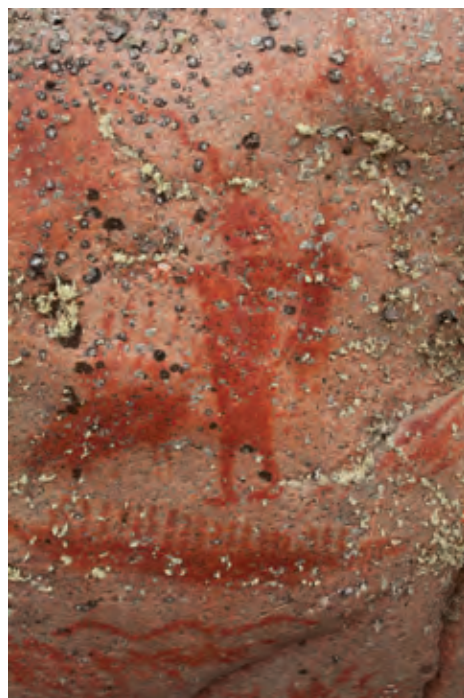
Pimachiowin Aki (the Land that Gives Life) is a 29,040-square-kilometre cultural landscape of Anishinaabeg (Ojibwe people). Through the cultural tradition of *Ji-ganawendamang Gidakiiminaan* (Keeping the Land), Anishinaabeg have for millennia lived intimately with this special place in the heart of the North American boreal shield.

Ji-ganawendamang Gidakiiminaan consists of the beliefs, values, knowledge, and practices that guide Anishinaabeg in their interaction with *aki* (the land and all its life) and with each other in ways that are respectful and express a reverence for all creation. The cultural tradition is given tangible manifestation in habitation, harvesting, and processing sites, traplines, travel routes, named places, ceremonial sites, and sacred places such as pictographs associated with powerful spirit beings. These attributes are dispersed widely across a large landscape and concentrated along waterways, which are an essential source of livelihood resources and a means of transportation. Anishinaabe customary governance and oral traditions ensure continuity of the cultural tradition across generations.

Pimachiowin Aki is a vast area of healthy boreal forest and wetlands, exposed bedrock, myriad lakes, and long free-flowing rivers. Waterways provide ecological connectivity across the entire landscape. Wildfire, nutrient flow, species movements, and predator-prey relationships are key, naturally functioning ecological processes that maintain an impressive mosaic of ecosystems. The nominated area supports an outstanding diversity of boreal plants and animals, including iconic species such as wolf, moose, woodland caribou, and loon.

Pimachiowin Aki is the most complete and therefore exceptional example of a landscape within the North American Subarctic geo-cultural area that provides testimony to the cultural tradition of *Ji-ganawendamang Gidakiiminaan*. This could not be without Pimachiowin Aki being an exceptional example of a large, healthy and diverse mosaic of the characteristic North American boreal shield ecosystems. Anishinaabeg are an integral part of the boreal ecosystem in Pimachiowin Aki, which is the foundation for their survival as a people. The beliefs, values, knowledge, and practices that reflect this intimate adaptation have preserved the boreal forest of Pimachiowin Aki. In this way, Pimachiowin Aki exemplifies the indissoluble bonds between culture and nature.

An innovative and collaborative, cross-cultural partnership has been formed among four Anishinaabe First Nations and two provincial governments with the shared vision of sustaining this living cultural landscape. The cultural tradition of *Ji-ganawendamang Gidakiiminaan* will sustain this outstanding cultural landscape into the future.



Pictographs are associated with powerful spirit beings (© H. Otake 2010)



3.1.b CRITERIA UNDER WHICH INSCRIPTION IS PROPOSED

Pimachiowin Aki is nominated for inscription under criteria (iii), (vi), and (ix) for the way in which it provides testimony to an indigenous cultural tradition of holistic and sustainable relations with the North American boreal shield and because it is an outstanding example of healthy and diverse boreal ecosystems.

JUSTIFICATION FOR CRITERION (iii)

Pimachiowin Aki provides exceptional testimony to the continuing Anishinaabe cultural tradition of *Ji-ganawendamang Gidakiiminaan* (Keeping the Land). Keeping the Land guides relations between Anishinaabeg (Ojibwe people) and the land; it is the framework through which the cultural landscape of Pimachiowin Aki is formed, given meaning, and maintained across the generations. *Ji-ganawendamang Gidakiiminaan* reflects the intimate interconnectedness between Anishinaabeg and their boreal forest environment; a way of life on the land in which nature and culture are inextricably intertwined.

Anishinaabeg of Pimachiowin Aki have lived intimately with the boreal shield environment of the nominated area over several millennia. The environment of the nominated area is characterized by a subarctic climate with long, cold winters and by a patchy and constantly changing boreal ecosystem driven especially by wildfire. As a result, Anishinaabe livelihood practices of hunting, trapping, fishing, and gathering require travel across a vast landscape and an intimate knowledge of complex waterways, in order to access season- and patch-specific resources.

The key attributes providing testimony to *Ji-ganawendamang Gidakiiminaan* are cabin and camp sites that support seasonal habitation; harvesting sites that support hunting, trapping, fishing, and gathering of boreal species; processing sites; travel routes, including portages and cleared-out channels; trapline areas; sacred and ceremonial sites; and named places. These attributes are dispersed widely across the landscape and, at the same time, are situated in specific places, reflecting a consistent rationale based on proximity to resources, ease of access, shelter from elements, and fire safety. The consistent functions provided by sites over time is demonstrated by the way newer sites overlay much older archaeological evidence for occupation and use. The rationale for establishing habitation, livelihood, and ceremonial sites is strongly tied to the role of waterways both as a source of resources and as a means of transportation. Waterway travel routes are vital for their role in providing cultural connectivity across the landscape.

The Pimachiowin Aki cultural landscape bears exceptional testimony to the cultural tradition of *Ji-ganawendamang Gidakiiminaan*. No other site in the North American Subarctic contains a comparable testimony to the complete suite of attributes that manifest Keeping the Land and the distribution of these attributes across a wide landscape interconnected by waterway travel routes.

JUSTIFICATION FOR CRITERION (vi)

Pimachiowin Aki is directly and tangibly associated with the living tradition and beliefs of Anishinaabeg, who understand they were placed on the land by the Creator and given all they need to survive. Having received the gift of life that is Pimachiowin Aki, Anishinaabeg are bound by a sacred trust to “keep” the land; that is, to care for all life in a way that honours creation and enables Anishinaabeg to achieve health and prosperity, or *bimaadiziwin* (a good life). Anishinaabe uphold this sacred responsibility to care for the land through their cultural tradition of *Ji-ganawendamang Gidakiiminaan* (Keeping the Land).



Ceremonies include the sharing of stories and sacred songs (© H. Otake 2011)





The beliefs that underpin this cultural tradition direct people to adopt appropriate forms of respectful behaviour in all of their interactions with the land, to ensure harmonious relations with the other beings with whom Anishinaabeg share the land. These other beings include the plants and animals harvested by Anishinaabeg as well as the Creator's helpers—spirit beings that are responsible for carrying out the Creator's plan for a healthy and productive life on the land. In the Anishinaabe world view, respect for other beings and for other people is essential to ensure the continued vitality of *aki* (the land and all its life). These beliefs are associated with the landscape through sacred and ceremonial sites, customary governance, and oral traditions.

Respectful behaviour toward other beings, and in particular the Creator's helpers, is tangibly associated with sacred and ceremonial sites. Examples of these sites include: offering sites such as grandfather stones and hollows in exposed bedrock where objects of value or tobacco are left for spirit beings; ceremonial sites used to communicate with and pay respect to other beings through drumming, dancing, and visions; and sacred places such as pictograph sites, Thunderbird nests, and places where *memegwesiwag* (little rock people) dwell.

Respectful behaviour toward other people, or *ji-gichi-inenimidiyang* (maintaining respectful relationships with other people), is directly associated with trapline areas, which are the framework for Anishinaabe customary governance in Pimachiowin Aki. Customary governance of trapline areas is based on respect for the established interests of family groups with ties to defined harvesting areas and the role of senior family members in making decisions about the use of those areas.

The beliefs and values that make up *Ji-ganawendamang Gidakiiminaan* are carried down through the generations by means of a vibrant oral tradition in the Ojibwe language. Oral traditions, including legends, stories, and songs, are central to the authentic intergenerational transmission of the cultural tradition. Oral traditions are tangibly associated with the nominated area through named places, which serve as mnemonic prompts for intimate knowledge of the land, including locations of resources, travel routes, and the history of Anishinaabe occupation and use.

The Pimachiowin Aki cultural landscape bears exceptional testimony to the cultural tradition of *Ji-ganawendamang Gidakiiminaan* through its association with the beliefs, values, knowledge, and practices that make up the cultural tradition. These associations are tangibly expressed through sacred and ceremonial sites, traplines, and named places. No other site in the North American Subarctic contains a comparable testimony to the role of customary governance in coordinating use of the land for livelihood purposes, including between neighbouring communities with shared histories of overlapping and negotiated resource use.

JUSTIFICATION FOR CRITERION (ix)

Pimachiowin Aki is the largest, most ecologically complete and best example of the North American boreal shield ecosystem, including its characteristic biodiversity and ecological processes. An ancient geology moulded by glacial processes created a landscape that continues to be shaped by the forces of climate, water, and fire. Pimachiowin Aki contains an exceptional diversity of terrestrial and aquatic ecosystems. Vast expanses of needleleaf forest, exposed bedrock, and peatlands, together with long free-flowing rivers, myriad lakes and extensive shoreline wetlands, create a diverse mosaic of ecosystems. Variations in bedrock geology, topography, surface material, soil, and drainage patterns are the key drivers of this high diversity of terrestrial and freshwater aquatic ecosystems.



Woodland caribou trails on a frozen lake (© H. Otake 2006)





Pimachiowin Aki fully supports wildfire, nutrient flow, species movements, and predator-prey relationships, essential ecological processes. Wildfire regimes reflect variations in surface materials and influence both terrestrial and aquatic ecosystems across the nominated area. The rivers, lakes, and tributaries provide ecological connectivity across the immense landscape. Variations in drainage patterns contribute to hydrological complexity.

Pimachiowin Aki has more large-area ecosystems and a greater number of vertebrate species than other protected areas in the North American boreal shield. Pimachiowin Aki's size, intactness, and ecosystem diversity support characteristic boreal species as well as species of conservation concern such as woodland caribou, wolverine, lake sturgeon, leopard frog, and Canada warbler. Predator-prey relationships are sustained among wolf, moose, and caribou, and lynx and snowshoe hare. Sustainable hunting and trapping by Anishinaabeg are part of the predator-prey interactions within Pimachiowin Aki.

3.1.c STATEMENT OF INTEGRITY

Integrity is a measure of the wholeness and intactness of cultural and natural heritage and its attributes within the nominated area. Pimachiowin Aki satisfies the conditions of integrity.

INCLUDES ALL NECESSARY ELEMENTS

Pimachiowin Aki encompasses a functionally whole and intact living indigenous cultural landscape within the North American boreal shield. The nominated area provides representation of the full range of cultural attributes and natural features of the landscape, the associated social and ecological processes, and a belief system that together embody the indissoluble bonds between Anishinaabeg and the boreal forest environment. The nominated area includes all of the elements that are essential to represent and sustain the distinctive character of the Pimachiowin Aki cultural landscape.

Following are the elements of the living cultural landscape that reflect the cultural tradition of *Ji-ganawendamang Gidakiiminaan*. Each of these elements represents key relations and processes of the cultural landscape, and each is present and complete within the nominated area:

1. Seasonal harvest, cabin, camp, and processing sites that support customary livelihood practices of hunting, trapping, fishing, and gathering of terrestrial and aquatic plants;
2. Evidence in oral history and archaeology of the cyclical use of well-established habitation and processing sites over the generations;
3. Distribution of the above attributes across a large landscape to support the shifting use of resources in response to the patchy and shifting nature of the boreal forest ecosystem;
4. A network of waterway travel routes that provides connectivity among the above attributes, including between areas of use and occupation associated with adjacent communities;
5. Trapline areas and named places that enable customary governance to regulate access to and use of resources across a wide landscape, including by members of neighbouring communities; and
6. Sacred and ceremonial sites associated with practices that demonstrate the importance of respectful behaviour in relations with *aki* (the land and all its life).





From an ecological perspective, landform features, ecosystem and species diversity, and ecological processes are fully intact and functioning. Pimachiowin Aki includes the elements that reflect the significant ecological processes in the evolution and development of boreal terrestrial and fresh-water ecosystems and communities of plants and animals; namely:

1. Evidence of the ancient foundations of the boreal shield ecosystem in Precambrian geology and continental glaciation, including glacial Lake Agassiz;
2. Vast expanses of the characteristic North American boreal shield surface materials and soils, configured in a manner that enhances ecosystem diversity;
3. Remarkable hydrological complexity and connectivity illustrated by watershed configuration, diverse drainage and surface-water patterns, and entirely free-flowing waters;



Night sky in Pimachiowin Aki (© H. Otake 2010)

4. The presence of two different wildfire regimes, which contributes to greater ecological diversity;
5. Climatic variations that enhance species diversity and a north-south extent that supports range shifts in response to climate change;
6. Characteristic North American boreal shield species diversity; and
7. Healthy predator-prey dynamics that involve iconic boreal species and sustainable hunting and trapping by Anishinaabeg.


IS OF ADEQUATE SIZE

Pimachiowin Aki is of sufficient size to represent the totality of the Anishinaabe cultural landscape and to provide for the long-term conservation of both cultural and natural values. Protected areas in the First Nation planning areas, two provincial parks, and a conservation reserve are combined to form the largest contiguous network of protected areas in the North American boreal shield (see Section 5.b). At 29,040 square kilometres in extent, Pimachiowin Aki is larger than some countries.

The size of the nominated area is sufficient to reflect the cultural tradition of *Ji-ganawendamang Gidakiiminaan*, as it can support seasonal rounds of Anishinaabe land use, including the practice of resource rotation (Berkes *et al.* 2000), in which use of harvesting areas and their associated habitation and processing sites is shifted over time according to resource availability and social need. Resource availability is particularly affected by wildfire, a keystone ecological driver in the boreal biome. In addition, the size of the nominated area enables exceptional representation of traditional travel routes, including those that connect the four Anishinaabe communities with each other. In summary, Pimachiowin Aki is large enough to fully support the continuity of the living indigenous cultural tradition of *Ji-ganawendamang Gidakiiminaan*.

From an ecological perspective, the vast size and ecological diversity of the nominated area provides for complete representation and protection of the significant ecological features and processes that characterize healthy boreal ecosystems, and especially those processes that occur over large areas. Pimachiowin Aki possesses remarkable





ecosystem diversity, encompassing four different large-area ecosystems with distinct surface materials. Each of these large-area ecosystems is of sufficient size to support significant boreal ecological processes. In addition, Pimachiowin Aki's landmass overlaps three third-order watersheds, including approximately 80 percent of the headwater areas for two of these watersheds as well as three different drainage and two different surface water patterns.

The vast size of the nominated area provides for ecological resilience in the context of a changing climate is strengthened by the large north-south extent of the nominated area, which spans a large range of the temperature/climate gradient (see Section 3.2.b, Theme 3: Site Integrity).

ABSENCE OF ADVERSE EFFECTS

The nominated area, including its significant cultural attributes and natural features, is almost entirely free from the adverse effects of development and neglect. The whole of the nominated area has at no time been subject to commercial resource developments such as forestry, mining, or hydroelectric projects (see Section 2.a(ii), Figure 2.24); commercial resource harvests have been limited to fur-bearing mammals, fish, and a very limited amount of wild rice, as explained in Section 2.b, History and Development.

The whole of Pimachiowin Aki is devoid of fragmented habitats and commercial resource development. Legislative protection is in place for the nominated area (see Section 5.b, Protective Designation). Given the absence of industrial development activities in the nominated area, the cultural attributes that express *Ji-ganawendamang Gidakiiminaan* and the connectivity among these attributes have not been disturbed.




Observing Woodland caribou (H. Carter 2010)

Waterways, which are the lifeblood of the land and people, are free of dams or other manufactured obstructions, providing cultural and ecological connectivity across the landscape. Pimachiowin Aki may be the last remaining example in the world of traditional *manoomin* harvesting and aquaculture on unimpounded waterways (i.e. free of manufactured obstructions such as dams). The Pimachiowin Aki Management Plan commits to maintaining the free-flowing character of waterways in the nominated area, a feature that has become increasingly rare across North America.

Pictographs found on the waterways of the nominated area are generally well preserved; however, the rate at which they are deteriorating due to natural weathering is largely unknown. Lichen encroachment is probably the most serious threat. As Steinbring notes, "It is extremely difficult to remove lichen without damaging the paintings, and advanced conservation technologies would be required" (Steinbring 2010: 7). Vandalism of pictograph sites has occurred, but only to a very limited degree, "likely due to the remoteness of the region, and the requirement of costly plane charters or canoe travel" (Steinbring 2010: 7-8).

Potential impacts of any deterioration processes are controlled by an effective management regime that includes: the Anishinaabe traditional protection associated with *Ji-ganawendamang Gidakiiminaan* and the legislated protection of First Nation protected areas, the two contiguous provincial parks and a conservation reserve, and a governance and management structure focused on the entire nominated area. First Nation and park management plans are reflected in the Pimachiowin Aki Management Plan. Effective buffering of the nominated area is provided by lands with legal and planning frameworks that enable safeguarding of the values of Pimachiowin Aki.





demonstrated by the continued vitality of the Anishinaabe language and oral traditions in articulating the meaning and significance of the nominated area from an Anishinaabe perspective.

LOCATION AND SETTING

Authenticity is further demonstrated by more than 7,000 years of documented indigenous use and occupancy within the nominated area. The nominated area is within the historic extent of Anishinaabe occupation and is centred on and incorporates the traditional land use areas of Anishinaabeg of the four member First Nations. Anishinaabe residents of the four member communities are the sole year-round occupants of the nominated area. Pimachiowin Aki is an authentic representation of an Anishinaabe cultural landscape associated with this group of related First Nations who collectively maintain the cultural tradition of *Ji-ganawendamang Gidakiiminaan* within a healthy and extensive boreal shield ecosystem.

Historical Anishinaabe occupancy of the nominated area is demonstrated by oral traditions, mapping of indigenous use and occupancy in GIS format, and by the results of archaeological field work registered with the Ontario Ministry of Tourism and Culture and with the Manitoba Department of Tourism, Culture, Heritage, Sport and Consumer Protection. Information sources on archaeological field work conducted in the nominated area are presented in Section 2.b, Early Culture History. In addition, the abundance of well-documented pictographs in the nominated area dating back to at least 2,200 YA (Section 2.a(i), Sacred and Ceremonial Sites) demonstrates the antiquity of Anishinaabe use and occupation, given “only the Ojibwa [Anishinaabeg] have a well-established tradition of pictography in the historic record” (Steinbring 2010: 4).

USE AND FUNCTION

Authenticity is demonstrated through the continued use of Pimachiowin Aki as a lived-in and living cultural landscape. Through the generations, Anishinaabeg have maintained ancient travel routes on land and water to gain access to seasonal resource areas for hunting, trapping, fishing, gathering of medicinal and edible plants, and harvesting of timber to build cabins and provide fuelwood for heating their homes. Anishinaabeg continue to make use of the nominated area for customary livelihood practices and conducting offerings and ceremonies at sacred sites.

While the material evidence of *Ji-ganawendamang Gidakiiminaan* may not be immediately apparent to an untrained observer, a pattern of long-term cyclical use of well-established sites demonstrates the consistent use and function of these sites through the generations. This pattern is borne out by archaeological surveys that reveal how contemporary attributes overlay much older evidence of occupation and use (Petch 2010; Taylor-Hollings 2016).

SPIRIT AND FEELING

Authenticity is further demonstrated by the ongoing attachment of Anishinaabeg to their traditional lands that make up Pimachiowin Aki. As the repository of their personal and collective histories, the nominated area is the home, the source of identity, and the future of Anishinaabeg in Pimachiowin Aki. The ancient roots of this attachment to the nominated area are seen in the way pictographs and birch bark scrolls serve as inspiration for the contemporary Anishinaabe Woodland Art tradition (see Section 2.a(i), Box 2.8). Paintings in this tradition express the spirit of an ancient Anishinaabe culture in the nominated area.

Furthermore, the importance of the nominated area as a source of pride and dignity for the four First Nation is shown through the signing of the First Nations *Accord*, which was the original impetus for seeking World Heritage inscription, and through the continued work since then by Anishinaabeg, in partnership with the provinces of Ontario and Manitoba, to seek World Heritage recognition for Pimachiowin Aki. Anishinaabeg have provided the name (Pimachiowin Aki, the “Land that Gives Life”) and a sacred song for the nominated area (see Box 3.1), in recognition that the nominated area is vital to the continued spiritual, emotional, and physical survival of Anishinaabeg as a people.





Box 3.1 Pimachiowin Aki song

Whey Ha Whey Oh Whey
Whey Ha Whey Oh Whey
Whey Ha Whey Oh Whey
Whey Ha Whey Oh Whey Ya Whey Ya
Whey Ha Whey Oh Whey
Whey Ha Whey Oh Whey Oh Whey Ya Whey Ya
Anishinaabeg dibaajimowin (This is an Ojibwe Story)
Gaagige bimosemagan (It exists and travels through eternity)
Pimachiowin aki (On the land that gives life)
[The verse is sung four times]



Performing the Pimachiowin Aki song
(Pimachiowin Aki Corp. 2010)

3.1.e PROTECTION AND MANAGEMENT REQUIREMENTS FRAMEWORK FOR PROTECTION AND MANAGEMENT


All of Pimachiowin Aki is Crown land within the provinces of Manitoba and Ontario, administered by the governments of Manitoba and Ontario (see Section 5.a, Ownership). The First Nation and provincial government partners have entered into cooperative arrangements for protection and management of Pimachiowin Aki, a reflection of principles inherent in *Ji-ganawendamang Gidakiiminaan*.

Pimachiowin Aki's management framework (see Section 5, Figure 5.1) combines a governance structure and a management plan for the nominated area that integrates various land management plans, laws, and policies in a mutually supportive way. This management framework provides for a unified decision-making process: at the local level, through traditional protection and management; by First Nations and provincial governments, through their respective land management and planning processes; and by all six partners through the Pimachiowin Aki Corporation. The management framework ensures the protection of the proposed Outstanding Universal Value of the nominated area; that is, its cultural and natural values, and the indissoluble links between Anishinaabeg and the land.

The First Nation land management plans have been developed with extensive First Nation community and public consultations and are enacted under provincial legislation giving them legal force and effect. Legal protective designations have been established for those portions of First Nation planning areas and the two provincial parks and conservation reserve that comprise the nominated area. Land management decisions are made in accordance with these plans (see Sections 5.c and 5.d) and with plan implementation agreements between First Nations and the relevant provinces. Land and resource use enforcement activities are conducted according to First Nation customary practices or by provincial agencies. Daily decisions related to the harvest and use of wildlife by First Nations is guided by Anishinaabe customary laws and the constitutional rights of First Nations people to hunt, fish, trap, and gather.

Pimachiowin Aki Corporation democratically represents the four First Nation and the governments of Manitoba and Ontario. As a coordinating management body, the Corporation facilitates the partners working together across the nominated area and its buffers. The structure and philosophy of the Corporation ensures that decision-making is based on good governance principles, is consensual and accountable, and reflects the pluralism of the partnership. The First Nations and provinces respect the leadership and authority of each community for decision-





making in natural resources management within their respective planning areas; but together, all partners make decisions in the interest of protecting the proposed Outstanding Universal Value of the nominated area.

LONG-TERM CHALLENGES FOR PROTECTION AND MANAGEMENT

A proposed all-season road to Pimachiowin Aki is both an opportunity and a potential threat to the Anishinaabe cultural landscape. This project will reduce the high cost of living in the First Nation communities, provide for greater flexibility in emergencies, improve community connections, and create job opportunities. Counteracting potential negative effects on cultural values is the tradition of *Ji-ganawendamang Gidakiiminaan* and the leadership of the four First Nations. Anishinaabeg commitment underpins this nomination and is the impetus for actions to support and sustain the cultural landscape. An essential step in sustaining the Anishinaabe relationship with *aki* has already been taken through First Nation-led planning processes and legislated protection.

Specific planning and mitigation measures to protect cultural and natural attributes and features include selecting the preferred route based on traditional knowledge and community input, protocols for protecting cultural resources and ecological features, balancing socio-economic factors, and minimizing the human footprint by aligning the new route closely with the existing winter road network.

Potential negative effects of road construction on natural values are also mitigated by application of a high standard of environmental assessment and review under federal guidelines. The Manitoba Department of Infrastructure is “committed to ensuring that the construction of an all-weather road is compatible with the proposed World Heritage designation” (Manitoba Infrastructure 2011). Ongoing planning and actions to minimize threats and optimize benefits will occur over the lifetime of this project.

ASSURANCES ABOUT PROTECTION AND MANAGEMENT

The First Nations *Accord* gives assurance about protection and management of Pimachiowin Aki through a shared vision “to protect and take care of the land and resources that the Creator has given us for our survival and well-being... and to respect the teachings and wisdom of our elders who are able to guide us in taking care of the lands and resources that we have been given as a sacred trust” (PRFN *et al.* 2002).

Legislated protection of the nominated area employs the *Manitoba Parks Act*, the *Ontario Provincial Parks and Conservation Reserves Act*, Manitoba’s *East Side Traditional Lands Planning and Special Protected Areas Act* (2009) and Ontario’s *Far North Act, 2010*. Logging, mining, and hydroelectric development are prohibited in the nominated area by means of this legislation. Management plans developed pursuant to the above legislation provide assurances, for example, with respect to: ongoing identification and protection of culturally important sites, such as pictographs; protection of waterways so they remain free-flowing and undammed; protection of woodland caribou habitat and populations; continuation of key ecological processes such as wildfire; and ongoing Anishinaabe use of the forest in a manner that is ecologically and culturally sustainable.

The governments of Manitoba and Ontario, through a Memorandum of Agreement (Appendix L.21) that has been acknowledged by the First Nations of Pimachiowin Aki and the government of Canada, provide assurances about protection and management of the nominated area through commitments to:





1. Protect and manage Pimachiowin Aki in a manner that will meet or exceed the high standards expected for World Heritage sites;
2. Protect and manage Pimachiowin Aki, and manage its buffer zones, in order to maintain the Outstanding Universal Value of Pimachiowin Aki, including the conditions of authenticity and integrity that would justify inclusion of Pimachiowin Aki on the World Heritage List;
3. Coordinate and strive for consistency in transboundary protection and management of Pimachiowin Aki with respect to goals, principles, and mechanisms as described in the nomination (Section 5) and the Pimachiowin Aki Management Plan; and
4. Contribute financial and human resources to the Pimachiowin Aki Corporation (Appendix L.21).

Such assurances mean that Pimachiowin Aki will continue to be managed with a goal to maintain cultural continuity and an excellent state of conservation in the future.

3.2 COMPARATIVE ANALYSIS

A comparative analysis for both cultural and natural values is presented below in summary form. Following guidance regarding the classification systems used to define the comparative analyses for World Heritage nominations (IUCN 2015; UNESCO 2015), the cultural heritage comparative analysis uses an international and national typological approach, whereas the natural heritage comparative analysis uses a global and regional typological approach.

The full technical reports are provided in Appendix K, as follows:

- K.1 Cultural Comparative Analysis in Support of the Pimachiowin Aki World Heritage Nomination under World Heritage Criteria (iii) and (vi);
- K.2.1 Evaluation of Pimachiowin Aki as an Outstanding Example of Boreal Ecosystems; and,
- K.2.2 Comparative Analysis of Natural Values: Gap Analysis and Site Profiles.



Community camp 2009 (© H. Otake 2009)



Singeing a duck to remove feathers
(Manitoba Sustainable Development 2014)



3.2.a COMPARATIVE ANALYSIS OF CULTURAL HERITAGE

GOAL OF THE CULTURAL COMPARATIVE ANALYSIS

The goal of the cultural comparative analysis is to “explain the importance of the nominated property in its national and international context” (UNESCO 2015: 33, para. 132) by demonstrating there are no other similar properties already on the World Heritage List or on the Tentative Lists, and no comparable sites currently outside the World Heritage system that might be nominated in the future. The specific focus of the comparative analysis is to assess the relative ability of sites to effectively reflect and sustain cultural values that are comparable to those of the Anishinaabe cultural tradition of *Ji-ganawendamang Gidakiiminaan* (Keeping the Land).

The cultural comparative analysis concludes there are no properties already on the World Heritage List or on the Tentative Lists, and no sites outside the World Heritage system that might be nominated in the future, that provide comparable representation of the cultural tradition of Keeping the Land.

The comparative analysis is organized under four subsections, as follows:

1. Framing the Basis for Comparison, which outlines the thematic framework developed to reflect the specific expression of Keeping the Land in the nominated area and identifies the appropriate geo-cultural context for comparison;
2. Selection of Sites for Comparison, which explains the process for determining which sites are selected for consideration in the comparative analysis and how the short-list of sites with the greatest potential comparative significance was created;
3. Comparative Analysis of Long-List and Short-List Sites, which provides detailed comparisons with sites identified as being potentially comparable to Pimachiowin Aki; and
4. The Case for Outstanding Universal Value, which outlines conclusions regarding the exceptional nature of Pimachiowin Aki within both national and international contexts.

1. FRAMING THE BASIS FOR COMPARISON

Thematic Framework

Ji-ganawendamang Gidakiiminaan is an Anishinaabe cultural tradition that reflects the intimate interconnectedness between Anishinaabeg and the boreal environment of Pimachiowin Aki—a way of life on the land in which nature and culture are inextricably intertwined. *Ji-ganawendamang Gidakiiminaan* is the means through which Anishinaabeg of Pimachiowin Aki express and maintain their indigenous relationship to the land, and to one another with respect to activities conducted on the land.

To guide comparison with other sites, a thematic framework has been developed to reflect the main attributes of the proposed Outstanding Universal Value expressed in the landscape of the nominated area. Following are the six comparative themes, summarized in Figure 3.1.

THEME 1: SACRED AND CEREMONIAL SITES

Ji-ganawendamang Gidakiiminaan requires that people be on the land, fulfilling their sacred trust with the Creator to respectfully make use of the gifts that have been provided for Anishinaabe survival. All interactions with the land/aki are guided by the belief that everything Anishinaabeg need for survival and *bimaadiziwin* (a “good life”) has been provided by the Creator and will continue to provide for Anishinaabeg as long as appropriate, respectful behaviour toward other beings is observed. The landscape of the nominated area provides testimony to these beliefs and practices through offering sites and ceremonial sites used to communicate with and pay respect to other beings, and through sacred places associated with powerful spirit beings.





Assessment of the ability of comparative sites to convey values that are comparable to those of Pimachiowin Aki requires those comparative sites contain:

1. Sacred sites that are associated with powerful spirit beings, and especially Creator's helpers such as Thunderbirds and *memegwesiwag*;
2. Sacred sites associated with avoidance or restriction on activities in order to show respect and/or prevent misfortune; and
3. Ceremonial sites that are associated with prayers and offerings used to communicate with and seek favour from the spirits of animals killed for food and/or Creator's helpers that exercise stewardship responsibilities for specific types of plants and animals.

THEME 2: HARVESTING SITES

Anishinaabeg harvesting practices of hunting, trapping, fishing, and gathering in the nominated area demonstrate the importance of respecting the Creator's gifts by, among other things, continued harvesting and thanking the spirits of animals for their sacrifice. In addition, *Ji-ganawendamang Gidakiiminaan* (Keeping the Land) guides Anishinaabe harvesting practices to be in harmony with the boreal forest, maintaining the indissoluble bonds between Anishinaabeg and their environment.

Anishinaabe livelihood practices in Pimachiowin Aki respect creation by maintaining the natural range and patterning of ecological diversity of the boreal forest. Survival in the boreal forest requires Anishinaabeg to travel widely, shifting their harvesting activities in response to changes in seasonal availability, succession, and population movements (especially for animals with large home ranges such as moose and woodland caribou).

Assessment of the ability of comparative sites to convey values comparable to those of Pimachiowin Aki requires those sites contain harvesting sites characterized by:

1. Association with hunting, trapping, fishing and collecting activities that reflect the Anishinaabe cultural value of respectful behaviour toward the animals harvested, the Creator's helpers responsible for the stewardship of specific types of plants or animals, and creation more generally; and
2. Tangible demonstration of livelihood practices that are adapted to and maintain the boreal forest ecosystem.

Distribution of harvesting sites across the landscape is addressed under Themes 4 and 5.

THEME 3: HABITATION AND PROCESSING SITES

Habitation and processing sites within Pimachiowin Aki enable harvesting across a wide landscape throughout the year, thereby representing a core adaptation to the boreal ecosystem. Structures built at habitation and processing sites typically include spruce-log cabins, temporary shelters such as tents, and drying racks made of spruce poles. Although the range of structures found at habitation and processing sites is characteristic of Anishinaabe material culture, the significance of habitation and processing sites lies in the way the sites themselves reflect and sustain the cultural tradition of *Ji-ganawendamang Gidakiiminaan*.

However, even when structures have degraded beyond the point of usability or even visibility, sites remain culturally important. Families retain their association with those sites, including a prior right to rebuild on the sites and to reuse them. In addition, habitation and processing sites not currently in use are essential as markers or mnemonic prompts for oral histories of Anishinaabe use and occupancy in the nominated area.





Although most habitation and processing sites are used only seasonally and may be left unused for long periods, they are generations-old; their locations reflect a consistent rationale based on proximity to resources, ease of access, shelter from elements, and fire safety. Sites used within living memory for habitation and processing activities (e.g., cabins, food processing sites for cleaning and smoking fish or other meat) were also used in historic and, in some instances, ancient times.

Assessment of the ability of comparative sites to convey values that are comparable to those of Pimachiowin Aki requires those comparative sites contain habitation and processing sites that are characterized by:

1. The presence, either currently or in the past, of temporary structures such as tents (or similar shelters built from local materials), tent frames, and drying racks, and/or more long-term shelters such as log cabins;
2. Their establishment at locations that are chosen for their proximity to resources, their ease of access by way of waterway travel routes, shelter from the elements, and their relative protection from the risks of forest fire;
3. Their association with archaeological and oral history evidence that demonstrates use and occupation over generations; and
4. Their association with personal and familial attachment to specific areas.

Distribution of habitation and processing sites across the landscape is addressed under Themes 4 and 5.

THEME 4: WIDESPREAD DISTRIBUTION

As suggested under Themes 2 and 3, the abandonment and reuse of seasonal harvesting, habitation and processing sites across a large landscape enables Anishinaabeg to adapt to the boreal forest resource base, which is highly heterogeneous across space and time, especially in response to wildfire. The land-based practices of *Ji-ganawendamang Gidakiiminaan* result in a widespread distribution of attributes (Section 2, Figure 2.18), both in use and not in use, that is characteristic of the cultural tradition.

A comparative site that contains, for example, a few examples each of different kinds of attributes (e.g., hunting camps, fishing camps, cabin sites, etc.) does not adequately represent the importance of cyclical use of these kinds of sites over long periods; such a site would represent the attribute types (as per Themes 1–3) but would not represent well the totality of the cultural landscape that expresses adaptation to a complex and changing boreal ecosystem.

Therefore, assessment of the ability of comparative sites to convey values that are comparable to those of Pimachiowin Aki requires those comparative sites contain:

1. An integrated complex of harvesting sites, habitation and processing sites, and sacred and ceremonial sites that are both currently in use and not in use;
2. When not in use, those sites should retain their cultural significance and integrity for current/ongoing social practices; and
3. Be distributed over a landscape sufficiently broad to enable adaptation to boreal ecosystem processes such as wildfire and movement of game animals with wide home ranges.





THEME 5: INTERLINKAGE BY WATERWAY TRAVEL ROUTES

Tangible evidence of the cultural tradition of *Ji-ganawendamang Gidakiiminaan* (Keeping the Land) is concentrated on the waterways of Pimachiowin Aki (see Section 2, Figure 2.14), providing testimony to the impact of abundant, interconnected waterways on the landscape expression and patterning of the cultural tradition. Attributes of Keeping the Land are concentrated along waterways because water is the primary and most effective means by which Anishinaabeg travel across the landscape.

Changing resource distribution in time and space requires Anishinaabeg to travel widely throughout the landscape, and the abundance of interconnected waterways provides access to the broad boreal mosaic of the nominated area. Traditional travel routes on major rivers (*gete bimishkaawin*, or cultural waterways) are important for travel over long distances and provide connectivity between communities. Trails across land are also important, especially in winter when trapping, but frozen waterways also provide important winter travel routes, whether for dog-teams (in the past) or snow machines.

Named places along waterway travel routes serve as mnemonic prompts for knowledge of features to be encountered and their associated stories, including personal and collective histories. Travel routes aid in navigation of the cultural landscape by providing shared cultural understandings about how and where to travel across the land, while named places reinforce personal and collective ties with the land.

Therefore, assessment of the ability of comparative sites to convey values that are comparable to those of Pimachiowin Aki requires those comparative sites contain a network of waterway travel routes that:

1. Provides access to and connectivity among widely spread attributes (sacred and ceremonial sites, harvesting sites, and habitation and processing sites);
2. Joins adjacent communities in shared networks of land use and communication; and
3. Is associated with named places that serve as waypoints for navigation, explaining the natural features and resources of an area, and as mnemonic prompts for oral histories that explain the association of specific areas with certain extended family groups.

THEME 6: CUSTOMARY GOVERNANCE

Assessment of the expression of *Ji-ganawendamang Gidakiiminaan* as a living cultural tradition is incomplete without consideration of the role of people, and especially elders, as carriers of tradition. Anishinaabeg consider possession of leadership skills to be a gift from the Creator, secured through relations with spirit beings and demonstrated through success in stewardship of land and people.

Anishinaabe customary governance of land entrusts specific family groups with stewardship authority over specific areas of land that represent historic family harvesting areas; these are today set within a larger system of registered trapline areas. Respect for the leaders of family harvesting and trapline areas continues to be the cornerstone of customary decision-making regarding use of the land in Pimachiowin Aki.

Customary governance is central to the coordination of activities across the entire nominated area. For centuries, before there were Reserve communities, registered traplines, and First Nation land management planning areas, customary governance enabled coordination of resource use among adjacent peoples. In the present, integration of customary governance in the management of Pimachiowin Aki will contribute to actively sustaining the significance of *Ji-ganawendamang Gidakiiminaan* in mediating relations between people and the land.

Given the importance of customary governance in sustaining relations between Anishinaabeg and the land, sites will be assessed for their ability to demonstrate its contemporary, on-going significance. Assessment of the ability





of comparative sites to convey values that are comparable to those of Pimachiowin Aki requires those comparative sites provide representation of:

1. Trapline and/or family harvesting areas, that define stewardship responsibilities of people over specific areas;
2. The role of traditional leaders in the regulation of access to and use of the land and its resources, including the negotiation of shared use by members of neighbouring communities;
3. The role of head trappers and other senior keepers of the land in guiding observance of respectful behaviour, and upholding the beliefs and values of *Ji-ganawendamang Gidakiiminaan* more generally; and
4. The role of customary governance in contemporary site planning and management.

Summary of Thematic Framework

The six comparative themes (summarized in Figure 3.1) address the cultural attributes of proposed OUV for Pimachiowin Aki, and the distribution and interrelationship of those attributes on the landscape of the nominated area. Each of these comparative themes fits together to form a whole that expresses the tangible and intangible elements of *Ji-ganawendamang Gidakiiminaan* (Keeping the Land). Together, the comparative themes address the manner in which *Ji-ganawendamang Gidakiiminaan* is expressed and maintained on the landscape of the nominated area.

Figure 3.1 Cultural comparative themes

Comparative Theme	Expression of Keeping the Land
1. Sacred and Ceremonial Sites	Associated with beliefs in spirit beings that affect success of livelihood practices and well-being more generally, and with ceremonial practices used to communicate with spirit beings.
2. Harvesting Sites	Associated with harvesting practices that reflect the value of respectful behaviour, are adapted to the boreal ecosystem, and reflect intimate knowledge of the boreal ecosystem.
3. Habitation and Processing Sites	Have historic and ancient significance for travel and livelihood practices, and for personal and familial attachment to specific areas.
4. Widespread Distribution	Habitation and livelihood sites spread widely throughout the landscape, reflecting the cyclical use of well-established sites.
5. Interlinkage by Waterway Travel Routes	Traditional waterway travel routes providing access to and connectivity among widely dispersed cultural attributes.
6. Customary Governance	Central to maintenance of beliefs and values of Keeping the Land, and regulation of access to and use of the land within defined areas, including by members of neighbouring communities.

Geo-Cultural Framework

To ensure cultural comparisons are meaningful, culturally comparable sites will be identified within a defined geo-cultural region. However, there exists no Thematic Study for the comparative analysis to draw upon, as identified by the Operational Guidelines (UNESCO 2015: 30, para. 147) and suggested as important background information for comparative analysis (UNESCO 2015: 23, para. 122; UNESCO 2010: 12, 114). Each of the elements that characterizes *Ji-ganawendamang Gidakiiminaan* (Keeping the Land), as reflected in the Thematic Framework, has been discussed in the literature, but relatively independently of one another. This subsection explains the





rationale for selection of the geo-cultural area containing sites that potentially reflect the wholeness or totality of the proposed Outstanding Universal Value, as identified in the Thematic Framework.

The comparative assessment of sites considers representation of the values and their significance conveyed by the nominated area, as outlined in the Thematic Framework, not the specific attributes, which will vary from site to site. Thus, for example, while grandfather stones are an important type of ceremonial site in Pimachiowin Aki, the comparative significance of grandfather stones is in their role as places where people leave offerings to spirit beings in order to ensure safe travel and successful hunts. Similarly, the comparative significance of wild rice cultivation is in demonstrating livelihood practices that are adapted to the boreal ecosystem. Comparative sites need not contain grandfather stones or wild rice; similar practices can demonstrate a comparable significance on a different landscape.

There are broad similarities among the cultural traditions of indigenous peoples in North America, including the honouring of a sacred duty to care for the land and to work with other beings in a respectful way, in a world where the potential for life and agency is attributed to virtually all aspects of nature. While there are cultural continuities across North America, and perhaps more broadly, the material attributes that express the interaction of culture and environment are more clearly defined by their role in adaptation to specific environments. In Pimachiowin Aki, adaptation to the boreal ecosystem is reflected in Anishinaabe harvesting practices of hunting, trapping, fishing, and gathering that are well adapted to constantly changing resource availability across a broad and very patchy boreal forest landscape.

Sites that can provide comparable representations of the specific aspects of the proposed Outstanding Universal Value of Pimachiowin Aki are best found within the North American Subarctic culture area (see Figure 3.2), which corresponds largely to the North American boreal biome.¹ It is within the North American Subarctic that the specific indigenous relationship to land and its expression on the landscape through tangible attributes are most highly comparable to that of Pimachiowin Aki.

¹ The culture areas of North American indigenous peoples have been defined, with small modifications, following A.L. Kroeber's classification (Kroeber 1939) based on the overlapping groupings of cultural traits and physiographic and vegetation features (DeMallie 2001: 4). See the full technical report (Appendix K.1) for a more detailed discussion.





Figure 3.2 Culture areas of North America

World Polyconic

While the North American Subarctic is identified here as containing sites that may exhibit cultural traditions comparable to *Ji-ganawendamang Gidakiiminaan* (Keeping the Land), this does not mean there is cultural homogeneity across this large area. There are other traditions, other bases for nomination within the North American Subarctic. For example, Canada's Tentative List site Ivvavik/Vuntut/Herschel Island (Qikiqtaruk) is partly within the North American Subarctic but the values of the site centre on historic associations with the Porcupine caribou herd, and in particular the collective hunting of caribou using fences to corral caribou at choke points on the landscape (Parks Canada 2010). While Vuntut Gwitchin historic associations with caribou were likely informed by values comparable to those of Keeping the Land, the specific practices and attributes associated with those values differ; the whole of values being proposed for the Ivvavik/Vuntut/Herschel Island (Qikiqtaruk) site is demonstrably different from the proposed Outstanding Universal Value of Pimachiowin Aki. In summary, while the geo-cultural area is the context in which appropriate comparative sites are identified, this nomination does not seek to represent the cultural diversity of the entire geo-cultural area.

In addition, while the specific values of the nominated area are Anishinaabe cultural values, Pimachiowin Aki is not being nominated as representative of Anishinaabe people or as a site that is specifically significant to all Anishinaabe people, in the way that, for example, Sḡang Gwaay (Canada) is said to represent the Haida people; Chaco Culture (United States of America), the Pueblo peoples; Tombs of Buganda Kings at Kasubi (Uganda), the Baganda; or the Laponian Area (Sweden), the Saami. Therefore, comparison is not limited to Anishinaabe sites.





There are also continuities between peoples of the North American Subarctic and indigenous peoples of northern Eurasia, including the Eurasian Subarctic, especially in terms of cosmology, beliefs, and values. However, in subarctic Eurasia, there has been a long history of integration into southern empires and states, and livelihoods are strongly connected to an ancient and generalized pattern of animal husbandry (Golovnev 2007: 143). In particular, the expansion of reindeer herding in the 17th century has resulted in the now-characteristic intensive herding found in the Eurasian and Scandinavian Arctic (e.g., the Laponian Area World Heritage Site, Sweden). The widespread and characteristic importance of animal husbandry, including the taming of reindeer, directly or indirectly shapes the cultural traditions of northern Eurasia and represents a significant variation from the proposed Outstanding Universal Value of Pimachiowin Aki.

Selection of sites for consideration in the comparative analysis will therefore be limited to the geo-cultural area of the North American Subarctic, as depicted in Figure 3.1. Selection of the North American Subarctic as the geo-cultural area in which comparison is conducted provides the largest area in which to find sites with combinations of place and cultural value that are most similar to those of Pimachiowin Aki.

2. SELECTION OF SITES FOR COMPARISON

Initially, it is the geo-cultural framework that establishes the appropriate scope for the comparative analysis. In addition, comparison is limited to only those sites that currently exhibit indigenous peoples' use of and association with those sites. Therefore, the comparative analysis will consider only those sites within the North American Subarctic that demonstrate a clear continuing presence of its associated indigenous peoples. Furthermore, sites selected for consideration in the comparative analysis have a formal, legislated protection regime in place or are in a planning process that is expected to lead to some form of protected area designation.

The initial sources for potential comparative sites were the World Heritage List and the Tentative Lists. Potential comparative sites were also identified outside the World Heritage system in cases where it was possible that such sites might be nominated in the future. In total, 34 individual sites (24 in Canada and 10 in the United States) were initially identified for consideration (Figure 3.3).²

Of the 34 individual sites initially considered, seven were eliminated from further consideration because preliminary assessment of values indicated these sites were relict or lacked sufficient tangible values to be comparable to Pimachiowin Aki. A brief assessment of these seven sites is provided in the full comparative analysis (Appendix K.1 to the Nomination).

The remaining 27 sites represent the long-list of sites that exhibit continuity into the present of indigenous occupation and use in the North American Subarctic, and are expected to potentially share cultural heritage values comparable to those of Pimachiowin Aki. The long-list contains 17 individual sites from Canada and 10 individual sites from the United States of America.

² Individual components of compound-sites were enumerated separately where the individual components each required separate and detailed assessment (e.g., Kluane/Wrangell-St. Elias/Glacier Bay/Tatshenshini-Alsek and Nahanni National Park/Nááts'ihch'oh National Park Reserve).





Figure 3.3 All sites identified and initially considered in the comparative analysis

North America Equidistant Conic

3. COMPARATIVE ANALYSIS OF SITES SELECTED FOR COMPARISON

The purpose of this subsection is to fully establish the comparative significance of each of the 27 sites included on the long-list of comparative sites (Figure 3.4). In some cases, site names represent clusters of separate sites that share common values and a management framework and therefore are compared as a group; for this reason, the 27 sites assessed are shown as 21 comparative sites or site-clusters. Each individual site within a site-cluster was assessed independently, although results are presented in Figure 3.4 for the site-cluster as a whole.

The second column in Figure 3.4 represents the World Heritage status of the site or site-cluster. All long-list sites were assessed against Themes 1–6 to produce a short-list of sites that demonstrate the greatest comparative similarity with Pimachiowin Aki. Sites that were selected for the short-list are highlighted in the Figure 3.4 and shown in Figure 3.5.





For those long-list sites not included on the short-list, a detailed explanation for their exclusion is provided in the full comparative analysis (Appendix K.1 to the Nomination).

An important limitation in conducting the comparative analysis was gaining access to information on attributes within comparative sites, especially given material attributes of indigenous occupation and use are, by their nature, generally impermanent and spread over large areas. Moreover, information on indigenous attributes typically is held within oral traditions rather than physically documented, and is culturally sensitive. As a result, complete information needed to make a thorough comparative assessment was not always available but the best available information was used at all times.

The following codes are used in Figure 3.4:

- T1** Sacred and Ceremonial Sites
- T2** Harvesting Sites
- T3** Habitation and Processing Sites
- T4** Widespread Distribution
- T5** Interlinkage by Waterway Travel Routes
- T6** Customary Governance
- ✓ The site satisfies the condition of the comparative theme
- ✗ The site does not satisfy the condition of the comparative theme
- ? There was insufficient information to make a proper evaluation



Figure 3.4 Thematic representation among long-list sites

Site name	WH status	T1	T2	T3	T4	T5	T6
CANADA-UNITED STATES OF AMERICA							
Kluane/Wrangell–St. Elias/Glacier Bay/Tatshenshini–Alsek	Inscribed	?	✓	✗	✗	✓	✗
CANADA							
Nahanni National Park / Nááts'ihch'oh National Park Reserve	Inscribed	?	✓	✓	✗	✗	✓
Wood Buffalo National Park	Inscribed	?	✓	✓	?	✓	✗
Old Crow Flats Special Management Area	Tentative List*	✓	✓	✓	✓	✓	✓
Nagwicheonjik National Historic Site	None	✓	✓	✓	✗	✗	✓
Saoyú-?ehdacho National Historic Site	None	✓	✓	✓	✓	✓	✓
Tr'ochëk National Historic Site	None	✗	✓	?	✗	✗	✓
Mealy Mountains National Park	None	?	✓	✗	✗	✓	?
Muskwa–Kechika Management Area	None	?	✓	?	?	✓	✗
Natashquan River Valley proposed Biodiversity Reserve	None	?	✓	?	✗	✓	?
Québec – Labrador Complex	None	?	✓	?	✗	✓	✗
Wabakimi/Nipigon	None	✓	✓	✗	?	✓	✗
Albanel–Témiscamie–Otish proposed Biodiversity Reserve	None	✓	✓	?	✓	✓	✓
Cat Lake – Slate Falls First Nations Protected Areas	None	?	✓	?	?	✓	✓
Opasquia Provincial Park	None	?	✓	✓	✗	?	?
UNITED STATES OF AMERICA							
Denali National Park and Preserve	None	?	✓	✗	✗	✓	✗
Gates of the Arctic National Park	None	?	✓	✓	✗	✓	✗
Arctic National Wildlife Refuge	None	?	✓	✓	✓	✓	✗
Innoko/Kanuti/Koyukuk/Nowitna National Wildlife Refuges	None	?	✓	✓	✓	✓	✗
Yukon Flats National Wildlife Refuge	None	?	✓	✓	✓	✓	✗
Yukon-Charley Rivers National Preserve	None	?	✓	✗	?	✓	✗

*The Old Crow Flats Special Management Area includes part of the Canada's Tentative List site Ivvavik/Vuntut/Herschel Island (Qikiqtaruk) but is not itself on the Tentative List.





Figure 3.5 Map of short-list sites

North America Equidistant Conic

COMPARATIVE ANALYSIS OF SHORT-LIST SITES

Following are the detailed comparative assessments made for each of the four short-list sites. Details are provided separately for each of the six comparative themes. A final conclusion addressing representation of all themes together is made to consider each short-list site as a whole.

OLD CROW FLATS SPECIAL MANAGEMENT AREA

The site-cluster adopted here includes all of the protected areas within the Old Crow Flats Special Management Area, which includes Vuntut National Park. The site-cluster is within the traditional territories of Vuntut Gwitchin (see Figure 3.6).

Vuntut National Park is part of Canada's Tentative List site Ivavik/Vuntut/Herschel Island (Qikiqtaruk), proposed to be nominated under criteria (iv) and (v). At this time, the suggested Outstanding Universal Value of the Tentative





List site centres on historic associations with the Porcupine caribou herd, a related but different set of values than those proposed for Pimachiowin Aki. In addition, both Ivvavik National Park and Herschel Island–Qikiqtaruk Territorial Park are associated with Inuvialuit (Inuit peoples) of the Arctic and therefore these components of the Tentative List site are outside the geo-cultural area under consideration for the Pimachiowin Aki nomination.

The 2003 IUCN Boreal Workshop Report proposed bringing together Vuntut National Park, Ivvavik National Park, and the Arctic National Wildlife Reserve in Alaska (IUCN 2004: 9) under one World Heritage nomination. This proposed site-cluster may also provide good representation of historic collective hunting of barren-ground caribou but the grouping is not especially relevant to the comparative analysis for the reasons already given. The southern half of the Arctic National Wildlife Reserve is within the geo-cultural area under consideration here so this site is assessed on its own, separately from Old Crow Flats.

Both Vuntut National Park and the Old Crow Flats Special Management Area (SMA) were established in 1995 as part of the *Vuntut Gwitchin First Nation Final Agreement* (Canada 1993, ch. 10). Among the objectives identified for the Park are: to recognize Vuntut Gwitchin history and culture, to protect the traditional and current use of the Park by Vuntut Gwitchin, and to recognize that oral history is a relevant form of research for establishing the historical significance of heritage values in the Park (Canada 1993, ch. 10, sch. A). The Old Crow Flats SMA was established, in part, “to recognize and protect the traditional and current use of the Area by Vuntut Gwitchin, while recognizing the changing values and priorities of Vuntut Gwitchin in contemporary Canadian society” (Canada 1993, ch. 10, sch. C).

The Vuntut Gwitchin Government owns the surface and subsurface rights in parcels R-01A and R-10A within the Old Crow Flats SMA, “although currently there is neither a lands and resources act nor a land designation system in place” (Yukon Department of Environment and Vuntut Gwitchin Government 2006: 16). The areas shown in Figure 3.5 as “Area West” and “Area East” were established in 2009, pursuant to the *Yukon Wildlife Act*, as Habitat Protection Areas (Order-in-Council 2012/84). Under this designation the southern end of Area East is permanently withdrawn from resource development; the remaining part of Area East and all of Area West will be withdrawn for a period of twenty years. Forthcoming legislation of the Vuntut Gwitchin Government will develop a form of protected area designation and protection regulations that are compatible with Vuntut National Park and the Habitat Protection Areas, providing permanent protection for Vuntut Gwitchin Settlement Lands R-01A and R-10A (Yukon Department of Environment and Vuntut Gwitchin Government 2006: ii).

The entire Old Crow Flats SMA, including those portions of Area West and Area East that are not under protection and therefore not considered here, is 12,116 square kilometres. Vuntut National Park is 4,345 square kilometres.



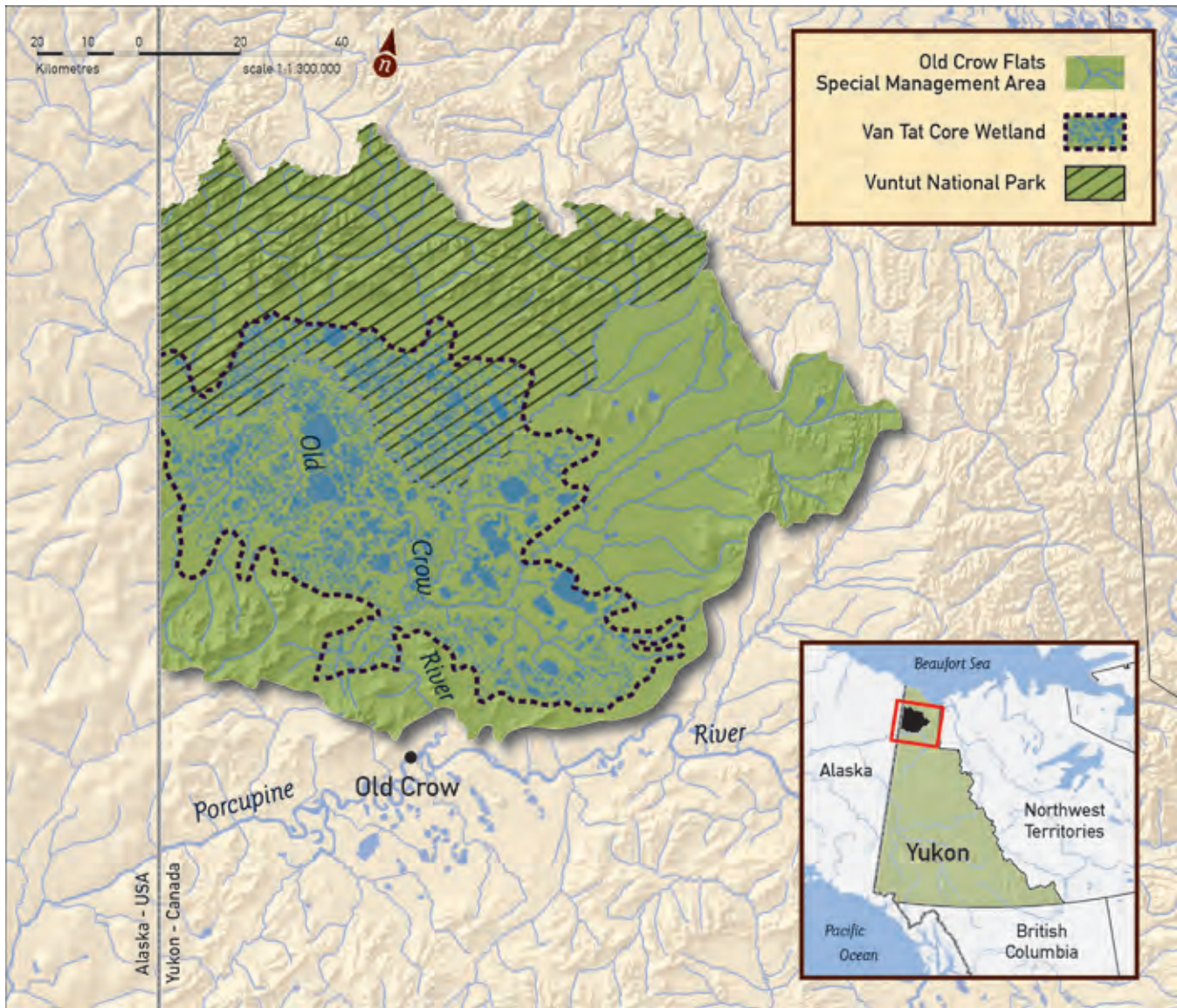


Figure 3.6 Old Crow Flats Special Management Area and Vuntut National Park

Alaska Albers

Vuntut National Park is currently improving its management tools. A Cultural Resource Values Statement is in development and was scheduled for completion by the end of 2014. This document, together with a Cultural Resource Management Strategy (which is currently not complete), will address “intangible cultural resources and palaeontological resources [and] would lead to more effective management of these resources” (Parks Canada 2010: 12). The Vuntut Park Management Plan makes no reference to tangible attributes of current Gwich’in occupation and use within the park, only to intangible and palaeontological values. According to the 2009 State of the Park Report, cultural resources that have been documented for Vuntut National Park include archaeological sites and oral history (Alexander *et al.* 2009: 35–36).

Theme 1: Sacred and Ceremonial Sites

A rich collection of oral traditions published by Vuntut Gwich’in First Nation remarks, “Elders remember some Gwich’in beliefs before missionaries brought news of God” (Vuntut Gwich’in First Nation and Smith 2009: 137). The collection contains stories of powerful spirit beings but no mention of sites where such beings continue to





be found and respected by Vuntut Gwitchin. No other sources provide information on sacred and ceremonial sites; however, documentation on other attributes suggests the Old Crow Flats site-cluster is likely to contain undocumented sacred and ceremonial sites.

Theme 2: Harvesting Sites

The Old Crow Flats Management Plan (Yukon Department of Environment and Vuntut Gwitchin Government 2006: 49) provides a map of cultural values for the Old Crow Flats SMA, showing areas of “high cultural significance,” based at least partly on the presence of harvesting sites. The wetland complex at the centre of Old Crow Flats SMA is referred to by Gwitchin as “Van Tat” (*Van Tat K’atr’anahtii*, or Old Crow Flats) and is cited as an important source of food, and especially muskrat, fish, waterfowl, and berries (Fafard 2001; Vuntut Gwitchin First Nation and Smith 2009: 97). Documented family use areas shown in the Old Crow Flats Management Plan (discussed under Theme 6 Customary Governance) are concentrated on Old Crow Flats core wetland area, or Van Tat (Figure 3.6).

Ancient and historic harvest sites include the caribou fence complexes, which were abandoned in the late 19th and early 20th centuries and have been the focus of most of the archaeological survey work done to date in the site; documented oral history also relates especially to the caribou fence complexes (Alexander *et al.* 2009: 35–36). An ancient summer fish camp (Dechyoo Njik), used also for hunting waterfowl and muskrat, has been excavated and its use documented for the Late Prehistoric Period (ca. 700 AD to contact) and again in the Historic Period, likely around 1880 (Fafard 2001). The *Vuntut Gwitchin First Nation Final Agreement* makes special provision for “heritage routes and sites” in Vuntut Gwitchin traditional territory, which is much larger than the Old Crow Flats Special Management Area; these sites are ancient caribou fences and “fishing holes.”

Theme 3: Habitation and Processing Sites

While neither the Vuntut National Park Management Plan nor the Vuntut State of the Park Report provide any details on the presence of cabins and campsites within the Park, these attributes are shown in the Old Crow Flats Management Plan (Yukon Department of Environment and Vuntut Gwitchin Government 2006: 49). The Vuntut National Park Management Plan states, “Most families have access to a cabin or camp outside of town that they visit on a regular basis. A number of families consider it important to take their children to Van Tat in the spring to experience the centrality of the place and life on the land for Vuntut Gwitchin” (Parks Canada 2010: 6).

Archaeological documentation of historic and ancient seasonal camp sites is shown in the Old Crow Flats Management Plan (Yukon Department of Environment and Vuntut Gwitchin Government 2006: 49). Included are the remains of an ancient, semi-subterranean house with a central hearth (Yukon Department of Environment and Vuntut Gwitchin Government 2006: 19–20) and a winter camp site where Gwitchin gathered (Marvin 2013). In addition, the Vuntut Gwitchin Government maintains a database of Gwitchin place names and interviews (Parks Canada 2010: 8).

Theme 4. Widespread Distribution

Mapping in the Old Crow Flats Management Plan (Yukon Department of Environment and Vuntut Gwitchin Government 2006: 49) shows the suite of attributes identified under Themes 1–3 are widely dispersed. However, contemporary attributes are centred on the specific and unique geography of the Old Crow Flats wetlands. The distribution of contemporary harvesting areas across a variety of physically different and separate landscape types is evident in the Gwitchin traditional territory as a whole (see North Yukon Planning Commission 2009: Appendix 1, Map 41), but not within the specific geography of Old Crow Flats Special Management Area. Therefore, the site does not demonstrate well the diverse and complete landscape needed to fully represent an integrated complex of cultural attributes that enables adaptation to variation in the boreal forest landscape over space and time.





Theme 5. Interlinkage by Waterway Travel Routes

As mentioned earlier, the *Vuntut Gwitchin First Nation Final Agreement* makes special provision for “heritage routes and sites” in Vuntut Gwitchin traditional territory. Two of the 10 named routes pass through Old Crow Flats (North Yukon Planning Commission 2009: 5–20). In addition, the Regional Land Use Plan shows four traditional trails, three currently used, running north from Old Crow through Old Crow Flats (North Yukon Planning Commission 2009: Appendix 1, Map 3). The Heritage Branch of the Vuntut Gwitchin Government has conducted research on the importance of travel routes in providing connectivity between seasonal camps, villages, hunting and trapping areas, fishing sites, trading networks, and other Gwitchin and non-Gwitchin settlements, “all important parts of life on the land and cultural continuity” (Smith 2013: 2).

Travel routes documented in the above sources are largely land-based but there are stretches that follow rivers (e.g., Timber Creek in Vuntut National Park). The Vuntut Gwitchin explain their ethnonym means “People of the Lakes”. One of seven Gwitchin First Nations in Canada, the Vuntut Gwitchin are now largely settled in the community of Old Crow, south of the park, at the confluence of the Crow and Porcupine rivers. The many lakes in the area are particularly important sites of muskrat trapping in the summer (Vuntut Gwitchin First Nation 2013a). Most summer camps were located on tributaries of the Porcupine and Old Crow rivers (Fafard 2001: 10). Available mapping for the Vuntut Gwitchin demonstrates the importance of waterway travel routes in the Old Crow Flats SMA for providing connectivity between widely spread attributes.

However, the Old Crow River is the only river with significant connections to documented current attributes, which are either along the river or on wetlands accessed from the river. Old Crow River provides direct access to the community of Old Crow and forms the southern boundary of Vuntut National Park. The Vuntut/Old Crow site-cluster does not represent the importance of the Porcupine River in connecting values in the larger area to the south, including the heavily used areas near the Vuntut Gwitchin community of Old Crow. The importance of the Porcupine River, including for enabling travel into Alaska as far as Fort Yukon is well illustrated in the North Yukon Regional Land Use Plan (North Yukon Planning Commission 2009).

Theme 6. Customary Governance

Stewardship areas associated with customary governance are referred to as family use areas (Yukon Department of Environment and Vuntut Gwitchin Government 2006: 49). The operation of these family use areas is independent of traplines; currently the Vuntut Gwitchin Government holds, on behalf of the Old Crow Trapping Group, a single collective trapping license for the whole of their traditional territory (Yukon Department of Environment and Vuntut Gwitchin Government 2006: 23). Family groups in the community of Old Crow each have their own trapping area, referred to as “their country” or “my country”, although in some cases these areas overlap; these areas are passed down to family members across the generations (Vuntut Gwitchin First Nation 2013b; Yukon Department of Environment and Vuntut Gwitchin Government 2006: 18). Customary governance is therefore considered to operate in Old Crow Flats.

However, for Vuntut National Park there is no mention in planning documents of a role for customary governance in site management. In accordance with the *Final Agreement* (Canada 1993, ch. 6), Vuntut Gwitchin participate in a joint advisory board, the North Yukon Renewable Resources Council. According to the Park Plan, through the Council “Vuntut Gwitchin Government and citizens are involved with many aspects of park management, helping to ensure that Traditional Knowledge is incorporated into decision-making” (Parks Canada 2010: 11). In addition, key strategies identified for park management provide a potential avenue for integration of indigenous values in management practices; however, none of these initiatives suggest customary governance and stewardship principles will actually guide decision-making.

There exists a strong potential role for customary governance within those parts of the Old Crow Flats SMA under jurisdiction of the Vuntut Gwitchin Government (i.e. Settlement Lands R-01A and R-10A); however, planning for those areas has not advanced enough to determine the actual role of customary governance in site protection and management.





Conclusion

Vuntut National Park contains attributes associated with Gwitchin use; however, current use is largely south of the Park, on Vuntut Gwitchin Settlement Lands and in the vicinity of the community of Old Crow. The Park well represents archaeological and historic cultural values, as well as the associations Vuntut Gwitchin have with the land in respect of those historic values. The primary focus of Park engagement with Gwitchin is through their historical associations with the site: “Because of their significance, the Vuntut National Park caribou fences have been the focus of cultural resource management activities during the past five years” (Parks Canada 2010: 26).

The Old Crow Flats site-cluster, which is different from the Ivavik/Vuntut/Herschel Island (Qikiqtaruk) Tentative List site, provides representation of cultural values that are comparable to those of Pimachiowin Aki. In comparison to Pimachiowin Aki, however, this representation is geographically limited and does not show as completely:

1. The distribution of attributes that are both currently in use and not in use across a wide and varied landscape, enabling adaptation to ecological change (Theme 4);
2. The integrated network of waterway travel routes that provide access to and connectivity throughout a complex of widely distributed attributes (Theme 5); and
3. The role of customary governance in mediating land use across a wide landscape that includes areas of use and occupation associated with neighbouring and related communities (Theme 6).

While the larger Gwitchin traditional territory likely provides a complete representation of cultural attributes, the specific geography of the Old Crow Flats Special Management Area does not. Pimachiowin Aki provides a better representation of the functional whole of a cultural landscape that owes its origins and continuity to the living indigenous tradition of *Ji-ganawendamang Gidakiiminaan* (Keeping the Land).

SAOYÚ-?EHDACHO NATIONAL HISTORIC SITE

Saoyú-?ehdacho was designated a National Historic Site to commemorate the relationship between the Sahtu Dene people living on Great Bear Lake, or Sahtugot’ine (“bear-lake people”), and the land they inhabit. The site consists of two peninsulas, Saoyú and ?ehdacho, on Great Bear Lake, Northwest Territories (Figure 3.7). The two peninsulas are 2,500 square kilometres and 3,400 square kilometres in extent, respectively (Parks Canada 2004: 8). The Sahtugot’ine vision for Saoyú-?ehdacho centres on the site’s role as a place for teaching, learning, and healing which is “essential to the cultural well-being of the Sahtugot’ine” (Great Bear Working Group 2005: 2, 8).





Figure 3.7 Saoyú-?ehdacho National Historic Site


Canada Lambert Conformal Conic

Theme 1: Sacred and Ceremonial Sites

While the two peninsulas that make up the Saoyú-?ehdacho site are described as “sacred places” (Andrews 2000: 34)—the commemorative plaque reads “The extensive oral tradition brings the history of the Sahtu Dene alive and signifies the importance of these sacred lands to them”—the peninsulas “are not unique cultural landscapes because of their sacred status... For the Sahtu Dene their whole territory is sacred” (Hanks 1996: 888).

The site, as the passage from the commemorative plaque quoted above suggests, is particularly significant as the setting for oral traditions, some of which are tied to places that are sacred sites. The Commemorative Integrity Statement for the National Historic Site states the significance of the site is shown in part through “specific sacred sites and places of power... [which] are everywhere within the designated place” (Parks Canada 2004: 11). While publicly available documentation of sacred sites is not extensive, some sites are described in various documents. For example, a Sahtu elder told the story of two cone-shaped hills on Saoyú (previously, “Grizzly Bear Mountain”) where strange noises can be heard and people are not to hunt or trap because of the association of the site with





an unknown spirit being; “People don’t know which giant mother guards this place, but people suspect it may be the mother of all bears that dwells there” (Hanks 1996: 927). Such stories mirror those of potentially dangerous spirit beings, the Creator’s helpers, in Pimachiowin Aki. Sacred sites have also been documented through archaeological surveys (Hanks 1996: 954).

The nature of sacred sites is comparable to those of Pimachiowin Aki: “In Sahtugotine cosmology, the land is a living thing, inhabited by many entities, both seen and unseen. Traveling on the land, one must pay one’s respect to these beings (forces, places). Some places are to be avoided, and others (e.g., grave sites and spiritual sites) are to be treated with particular respect” (Parks Canada 2004: 16). Some sites are also ceremonial offering sites: “At many special places offerings are left to respect the entities that inhabit the land ... These offerings may be anything of value, such as matches, tobacco, ammunition, or a few coins. Sometimes more elaborate offerings are left” (Andrews 2000: 18).

Theme 2: Harvesting Sites

The two peninsulas Saoyú and ʔehdacho (Figure 3.7) are valued as a place where traditional lifestyle and land use activities are still practised in traditionally occupied lands. Sahtu and Métis rights to hunt and fish are confirmed, and exclusive trapping rights in the area are established by the 1993 *Sahtú Dene and Metis Comprehensive Land Claim Agreement*. Resource harvesting areas have been clearly documented in the public record (Sahtu Land Use Planning Board 2010; Wilson 2006).

According to Wilson (2006), Deerpass Bay and the southwest shore of Sahoyúé are important areas for fishing, hunting, and trapping. There are some berry, plant, and firewood gathering sites along the shores of Saoyú and ʔehdacho; however, the extent of plant harvesting is largely unknown and considered low. With the exception of moose harvest areas, the majority of mapped harvesting locations within the site are concentrated along the shorelines (Sahtu Land Use Planning Board 2010: 26; Wilson 2006: 120–139).

Livelihood activities are in general akin to those of Anishinaabeg in Pimachiowin Aki: hunting, trapping, fishing, and gathering. The cultural values that guide these activities are also similar to the values of *Ji-ganawendamang Gidakiiminaan* (Keeping the Land): “people and animals... live in harmony, by rules of mutual respect. Sahtugotine hunters are guided by these rules of conduct today; they believe that with the observance of these rules, animals give themselves to them for food. But nothing is to be wasted, and the bones of an animal are to be given back respectfully to the earth” (Parks Canada 2004: 13–14).

Theme 3: Habitation and Processing Sites

While the other communities in the Sahtu Settlement Area have extensive documentation of cabin and camp sites, there are very few such sites in the area associated with Délne, the primary Sahtu community associated with the Saoyú-ʔehdacho National Historic Site. Délne means “where the water flows” and was named after its location at the point where Great Bear Lake flows into the Great Bear River, a tributary to the Mackenzie River. A map included in a background report to the Sahtu Land Use Plan (Sahtu Land Use Planning Board 2010: 26) shows only one cabin site and no camp sites; this may be the result of inconsistent or incomplete documentation.

The larger body of documented cultural resources includes: “campsites, tent rings, teepee poles, cabin sites, implements and tools, gravesites, portages and trails, and pre-contact sites. These manifestations of habitation are an important part of the cultural landscape. Together with Sahtugot’ine stories of Sahoyúé and ʔehdacho, they tie the Sahtugot’ine to this important part of our collective cultural heritage” (Sahoyúé-ʔehdacho Working Group 2007: 18).³ Family association with specific sites is marked especially by graves, which “act as a talisman of individual family histories” (Hanks 1996: 906).

3 Prior to 2010, variant spellings for Saoyú-ʔehdacho were used. In June of 2010, the cooperative management board for the site adopted the current spelling, which has been adopted by the Historic Sites and Monuments Board of Canada (*Canada Gazette* 145:14, 2 April 2011, fn. 1).





Stories recorded in a Historic Sites and Monuments Board of Canada⁴ discussion paper express Sahtu understandings of why cabins were built at specific locations; in particular, proximity to resources is cited as a reason for cabin sites retaining their value into the future. For example, one elder tells of an old cabin built by his grandfather, the ruins of which are still visible today. The site was chosen because it was a good place to fish and trap: “We know our grandfather would not build cabins anywhere without a reason. For that same reason, we also built a cabin here” (Hanks 1996: 937).

Archaeological data demonstrate human occupation and use of sites associated with oral traditions, indicating continuity with the pre-European-contact period (Hanks 1996: 906). Evidence within the site indicates some 1,000 to 2,600 years of human occupation (Hanks 1996: 892), while archaeological evidence of indigenous occupation on the south shore of Keith Arm (Figure 3.7) has been dated to over 5,000 YA (Parks Canada 2004: 5). Of the 21 archaeological sites documented in a 1995 survey, eight showed multiple occupations before the present (Hanks 1996: 954).

In summary, habitation sites: contain temporary shelters, such as tents and more long-term structures such as cabins; exhibit a consistent rationale for their location; are tied to archaeological and oral history evidence of occupation and use over generations; and are associated with personal and familial attachment to specific areas.

Theme 4. Widespread Distribution

This is a large site, being approximately 5,900 square kilometres in extent, and the two peninsulas that make up the site are distant from one another. However, the distribution of attributes across a variety of physically different and separate landscape types that is evident in the Sahtu Settlement Area as a whole is not evident within the specific geography of Saoyú-?ehdacho. The Saoyú-?ehdacho National Historic Site is only a small part of the traditional area of use and occupancy by Sahtugot’ine of Délı̨ne, who maintain important cultural and economic relationships with Great Bear Lake itself and Great Bear River, neither of which are part of the site. Customary livelihood activities, such as hunting, fishing, and trapping, take place more extensively in the watershed than on the two peninsulas. While Sahtugot’ine continue to fish, hunt caribou and moose, trap, and harvest logs on the peninsulas, they now mainly pursue these practices in other parts of their territory, particularly in lands closer to the community of Délı̨ne (Margaret Archibald, personal communication).

Detailed documentation of wildlife harvests is available through the Sahtú Settlement Harvest Study conducted for the entire Sahtu Settlement Area by the Sahtú Renewable Resources Board as a requirement under the *Sahtú Dene and Metis Comprehensive Land Claim Agreement* (1993). Harvests through hunting, trapping, and fishing were documented for the period 1998 to 2006 with results for wildlife harvest recorded on a spatial grid of 10-kilometre-by-10-kilometre cells (Wilson 2006: 11). Results are shown in Figure 3.8 and illustrate the relative importance of the landscape outside of Saoyú-?ehdacho, including the area around Délı̨ne, for representing harvesting areas. A summary of harvests by Délı̨ne residents indicates, on average, Saoyú-?ehdacho is the source for harvests of 0.5 percent to 8 percent (depending on the species) of hunted animals and 4 percent of trapped animals (Sahoyúé-?ehdacho Working Group 2007: 25–26, based on Wilson 2006).

⁴ The Historic Sites and Monuments Board of Canada provides advice to the Government of Canada, through the Minister of the Environment, on the commemoration of nationally significant aspects of Canada’s history.



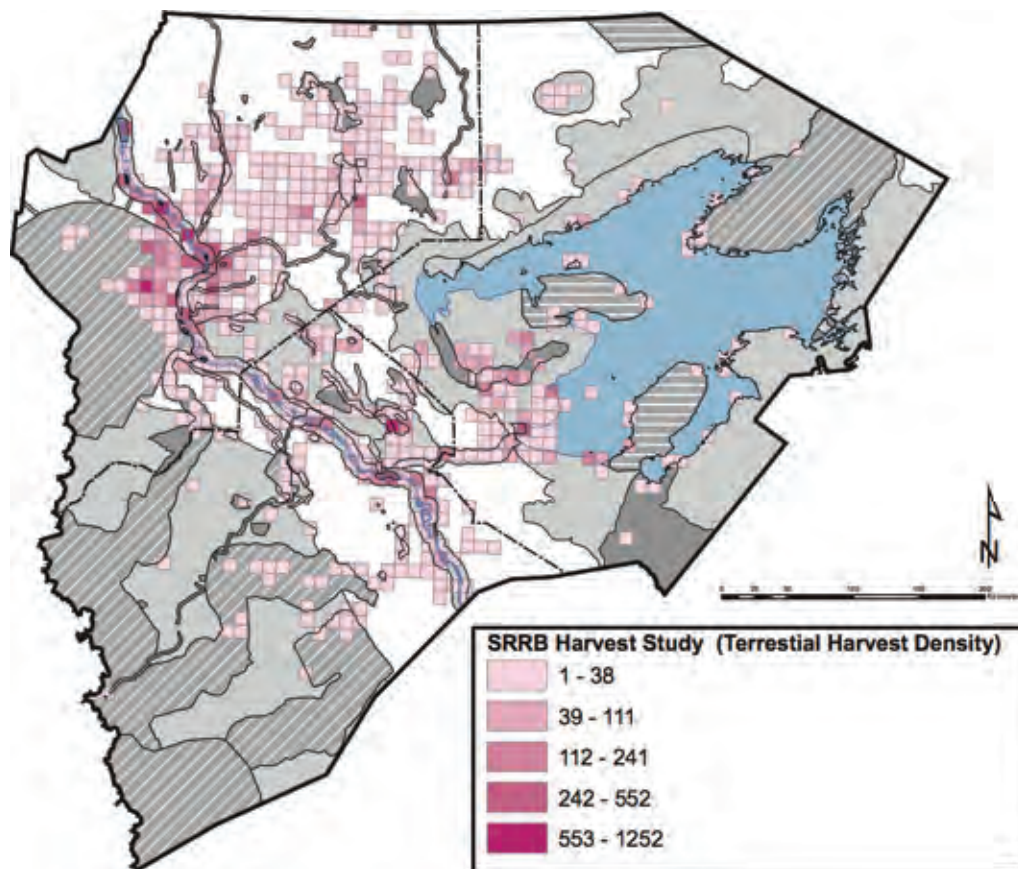


Figure 3.8 Results of 1998 to 2006 harvest study in Sahtu Settlement Area

In summary, while the Saoyú-?ehdacho site provides a representative sample of attributes and associations, the site under-represents the larger complex of Sahtugot'ine attributes and therefore the cultural landscape as a whole. The site does not well demonstrate the more complete landscape area needed to fully represent an integrated complex of cultural attributes that are distributed over a sufficiently large and varied area to enable adaptation to variation in the boreal forest over space and time.

Wilson suggests that because larger portions of Sahoyúé and ?ehdacho were used for trapping in the past, it may be that the two peninsulas are now being rested, "so that fur-bearer populations can recover from the harvest. Therefore, the areas trapped during the Sahtu Settlement Harvest Study may not necessarily be the same as the areas that are trapped in the future" (Wilson 2006: 56). Even so, if both peninsulas are currently being rested, this suggests that the site represents only a portion of the land needed for rotational harvesting.

Theme 5. Interlinkage by Waterway Travel Routes

Cultural values in this site are intimately connected to the significance of lakes and rivers in a boreal environment. Given the site definition is restricted to two peninsulas on Great Bear Lake, and that most use of the site appears concentrated on the shorelines, waterway travel routes are clearly important to use of Saoyú-?ehdacho.

However, Great Bear Lake is itself not a part of the site, so the two peninsulas are not connected to one another by waterway travel routes that form part of the site. Moreover, within the landscape of each peninsula there are features marked on waterways; but it is difficult to confirm how significant waterway travel routes are for interlinkage of sites within each peninsula. Travel routes that pass through the bases of both peninsulas follow waterways and portages, and therefore do provide representation of the larger network of waterway travel routes





within the wider landscape. While these routes provide linkage between the two peninsulas, they do not provide extensive linkage between attributes *within* the respective peninsulas; as portage routes, they were chosen in part for their small distances covered.

In addition, the site does not well represent the larger riverine network that provides access to and connectivity among widely spread cultural attributes in the larger landscape. This larger network is evident in Sahtu Land Use Planning Board (2010, Map 5) and contains, as major waterway travel routes, Great Bear Lake, Great Bear River, and the Mackenzie River. Significantly, none of these waterways is within the geography of Saoyú-ʔehdacho. Travel routes on these major waterways are important in providing connectivity to core cultural values in the vicinity of the Sahtu community of Délı̨ne, and farther west along the Mackenzie River including other Sahtu communities.

Theme 6. Customary Governance

The traditional Sahtu Dene system of customary governance is based on recognition of areas that extended families or clans have established for their own use, and people know of their neighbours' trapping areas. These family use areas are not currently mapped in available documentation; moreover, "the government does not interfere with the management of trapping areas and does not map them" (Wilson 2006: 55–56). While this system of family use areas "was not incorporated into the Sahtu Dene and Métis Land Claim Agreement ... the clan system is still alive in a modified form" (Sahtú Renewable Resources Board 2013).

The Saoyú-ʔehdacho National Historic Site is cooperatively managed by the Délı̨ne Land Corporation and the Délı̨ne Renewable Resources Council, together with the Parks Canada Agency. Sahtugot'ine took a leading role in identifying this site within their traditional territories and have used cultural values as the primary basis for defining the rationale and approach to protection for Saoyú-ʔehdacho. Therefore, greater opportunity exists for inclusion of traditional protection in site management, although the actual role of traditional protection in site management cannot be confirmed. Moreover, in spite of the importance of named places and oral traditions in expressing the significance of the site, named places and oral traditions are not presented in available documentation as supporting either personal or collective claims to resources.

Conclusion

Documentation of cultural attributes and associations in the Saoyú-ʔehdacho National Historic Site is exemplary and allows for a thorough comparative review of the site. While the site contains a representative sample of all the elements of the Sahtugot'ine cultural landscape, the site does not well represent the larger network of habitation and livelihood sites found in the wider Sahtugot'ine cultural landscape associated with the people of Délı̨ne. While the two peninsulas that make up the Saoyú-ʔehdacho National Historic Site are described as "two of the most sacred places in all of the Sahtu region" (Parks Canada 2004), the site does not appear to well represent the importance of Sahtu traditions through tangible attributes similar to the sites found in Pimachiowin Aki that are sacred and/or used for ceremony, harvesting, habitation, and processing. The establishment of the National Historic Site was motivated by the desire to commemorate an associative cultural landscape based on the linkage between the land and oral traditions.

More importantly, the Saoyú-ʔehdacho National Historic Site does not well represent the distribution of attributes over a landscape sufficiently broad and diverse to enable adaptation to boreal ecosystem processes, such as wildfire and movement of animals, through the cyclical use of well-established harvesting and habitation sites. Nor does the site well represent the importance of waterway travel routes in providing access to and connectivity among these widely spread attributes. Again, these features are evident in the broader landscape beyond the National Historic Site.



In comparison, Pimachiowin Aki provides a more comprehensive and integrated representation of the functionality of a cultural landscape, as expressed through inclusion of:

1. An integrated complex of cultural attributes that are both currently in use and not in use, and that are distributed over a sufficiently large and diverse landscape to enable adaptation to variation in the boreal forest landscape over space and time through resource rotation (Theme 4);
2. An integrated network of waterway travel routes that provides access to and connectivity among widely spread cultural attributes, including the complexes of sites found in different parts of the landscape and associated with other communities (Theme 5);
3. The role of customary governance in mediating land use across a wide landscape that includes areas of use and occupation associated with neighbouring and related communities (Theme 6); and
4. An explicit role for customary governance in site management, which helps provide greater certainty that site values will be protected and managed in a manner consistent with *Ji-ganawendamang Gidakiiminaa* (Keeping the Land) (Theme 6).

ALBANEL–TÉMISCAMIE–OTISH PROPOSED BIODIVERSITY RESERVE

The Albanel–Témiscamie–Otish biodiversity reserve proposal is a collaborative initiative of the Government of Québec and the Cree Nation of Mistissini (CNM) to protect an 11,870-square-kilometre area of CNM traditional territory (Figure 3.9). The site includes Lake Mistassini, Lake Albanel, the Témiscamie River, and part of the Otish Mountains. It includes a portion of the Lacs-Albanel-Mistassini-et-Waconichi Wildlife Reserve. The boundaries, name, and management of the proposed biodiversity reserve are still in the planning stages. If completed, Albanel–Témiscamie–Otish will be the first inhabited protected area in Québec (DdEFP n.d.) and the first park in the *James Bay and Northern Québec Agreement* area.



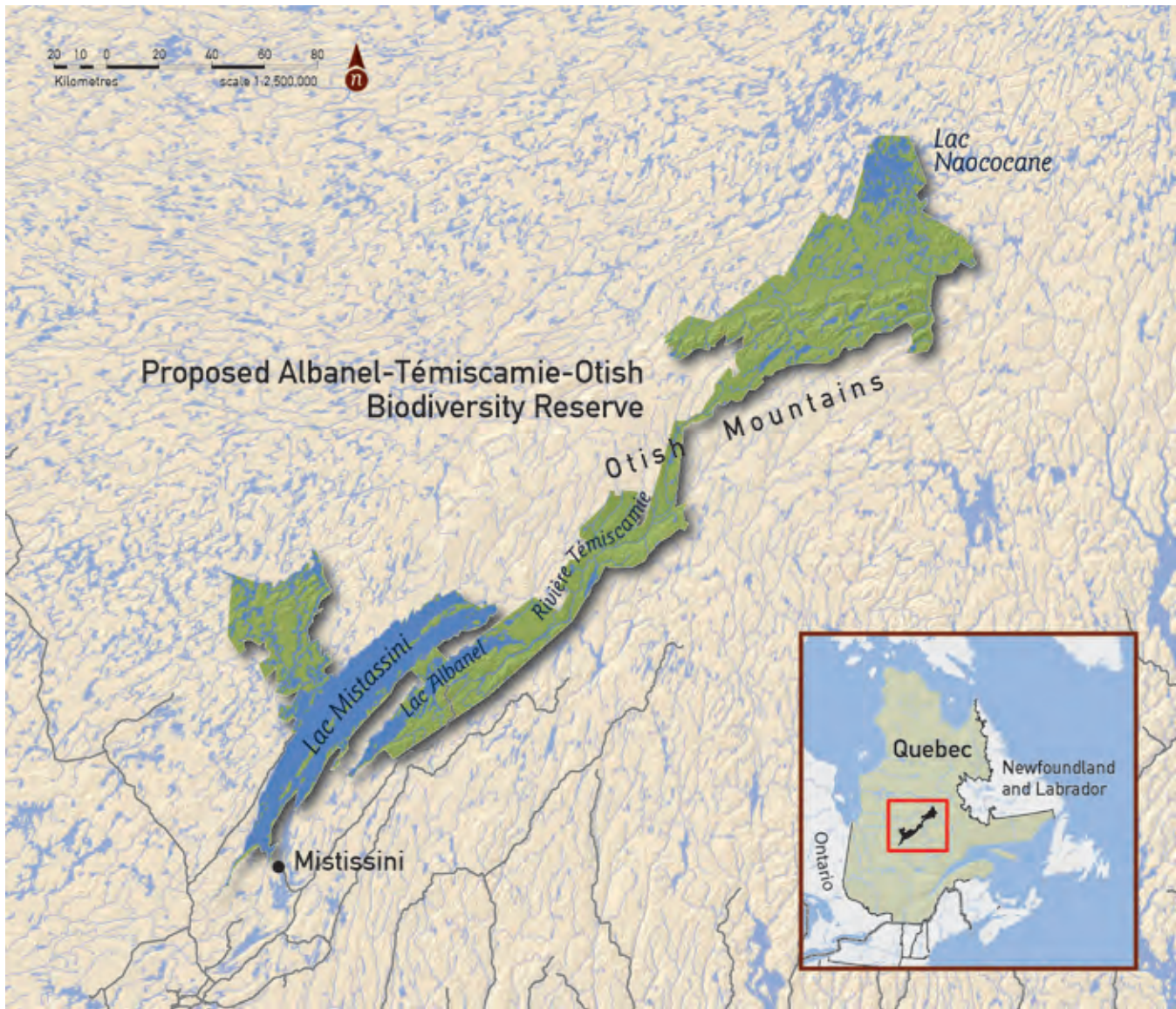


Figure 3.9 Albanel–Témiscamie–Otish proposed boundaries

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At present, the site has temporary protection as a biodiversity reserve under the Province of Québec's *Natural Heritage Conservation Act*, with permanent legislated protection being proposed under the *Québec Parks Act* (DdEFP 2012). In other parks in Canada, Aboriginal and Treaty rights to pursue traditional harvesting activities can be restricted on the grounds of conservation concerns; in contrast, all rights granted to beneficiaries of the *James Bay and Northern Québec Agreement* are guaranteed to take precedence over the *Québec Parks Act* (Québec 2005: 7). A joint Province of Québec–Cree Nation of Mistissini working group is developing a co-management agreement that will support the integration of Cree values, participation and benefits in park planning, management, and operations (Convention on Biological Diversity 2009).



Theme 1: Sacred and Ceremonial Sites

The most notable sacred site, both a provincially and federally designated historic site, is the 5,000-year-old Colline Blanche (Waapushukamikw) quartzite grotto, which was a source of fine-quality chert widely traded in the region and beyond. This site was also historically associated with shamanistic practices and continues to be a place of spiritual significance to the Cree (HSMBC 2007).

Other sacred sites with important cultural associations given expression through oral traditions include a large rock after which Lake Mistassini (“Great Rock”) is named, and the portion of an island that is home to a powerful water serpent, l’esprit de Manitounouc (Cosset and Mansion 2009: 11, 139). These three sacred sites will be managed as part of a separate zone (sacred areas) with the following provision: “No non-Native person will be allowed to visit these places without prior authorization from park management and the trapping families concerned” (Government of Québec 2005: 27).

Theme 2: Harvesting Sites

Traplines owned by family heads in the community cover the entire proposed biodiversity reserve. While the precise locations of harvesting sites are not known from publicly available documentation, hunting, trapping, and fishing are practised within the proposed biodiversity reserve and will continue in accordance with the *James Bay and Northern Québec Agreement*.

Theme 3: Habitation and Processing Sites

While the Alabanel–Témiscamie–Otish Conservation Plan states “Cree hunters and trappers have over one hundred camps throughout the region used to continue their traditional activities” (DdEFP 2012: 3), the number of cabin and camp sites actually within the proposed biodiversity reserve is not clear. Mapped cabins within the site, as of April 18, 2014, included seven existing cabins in the southwest, 10 proposed cabins mainly in the northeast half of the site, some seven or eight cabins built by the Cree Trappers’ Association, and six non-Cree cabins mostly in the northeast. It is unclear if historic or currently unused cabins are included in these numbers. Data on locations of seasonal camp sites are not publicly available.

The proposed biodiversity reserve is promoted as a lived-in protected area (DdEFP n.d.), which, since the community of Mistissini is not within the site, likely refers to people staying out in their trapline areas, at least seasonally: “Most of the park would be located on Category II lands belonging to the Cree Nation of Mistissini. It would therefore encompass several ancestral traplines and would be Québec’s first-ever inhabited park” (BAPE 2006: 2).

The proposed Alabanel–Témiscamie–Otish biodiversity reserve contains “more than fifty listed archaeological sites” (DdEFP 2012: 3), mainly located along waterways. However, apart from Colline Blanche (see Theme 1, above), there is no indication of the type of evidence; some of the archaeological sites are associated with European culture and European–Cree interaction. Oral traditions demonstrating occupation of cabin and camp sites over the generations is not available.

Theme 4. Widespread Distribution

Precise information on the location of cultural attributes within the proposed Alabanel–Témiscamie–Otish biodiversity reserve is limited; however, the size of the site and the diversity of lands within it can support a complex of cultural attributes that is distributed over a large and diverse landscape.

From a comparative perspective, some further observations can be made about the limited area of land within the site on which these attributes would be found. Water makes up approximately 67 percent of the total surface area of the site; in Pimachiowin Aki, water makes up only about 11 percent of the total surface area of the site (see Section 3.2.b, Figure 3.28). With a site size of 11,870 square kilometres (DdEFP 2012: 1), this means the proposed Alabanel–Témiscamie–Otish biodiversity reserve has an effective land mass of around 3,920 square kilometres.





Moreover, the northeastern half of the site does not appear to contain cabins that are currently used by Cree people. Documentation on seasonal camp sites is not available.

Therefore, while the distribution of contemporary harvesting areas across a variety of physically different and separate landscape types is evident in the Cree Nation of Mistissini traditional territory as a whole (Cree GeoPortal), it is not well demonstrated within the specific geography of the proposed Albanel–Témiscamie–Otish biodiversity reserve, according to available information.

Theme 5. Interlinkage by Waterway Travel Routes

The proposed Albanel–Témiscamie–Otish biodiversity reserve is located at the “hydrographic hub of Québec” (Hébert 2006: 20), and is referred to by the Cree Nation of Mistissini as *E’weewach*, “place where the waters come from”. The site includes three large lakes (Mistassini, Albanel, and Naococane), the headwaters of the Rupert River, a large portion of the Témiscamie River watershed, and part of the Otish Mountains, which are the headwaters of several major rivers in Québec. Lake Mistassini is the largest natural lake in Québec (Hébert 2006: 19). Inclusion and protection of Lake Mistassini and the headwaters of the Rupert River within the park area are of particular importance for the Cree Nation of Mistissini (Jean Gagnon, personal communication). Lakes Mistassini and Albanel, and the Témiscamie River are especially important in providing connectivity across long distances within the site.

The major waterway travel routes in the proposed biodiversity reserve provide access to and connectivity among widely spread cultural attributes. The Rupert River, via the Natastan River which originates in Lake Mistassini, connects downstream to the Cree community of Nemaska. The waterway travel route to the nearest Cree community, Oujé-Bougoumou, runs through lakes Waconichi and Chibougamau but is not within the site boundaries. In summary, while the proposed biodiversity reserve provides good representation of the role of the network waterway travel routes, that network does not contain other communities and their associated complexes of sites of occupation and use.

Theme 6. Customary Governance

The proposed Albanel–Témiscamie–Otish biodiversity reserve will overlap 37 traplines held by members of the Cree Nation of Mistissini. These traplines, although part of modern state administration, are based on historic family hunting territories typical of subarctic indigenous peoples. The heads of extended families responsible for stewardship of traplines are known as tallymen in Québec and are the recognized holders and protectors of traditional knowledge about the land and its resources. In Mistissini, the trapline structure was institutionalized under the *James Bay and Northern Québec Agreement* through the creation of the Cree Trappers’ Association and the Income Support Program, which provides guaranteed income for participants who spend most of the year on the land (Feit 1987; Niezen 1993).

For the proposed biodiversity reserve, the trapline will remain the basic planning unit (Québec 2005). As explained in the 2005 Status Report for the Albanel–Témiscamie–Otish project: “The family groups that inhabit and use these well-delineated traplines are responsible for the development of these units and are also their guardians. Each Cree community’s Trapping Association has political power and each elected representative must take this into consideration” (Hébert 2006: 45). The community trapping associations are part of the larger Cree Trappers’ Association (CTA), which was formed as an outcome of the *James Bay and Northern Québec Agreement* to coordinate the marketing of furs among its members; the CTA also assists in the construction of trapper cabins, and seeks to uphold a responsibility for preserving the customary management expertise of tallymen and assuring the future of the trapping resource base.

The preliminary management plan for the proposed biodiversity reserve includes a commitment that the tallymen will continue to play a leading role in the protection and stewardship of the site “so that future generations can enjoy the rights enshrined in the *James Bay and Northern Québec Agreement* and so that the components of this





territory's rich heritage are preserved and developed" (Québec 2005: 5).

One of the future management issues that will potentially affect the integrity of cultural values, and therefore highlight the role of customary governance, is the expected increase in visitation associated with tourism. Current recreational infrastructure is centred on a well-developed sport-fishing sector and "can accommodate a hundred visitors per day" (DdEFP n.d.); in addition, there are two campgrounds that provide over 72 campsites. The potential threat to cultural values by increased visitation is acknowledged in the preliminary plan for the proposed biodiversity reserve but no specific mitigation measures are outlined. Nevertheless, as an outcome of the rights assured to the Cree Nation of Mistissini under the *James Bay and Northern Québec Agreement*, Cree talleyman will have a right to supervise and regulate activities taking place in their trapline areas: "Park managers would have to consult every talleyman before the beginning of each park operating year. They could then decide, for example, not to receive visitors during the coming year, or to shorten or lengthen the period during which visitors would be received" (BAPE 2004: 14). Therefore, customary governance in the proposed Albanel-Témiscamie-Otish biodiversity reserve will be an important mechanism for mitigating future pressures associated with tourism.

In summary, the proposed Albanel-Témiscamie-Otish biodiversity reserve provides a very explicit and demonstrable role for customary governance in site management. As a result of the *James Bay and Northern Québec Agreement*, the proposed Albanel-Témiscamie-Otish biodiversity reserve, when it becomes a reality, may provide a better example of the integration of legislated and traditional protection than is possible in the legislative context within which Pimachiowin Aki operates. What the proposed biodiversity reserve does not provide, in comparison to Pimachiowin Aki, is representation of the role of customary governance in mediating land use between areas of use and occupation associated with neighbouring and related communities.

Conclusion

The proposed Albanel-Témiscamie-Otish biodiversity reserve provides representation of cultural attributes that are comparable to those of Pimachiowin Aki. However, the predominance of water in the site diminishes the amount of land available to house and represent the terrestrial attributes associated with traditional use and occupation. These attributes appear to be more highly concentrated outside the site and therefore the limited terrestrial geography of the site may under-represent the Cree cultural landscape as a whole. When completed, the proposed Albanel-Témiscamie-Otish biodiversity reserve will provide good representation of the ongoing significance of customary governance to proposed site management.

The larger traditional territory of the Cree Nation of Mistissini provides a complete representation of cultural attributes; however, available documentation on the specific geography of the proposed Albanel-Témiscamie-Otish biodiversity reserve does not demonstrate as complete a representation of:

1. the role of an integrated network of waterway travel routes in providing access to and connectivity among complexes of attributes associated with other communities (Theme 5); and
2. the role of customary governance in mediating land use between areas of use and occupation associated with neighbouring and related communities (Theme 6).

Pimachiowin Aki provides a more comprehensive and better-documented representation of the functional whole of a cultural landscape that owes its origins and continuity to the living indigenous tradition of *Ji-ganawendamang Gidakiiminaan* (Keeping the Land).





CAT LAKE–SLATE FALLS PROTECTED AREAS

Cat Lake First Nation and Slate Falls First Nation are two Anishinaabe communities immediately east of Pimachiowin Aki that share a common culture with the people of Pimachiowin Aki. The First Nations have recently completed a land management plan for a joint planning area of 14,655 square kilometres.

Thirty-four percent of the Cat Lake–Slate Falls First Nations planning area has been assigned as a Dedicated Protected Area, which is at present an interim designation under the *Far North Act* (see Section 5.b). For the purposes of the comparative analysis, the site referred to herein as Cat Lake–Slate Falls Protected Areas consists of two parts: (a) the Cat Lake and Slate Falls Dedicated Protected Area, and (b) that portion of the Pipestone River Provincial Park identified as part of the Cat Lake–Slate Falls planning area (Figure 3.10). Together, these two areas are approximately 5,170 square kilometres in extent.

The Cat Lake and Slate Falls Dedicated Protected Area “is defined by a minimum two kilometer protection buffer on major rivers flowing through the planning area, plus several areas with notable landscape features” (Cat Lake First Nation *et al.* 2011: 27). The designation of this interim protected area “recognizes the importance of waterways as historical travel routes having significant cultural and ecological values and promotes activities that are complementary to protection of those values, including protection of special cultural sites identified by the community” (Cat Lake First Nation *et al.* 2011: 28). Pipestone River Provincial Park is classified as a waterway park and was established to “protect the significant natural and cultural features of Pipestone River Provincial Park and to provide opportunities for recreational uses that are compatible with the area’s remote nature.” However, a cultural resources inventory has not been completed for the park and there is no management direction for cultural resources and values (Ontario Parks 2002: 5).

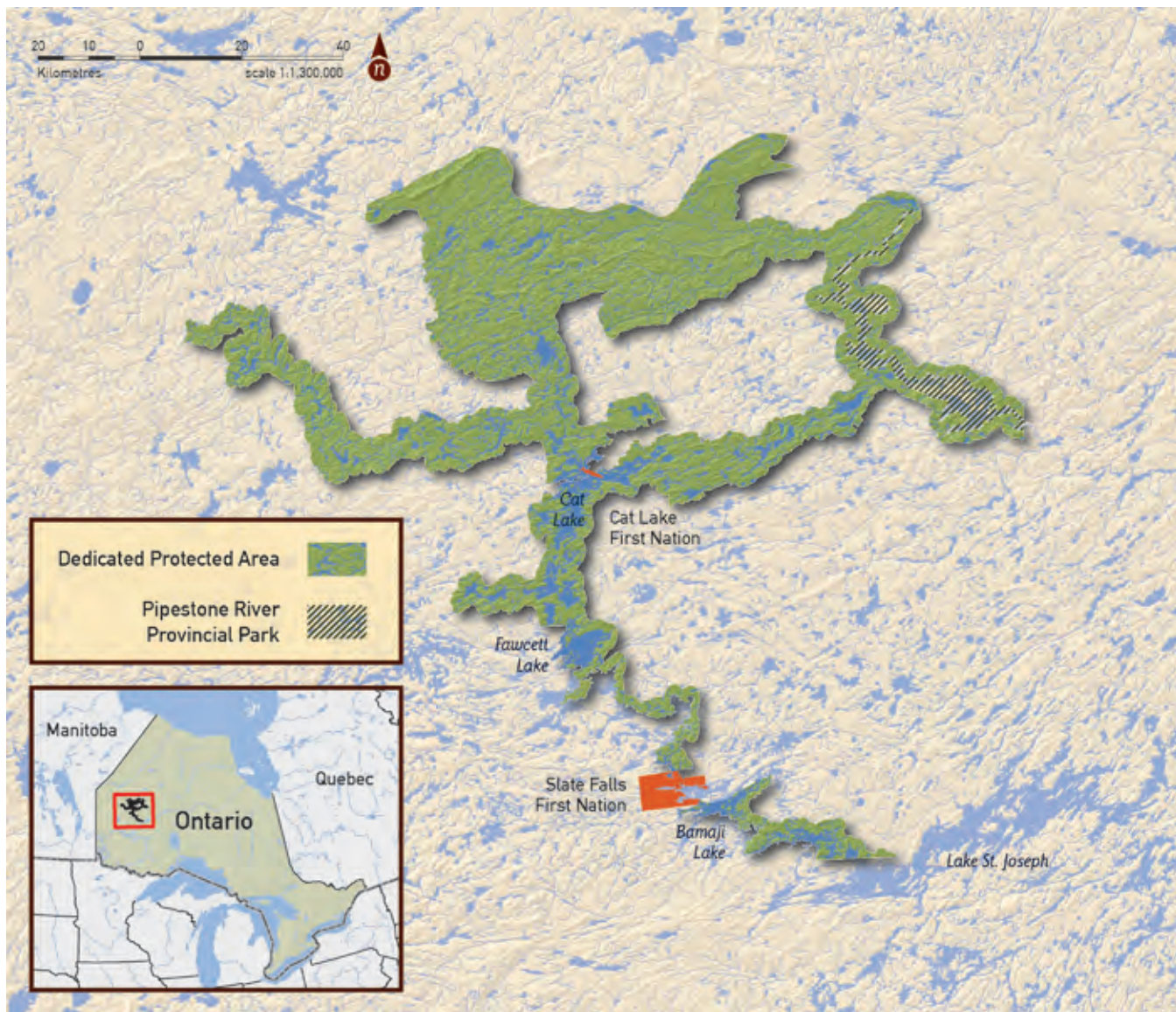


Figure 3.10 Cat Lake–Slate Falls Protected Areas

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Documentation of cultural resource values was initiated by the communities in 2000 to identify burial grounds and sacred sites; old summer gathering sites and family camps; areas for hunting, fishing, and plant and medicine gathering; travel routes; calving areas, fish spawning areas, and migratory bird habitat (Cat Lake First Nation *et al.* 2009: 10). The land management plan states that “extensive community-led Aboriginal Traditional Knowledge (ATK) data collection programs supported planning” (Cat Lake First Nation *et al.* 2011: 27); however, this documentation is not publicly available.

An earlier land management plan for the traditional lands of North Caribou Lake and Cat Lake First Nations, “*Pemachihon: Sustained by the Land*” (Windigo Interim Planning Board 1998), is said to have documented “traditional values” and is taken as background information for the current site (Cat Lake First Nation *et al.* 2011: 10). A more recent study, “Traditional Uses Study: Cat Lake, Slate Falls and Osnaburgh First Nations” (Ecologistics Limited, 1992), has been completed but is not publicly available.





Theme 1: Sacred and Ceremonial Sites

In the document *Pemachihon* there are mapped areas and sites “where development should not occur or be severely restricted.” Examples include fish spawning areas, moose yarding (grazing) areas, wild rice harvesting areas, spiritual sites, historic camping sites, and burial grounds (Windigo Interim Planning Board 1998: 47, 51). Some of these mapped sites are within the current protected areas that comprise the Cat Lake–Slate Falls Protected Areas; in recognition of the culturally sensitive nature of this information, there are no details on the values being proposed for protection.

Because the culture and history of Cat Lake First Nation and Slate Falls Nation are highly comparable to that of the First Nations of Pimachiowin AĶi, it is expected that the Cat Lake–Slate Falls Protected Areas site has a comparable representation of sacred and ceremonial sites, and associations with the land more generally. However, documentation on the distribution of these attributes and associations within the site is not available.

Theme 2: Harvesting Sites

As stated under Theme 1, the Windigo Interim Planning Board land management plan appears to document harvesting sites for the Cat Lake–Slate Falls Protected Areas but there are no details provided. According to the First Nation land management plan, traditional harvesting activities will continue in all parts of the planning area; harvesting “remains a profoundly significant and defining activity for Cat Lake and Slate Falls communities. There is also a considerable amount of infrastructure in the field that people rely upon for these harvesting activities (e.g., camp sites, trails, portages)” (Cat Lake First Nation *et al.* 2011). It is expected that hunting, trapping, fishing, and gathering sites are represented within the site.

Theme 3: Habitation and Processing Sites

There is no documentation available on habitation and processing sites. There is also no indication in available literature or other documentation that archaeological values have been identified or documented for the Cat Lake–Slate Falls Protected Areas.

Theme 4. Widespread Distribution

The Cat Lake–Slate Falls Protected Areas does not include those portions of the traditional land use areas of the two First Nations that lie to the south in areas where commercial forestry tenures already exist and planning responsibilities have already been delegated (Cat Lake First Nation *et al.* 2011). Nevertheless, the remaining area of contiguous land is large enough to provide representation of the widespread distribution of livelihood and habitation attributes. However, currently there is no available documentation to assess the geographic distribution of attributes within the site.

Theme 5. Interlinkage by Waterway Travel Routes

A large proportion of the Cat Lake–Slate Falls Protected Areas is composed of a two-kilometre buffer along waterways; the portion of the Pipestone River Provincial Park included in the Cat Lake–Slate Falls Protected Areas is similarly focused on buffering the waterway. Waterway protection is identified as a “very high priority” for the site (Windsor and Wesley 2009), as shown by the proposed protection focussing on waterways. The site is in a headwaters region and overlaps five tertiary watersheds: the Berens River (via the Throat River), which flows west through Pimachiowin AĶi; the Upper Albany River (via Cat River) and Attawapiskat River, which flow east into James Bay; and the Severn River and Winisk River (via Pipestone River), which flow north to Hudson Bay.





The land management plan for the Cat Lake–Slate Falls Protected Areas underscores the importance of waterways:

The Cat River system is a defining feature of the landscape, vital to the spiritual and cultural existence of the people of Cat Lake First Nation and Slate Falls Nation. To the east, the waterway connection from the community of Cat Lake to the Pipestone River is comprised of numerous small lakes and rivers that have been used by Cat Lake over many years as a travel route including the existing Pipestone River Provincial Waterway Park. These river systems contribute to the spiritual and cultural existence of the people of Cat Lake First Nation and Slate Falls Nation, and all have extensive historical and traditional use relating to subsistence, recreation and economics (Cat Lake First Nation *et al.* 2011: 27).

Theme 6. Customary Governance

Customary governance of the land is recognized and represented through the continuing importance of traplines and family trapline leaders; the Cat Lake–Slate Falls Protected Areas is defined by those portions of the trapline areas held by members of the two First Nations and not already set aside for commercial forestry and protected areas.

An earlier plan for the area noted at the time that “it is customary now when a development is considered for an area that the opinions of the trapper in that area are invited... That individual has a great deal of influence over the type of development that the community can encourage for that piece of land” (Windigo Interim Planning Board 1998: 26). The importance of head trappers as customary leaders continues in the present. Customary governance is proposed to be supported in the Cat Lake–Slate Falls Protected Areas by incorporating indigenous knowledge in decision-making in all facets of planning, “including the knowledge and advice of community elders and traditional teachers”; traditional uses of the site are recognized as “part of a conservation approach” (Cat Lake First Nation *et al.* 2011). The land management plan provides the First Nations’ and Ontario’s vision for the larger planning area: “Cat Lake First Nation and Slate Falls Nation will maintain our ancestral stewardship responsibilities for the land that was given to us as a sacred gift from the Creator and pursue resource-based opportunities including forest management” (Cat Lake First Nation *et al.* 2011: iii).

The foregoing suggests customary governance will be important in management of the Cat Lake–Slate Falls Protected Areas. Furthermore, the site demonstrates the collaboration between communities that is associated with customary governance, as shown through their customary arrangements with neighbouring First Nations in determining the boundaries of their respective planning areas where traditional uses overlapped (see Peters forthcoming; Windsor, personal communication). However, the majority of the site’s land area is within the Cat Lake area of traditional use and occupation, with only small zones of protected area in the vicinity of Slate Falls.

Conclusion

The Cat Lake–Slate Falls Protected Areas provides representation of values comparable to those of Pimachiowin Aki, especially the importance of waterway travel routes in providing access to and connectivity among widely spread cultural attributes, including between neighbouring and related communities. Existing documentation expresses the importance of the wider landscape within which the site is situated to supporting traditional use and occupation, including the role of customary governance in guiding that use and occupation.





When the Cat Lake–Slate Falls Planning Area is placed in direct comparison with the nominated area, Pimachiowin Aki is shown to provide:

1. A more complete representation of the significance of customary governance in regulating resource use among members of different communities with adjacent areas of traditional use and occupation (Theme 6). The physical expanse of land within Pimachiowin Aki is better able to represent the landscape-scale expression of resource rotation and resource sharing that are central to the cultural tradition of *Ji-ganawendamang Gidakiiminaan* (Keeping the Land).

4. THE CASE FOR OUTSTANDING UNIVERSAL VALUE

The landscapes within the four short-list sites considered here reflect values that are comparable to those of Pimachiowin Aki. All of the short-list sites provide representation of the attributes and associations similar to those that are characteristic of the cultural tradition of *Ji-ganawendamang Gidakiiminaan* (Keeping the Land). The short-list sites play an important role in the continuing physical, social and spiritual survival of the indigenous people associated with those sites. In addition, these sites demonstrate the role of indigenous peoples in defining the site and the manner in which its values are protected and managed.

However, unlike Pimachiowin Aki, no site considered here provides a complete representation of the interconnected and functional whole of values that reflects the significance of *Ji-ganawendamang Gidakiiminaan*, including the interaction between neighbouring communities with shared histories of overlapping and negotiated resource use. Pimachiowin Aki best represents the intimate interaction of culture and nature by encompassing a whole system of cultural and ecological networks that are the basis for adaptation and continuity of the cultural tradition. Pimachiowin Aki provides complete representation of:

1. a diverse and interconnected landscape containing complexes of cultural attributes that are distributed over a sufficiently large and varied landscape to enable people to adapt to a changing environment (Theme 4);
2. an integrated network of waterway travel routes that provides access to and connectivity among widely dispersed complexes of cultural attributes associated with adjacent and related communities (Theme 5); and
3. the ongoing significance of traditional protection and management in the regulation of behaviour with respect to attributes of use and occupation that convey the values of Keeping the Land, including the landscape-scale coordination of resource use among members of neighbouring communities (Theme 6).

Pimachiowin Aki provides the most complete representation of the attributes and associations represented in Themes 1–6. Pimachiowin Aki is the exceptional example.

Pimachiowin Aki provides exceptional testimony to the living cultural tradition of Keeping the Land through the interconnected sets of cultural and natural values contained within the nominated area. The interconnectedness of these values is maintained socially through an integrated network of customary governance institutions that coordinate use and protection of cultural attributes, including by enabling people to make use of different parts of the landscape according to shifting ecological and social demands. Interconnection is also maintained ecologically through the network of free-flowing waterways that provide access to and connectivity among cultural attributes in both winter and summer. There is no other current or proposed protected area in the North American Subarctic that provides such remarkable testimony to the intactness and wholeness of these interconnected cultural and ecological systems.

Landscapes that illustrate the ongoing and intimate interdependence of an indigenous way of life and a natural ecosystem are of common importance for present and future generations of all humanity. Currently, these types



of landscapes are not well represented on the World Heritage List and not represented at all in the Americas. In a review of World Heritage List and Tentative Lists sites in 2003, the International Council on Monuments and Sites (ICOMOS) identified living (continuing) indigenous cultures in the Americas as a gap in World Heritage representation (ICOMOS 2005). Pimachiowin Aki, as a demonstration of the ongoing interdependence of an indigenous way of life and the boreal ecosystem, can therefore contribute to the development of a representative, balanced and credible World Heritage List. As a proposed cultural landscape and mixed World Heritage site, Pimachiowin Aki can contribute toward the objective set by the Global Strategy to recognize and protect sites that are outstanding demonstrations of human coexistence with the land.

Conclusion

The comparative analysis has demonstrated:

1. There are only four sites in the North American Subarctic that are comparable to Pimachiowin Aki; and
2. Each of these sites is significant for its ability to represent the importance of continuing relations between an indigenous culture and its local environment; but
3. No site in the North American Subarctic better represents the indigenous cultural tradition of *Ji-ganawendamang Gidakiiminaan* (Keeping the Land) than Pimachiowin Aki.



Viewing pictographs (© H. Otake 2010)

The comparative analysis thereby demonstrates that within the North American Subarctic, Pimachiowin Aki has the strongest claim to potential Outstanding Universal Value. The comparative analysis shows Pimachiowin Aki fully demonstrates the Outstanding Universal Value being proposed, fulfilling criterion (iii) as an exceptional testimony to a living cultural tradition, as well as criterion (vi) by virtue of its direct and tangible association with a living cultural tradition.

3.2.b COMPARATIVE ANALYSIS OF NATURAL HERITAGE

The goal of the natural comparative analysis is to explain the importance of the nominated property in its global and regional context (UNESCO 2015: 26, para 132). The specific focus of this natural comparative analysis is to evaluate how well the nominated area and comparative sites demonstrate the characteristic features and key ecological processes found in boreal ecosystems.

Separate analyses are completed for the global boreal biome and the North American boreal shield. As described in Section 2, the North American boreal shield is a major subdivision of the global boreal biome.



Pimachiowin Aki is a healthy, functioning boreal ecosystem (© H. Otake 2012)





The analysis concludes that there are no properties already on the World Heritage List or Tentative Lists, and no known sites outside the World Heritage system that might be nominated in the future, that provide a comparably complete and outstanding example of North American boreal shield ecosystems. The analysis also concludes that the nominated area is an outstanding representation of the global boreal biome.

Appendix K.2.1 includes a detailed report on the comparative analysis.

The comparative analysis summarized below is organized under four subsections, as follows:

1. Thematic Framework for Comparison, which identifies comparative themes, indicators and a scoring system to compare and distinguish among sites on the basis of ecological features and processes;
2. Selection of Sites for Comparison, which explains the process for selecting comparative sites and presents a long-list of potential sites from which is selected a short-list of sites with the greatest potential for similarity;
3. Comparative Analysis of Short-List Sites, which makes detailed comparisons between Pimachiowin Aki and individual sites identified as potentially representing the same natural values; and
4. The Case for Outstanding Universal Value, which draws conclusions regarding the exceptional nature of Pimachiowin Aki within both the global and regional contexts.

1. THEMATIC FRAMEWORK FOR COMPARISON

To guide comparison with other sites, a thematic framework has been developed to reflect the main attributes of the proposed Outstanding Universal Value for Pimachiowin Aki. This framework consists of the following components, each of which is discussed in turn:

1. Comparative Themes identifying the main subjects that comparison should address;
2. Features and Ecological Processes that are representative of boreal ecosystems and used as a basis for identifying Indicators and Attributes that measure the ability of comparative sites to represent the Comparative Themes; and
3. Evaluation of Themes, explaining how the Indicators and Attributes are specifically applied and scored for each Comparative Theme.

Comparative Themes

The following are the three comparative themes that frame the analysis by identifying the main subjects on which comparison will be based. Sites should satisfy and rank highly for all three themes to be deemed outstanding examples of the global boreal biome or the North American boreal shield.

THEME 1: CHARACTERISTIC CONDITIONS

This theme evaluates conditions within comparative sites to determine their similarity with the characteristic features and ecological processes of naturally functioning boreal ecosystems. The more similar sites are to the characteristic conditions the more preferable they are. Extreme differences from characteristic boreal ecosystem conditions are considered to be undesirable.





THEME 2: LARGE-AREA ECOSYSTEM DIVERSITY

This theme evaluates the representation of large-area boreal ecosystems in comparative sites. Representation of large-area ecosystems is based on the key features and ecological processes that produce and maintain naturally functioning ecosystems and biodiversity. These are features and processes that occur over large areas in the boreal biome. Sites that represent more than one large-area ecosystem provide more complete and better examples of the boreal ecosystem.

THEME 3: SITE INTEGRITY

This theme evaluates the current state of conservation and intactness of comparative sites, and the potential to maintain these attributes into the future. Sites with a high state of conservation and intactness, and a high potential to retain these into the future, are considered to be better examples of the boreal ecosystem.

Features and Ecological Processes

The comparative analysis approach reflects an evaluation framework for ecosystem health that uses important features and processes to demonstrate the health and diversity of boreal ecosystems within sites, as well as the potential to maintain healthy and diverse boreal ecosystems into the future. A suite of eight features and ecological processes has been identified (Figure 3.11) based on the key drivers and responses for boreal ecosystems. Indicators and their measurable attributes are selected to represent each of the features and ecological processes, and used to conduct the comparative analysis (as discussed in the next section).

Site size is elaborated upon briefly here because it is especially important in representing ecosystem health and diversity. Site size is also used as a criterion for site selection.

The more extensive a site is, the more likely it is to contain a complete representation of characteristic boreal drivers and species. A minimum site size is necessary to ensure the inclusion of all characteristic boreal drivers and representative species (Alkemade *et al.* 2009; Bailey 1987; Canadian Boreal Initiative 2005; Hodgson *et al.* 2009; Hortal *et al.* 2009; Swanson *et al.*, 1988; Thorsell *et al.* 1997). Larger sites generally support more characteristic species, more species with large population ranges, larger populations of those species, and a greater number of populations. The dynamics of some species assemblages generally are more sustainable in geographically larger sites (Cantú-Salazar and Gaston 2010). Theme 1, Characteristic Conditions, emphasizes the positive synergistic effects of increasing site size on ecosystem health and diversity.

Ecosystem integrity has a strong positive correlation with site size (Ewers and Kapos 2011; Patry and Horn 2011; Perry 2011). Large intact sites are less susceptible to edge effects and the impact of disrupted ecological processes in the surrounding matrix. Large sites also tend to be more resilient and better able to support the ongoing evolution of ecosystems and species, especially in the context of accelerated climate change (Ewers and Kapos 2011; Patry and Horn 2011). The characteristic conditions theme emphasizes the positive synergistic effects of increasing site size on ecosystem health and diversity, and the site integrity theme includes site size because increasing size has a positive influence on ecosystem integrity and resilience. Theme 3, Site Integrity, includes site size because increasing size has a positive influence on ecosystem integrity and resilience.

In order to maintain specific aspects of boreal ecosystems, such as ecological integrity, natural disturbance regimes, and viable populations for particular species, a variety of minimum sizes have been identified. For example, the Canadian recovery strategy for woodland caribou (boreal population) notes that a population generally needs a minimum area of 10,000 to 15,000 square kilometres to be self-sustaining (Environment Canada 2012). While the recommended range of minimum areas required to maintain key features and ecological processes includes areas as small as 2,500 square kilometres, most size ranges include areas that exceed 10,000 square kilometres (e.g., Baker 1992; Environment Canada 2012; Gurd *et al.* 2001; Miller and Ehnes 2000; Rodrigues and Gaston 2001).





There is no single climate that characterizes the major subdivisions of the boreal biome, and it would be impossible for any site to be large enough to include a significant portion of the diversity of boreal climatic conditions. Climate attributes exhibit substantial zonation within the global boreal biome and the North American boreal shield as a result of different latitudinal, continental, oceanic, and montane conditions. Therefore, climate is not included as a feature or process for comparing sites.

Figure 3.11 Features and processes used for the comparative analysis, and the key ecosystem drivers and responses they represent

Feature or Process	Key Ecosystem Drivers Represented	Key Ecosystem Responses Represented
Site Size	Increasing site size tends to provide better representation for all of the key ecosystem drivers.	Sufficient habitat for species with large home ranges, sufficient area for large-scale ecosystem and evolutionary processes, connectivity, higher resilience, higher potential for climate change adaptation.
Intactness	High degree of intactness is a prerequisite for key drivers to operate within ranges of natural variability.	High degree of intactness is a prerequisite for natural function. Proxy for effects on many ecological and evolutionary processes.
Surface Materials	Surface materials are a primary controlling factor within ecological regions and landscapes.	Ecosystem diversity, terrestrial and aquatic habitat diversity, fire regime, hydrological complexity, terrestrial and aquatic species diversity.
Wildfire	Wildfire is the keystone driving factor throughout much of the global boreal biome.	Age class distribution and abundance, species distribution and abundance.
Hydrological Complexity	Hydrologic patterns and processes are primary controlling factors for aquatic and shoreline wetland ecosystems.	Wetland function, freshwater lakes, freshwater wetlands, aquatic habitat diversity, aquatic species diversity.
Carbon Capture and Storage		Wetland function, carbon sequestration and storage, climate change.
Primary Productivity		Trophic structure, vegetation biomass available for consumption, carbon sequestration and storage, wetland function.
Species Diversity		Biodiversity, species diversity.

Notes: The key driver and response columns only show the primary drivers and responses represented.
Features or processes that represent key responses only include carbon capture and storage, primary productivity and species diversity.

Evaluation of Themes

The features and processes associated with healthy and diverse boreal ecosystems are measured using indicators and attributes for each comparative theme. How ecosystem features and processes are represented by indicators and then measured by attributes depends on the nature of the comparative theme and the kind of information that is available for consistent comparison among all comparative sites.

Some features and processes appear in more than one evaluation theme due to their high importance in producing and maintaining naturally functioning ecosystems and biodiversity. Some features and processes are best represented by using more than one indicator, and some indicators by more than one attribute. This is because the feature, process, or indicator reflects a particularly complex reality that is not easily separated into components. For aquatic ecosystems, the indicators representing hydrological complexity appear under a single feature and process. It is presented in this way because the indicators characterize various attributes of surface water, and in some cases represent both drivers and responses.





Comparative analyses are limited by the availability of consistent data sets. This is especially true when comparisons are made among many sites dispersed across the world. Because data are not always available on a global scale, the global comparative analysis rests on fewer indicators than the regional analysis, for which more data sets are available (see Figures 3.12 to 3.14). The limited availability of data also explains why some of the selected attributes are substitutes for ideal attributes.

In assessing how a comparative site represents a given attribute, a scaled scoring system has been adopted. Appendix K.2.1 provides a detailed description of how scores are assigned for each indicator for each site, and then combined across indicators to result in an overall score for each site. The scoring system differs somewhat for each of the three comparative themes.

THEME 1: CHARACTERISTIC CONDITIONS

Figure 3.12 presents the features and processes, and the associated indicators and attributes, used to evaluate the characteristic conditions theme. The Figure also shows whether or not the indicators and attributes were used in the global analysis (comparative sites in the global boreal biome) and the regional analysis (comparative sites in the North American boreal shield).

Hydrological complexity is a particularly intricate feature, with five indicators representing the different aspects of surface water that contribute to aquatic ecosystem diversity and health: third-order watersheds are used to indicate a high degree of aquatic ecosystem completeness; water surface area indicates the degree to which a site consists of aquatic ecosystems and the extent to which surface water is represented by one or many water bodies; shoreline density is an indicator for the amounts of shallow water, shoreline, and riparian ecosystems; stream length reflects the degree to which the water in a site is in rivers as opposed to lakes; natural water obstacles such as rapids and waterfalls provide important habitat for some species (e.g., lake sturgeon) and affect genetic interchange.

Figure 3.12 Characteristic conditions theme: Features or processes, and their associated indicators and attributes				
Feature or Process	Indicator	Attribute(s) Measured	Global	Regional
Site Size	Site Area	Total site area	Yes	Yes
Intactness	Human Footprint	Intact percentage (percentage of site area that is not a human infrastructure footprint)	Yes	Yes
	Free-Flowing Rivers	Manufactured dams (total number of manufactured dams)	Yes	Yes
Surface Materials	Surface Material Composition	Number of common boreal surface material types represented	Yes	Yes
Wildfire	Burned Area	Annual area burned (average annual percentage of area burned)	No	Yes





Feature or Process	Indicator	Attribute(s) Measured	Global	Regional
Hydrological Complexity	Watersheds	Number of third-order watersheds. Number of headwater areas	Yes	Yes
	Water Surface Area	Water fraction (water surface area as a percentage of site area)	Yes	Yes
		Water body density (number of water bodies per square kilometre of site area)	Yes	No
	Shoreline Density	Shoreline edge density (kilometres of shoreline per square kilometre of total water surface area)	Yes	Yes
	Stream Length	Waterway flow length (flow length per square kilometre of site area)	No	Yes
	Natural Water Obstacles	Natural obstacle density (number of natural obstacles per square kilometre of site area)	No	Yes
Carbon Capture and Storage	Soil Organic Carbon	Soil organic carbon density (average kilograms per square metre in the top 1 metre)	Yes	Yes
Primary Productivity	Vegetation Growth	Normalized difference vegetation index (NDVI) (average NDVI for the site)	Yes	Yes
Species Diversity	Mammal Richness	Number of widespread species (number of relatively widespread mammal species with ranges that overlap the site)	Yes	Yes
	Bird Richness	Number of widespread species (number of relatively widespread bird species with ranges that overlap the site)	No	Yes
	Amphibian Richness	Number of widespread species (number of relatively widespread amphibian species with ranges that overlap the site)	Yes	Yes

A score for each indicator of characteristic conditions in Figure 3.12 is assigned by comparing a comparative site's attribute value with the boreal benchmark value, or reference value. Boreal benchmark values are calculated separately for the global biome for use in the global comparative analysis and for the North American boreal shield for use in the regional comparative analysis. The nature of the benchmark depends on the attribute:

1. For composition attributes (e.g., number of common surface material types), the benchmark value is the number of common types recognized in the boreal biome or shield, depending on whether it is the global or regional analysis;
2. For attributes where greater magnitude provides greater representation (e.g., site size, number of mammal species), the benchmark value is the maximum number observed in the boreal biome or shield; and
3. For attributes where greater magnitude does not provide a better reflection of characteristic conditions (e.g., vegetation growth), the benchmark value is the mean value calculated across the boreal biome or shield.

Where more than one attribute is used to represent an indicator, attributes are combined into an indicator score through averaging or minimums, as appropriate.

Possible scores for the indicators of characteristic conditions generally range from 3 to -2. Sites that are very similar to the boreal benchmark receive a score of 3 while sites that are extremely different from the boreal benchmark receive a score of -2.





THEME 2: LARGE-AREA ECOSYSTEM DIVERSITY

Figure 3.13 presents the features and processes, and their associated indicators and attributes, used to evaluate the large-area ecosystem diversity theme. Figure 3.13 also records whether the indicators and attributes were used in the global and regional analyses.

Indicators for large-area ecosystem diversity evaluate the degree to which sites include more than one of the key, large-scale features and processes responsible for producing and maintaining large-area ecosystem diversity. For each indicator, attributes were adopted to measure the number of large-scale elements that were adequately represented in the site, based on minimum size and on criteria related to spatial configuration. Adequate spatial configuration was used to determine if the shape of each large-scale element could support the large-scale ecological processes.

Whereas the surface material indicator for characteristic conditions in Theme 1 evaluated the number of common boreal types represented, the surface material indicator for large-area ecosystem diversity in Theme 2 evaluates the number of large-area representations of surface material types.

The number of third-order watersheds identifies the number of large-area aquatic ecosystems in a site, which is a measure of hydrological complexity.

The number of wildfire regimes is included to reflect the fact that a site representing more than one wildfire regime offers a better example of the boreal biome diversity than sites evolving under a single regime.

Figure 3.13 Large-area ecosystem diversity theme: Features or processes, and their associated indicators and attributes				
Feature or Process	Indicator	Attribute(s) Measured	Global	Regional
Surface Materials	Surface Material Diversity	Number of large-area representations of different surface material types	Yes	Yes
Intactness	Watersheds	Number of third-order watersheds	Yes	Yes
	Surface Water Diversity	Number of large geographic areas that include substantially different surface water patterns	Yes	Yes
Wildfire	Wildfire Regimes	Number of wildfire regimes	No	Yes

Scores for large-area ecosystem diversity, simply consist of the number of large-scale examples of a feature or process adequately represented in the site. For example, a site’s score for surface materials diversity is the number of surface material zones that are at least 3,000 square kilometres in size and that are not long and narrow.

THEME 3: SITE INTEGRITY

The features used to evaluate the site integrity of comparative sites include site size, intactness, and resilience potential (after Ewers and Kapos 2011 and Perry 2011). Figure 3.14 lists the indicators and measured attributes used, and whether or not they are used in the global analysis and the regional analysis.

Site size and intactness are included as features due to their overarching influence on ecosystem integrity and resilience. The indicator of site intactness represents current ecosystem integrity and resilience, while the indicator of surrounding intactness represents current and future threats to intactness.

A site’s potential resilience in response to climate change is included as a feature because rapid climate change will disrupt ecosystems and affect how well they continue to represent boreal features and processes; sites





located near current boreal limits may not remain boreal after future climate change (Gonzalez *et al.* 2010; Settele *et al.* 2014). As seen in Figure 3.14, one indicator of resilience potential is the extent of a site along the regional temperature gradient (temperature gradient length). Another indicator of resilience potential is whether the site has remained within boreal climate limits during warming and cooling periods since the last ice age (within Holocene limits). It is thought that ecosystems within sites spanning a significant distance along the temperature gradient will be more likely to adapt to future climate change, as compared to those in sites that span a shorter distance (Pearson and Dawson 2005; after Wiersma and Urban 2005). Since the last glaciation, the northern and southern limits of the boreal biome in North America have repeatedly shifted northward and southward. A site that has remained well within these limits should be better positioned to remain boreal during future climate change than one that either borders on, or is outside of, these historical limits. The parameter Within Holocene Limits identifies sites that remained entirely within the smallest historical extents of the boreal biome in North America.

Figure 3.14 Site integrity theme: Features or processes, and their associated indicators and attributes

Feature or Process	Indicator	Attribute Measured	Global	Regional
Site Size	Site Area	Total site area	Yes	Yes
Intactness	Site Intactness	Percentage of site area that is not a relatively permanent human feature	Yes	Yes
	Surrounding Intactness	Percentage of the area within 100 kilometres of the site that is not a relatively permanent human feature	Yes	Yes
Climate Change Resilience Potential	Temperature Gradient Length	Length of the existing temperature gradient within the site	Yes	Yes
	Within Holocene Limits	Position of the site relative to the minimum Holocene extents of the boreal biome	No	Yes

Scoring for the indicators of site integrity uses the same approach as for the characteristic conditions indicators in Theme 1; that is, by comparing a site's attribute value with the boreal benchmark value, or reference value.

OVERALL SITE SCORES

For each of the three comparative themes, an overall site score was calculated as the sum of the individual indicator scores.

This comparative analysis considers that outstanding examples of healthy, diverse boreal ecosystems, sites should satisfy two conditions:

1. Have a high overall score for all three comparative themes, and
2. Have no extremely low score for any individual indicator in any of the comparative themes.

2. SELECTION OF SITES FOR COMPARISON

Biogeographic Framework

Udvardy's biogeographical classification is recognized as the appropriate geographic and ecosystem framework for identifying natural heritage gaps in the World Heritage List, and for identifying sites to include in the comparative analysis (Badman *et al.* 2008; IUCN 2006). Udvardy's original maps were drawn at a very coarse scale and are now considered to include large areas that are not truly boreal. Therefore, the global comparative analysis uses biome boundaries provided by the more detailed and recent World Wildlife Fund Global Ecoregions classification (Olson *et al.* 2001; Figure 2.15) to identify boreal sites and to calculate the boreal benchmarks used





for site scoring. A number of IUCN evaluations also use this more recent classification and associated maps (e.g., Magin and Chape 2004). Similarly, the North American boreal shield boundaries (Figure 2.15) used in the regional comparative analysis are based on three recent detailed sources: the World Wildlife Fund Global Ecoregions classification; A National Ecological Framework for Canada (Ecological Stratification Working Group 1996); and Brandt (2009).

GAPS IN THE WORLD HERITAGE LIST

Currently there are 10 inscribed natural and mixed World Heritage properties in the boreal biome (Figure 3.15), including two within the North American boreal shield. The two inscribed properties in the boreal shield are much too small to maintain key boreal ecological processes such as a natural wildfire regime. Neither of these sites is inscribed under criterion (ix).

Figure 3.15 Inscribed natural and mixed World Heritage properties in the boreal biome (boldface, shaded rows are sites in the North American boreal shield)

Site	Country	Inscription Criteria	Size (km ²)
Central Sikhote-Alin-Bikin River Valley	Russia	x	32,540
Gros Morne National Park	Canada	vii, viii	2,114
Kluane/Wrangell-St Elias/Glacier Bay/Tatshenshini-Alsek	USA and Canada	vii, viii, ix, x	61,537
Lake Baikal	Russia	vii, viii, ix, x	112,630
Laponian Area	Sweden	iii, v, vii, viii, ix	16,179
Miguasha National Park	Canada	viii	0.9
Nahanni National Park	Canada	vii, ix	5,321
Virgin Komi Forests	Russia	vii, ix	64,133
West Norwegian Fjords	Norway	vii, viii	3,209
Wood Buffalo National Park	Canada	vii, ix, x	48,787

Global reviews have indicated that the boreal biome and its biogeographic provinces are not as well represented on the World Heritage List as many other biomes and provinces (Magin and Chape 2004; Thorsell *et al.* 1997; Thorsell and Sigaty 1997). Studies on future priorities for a credible and complete list of natural and mixed sites (Bertzky *et al.* 2013; IUCN 2004; IUCN 2006) reached similar conclusions and indicated that the temperate needleleaf forests, most of which occur in the boreal biome, are under-represented compared to other biomes. Of the 345 mixed and natural World Heritage Sites reviewed in the IUCN 2004 and 2006 studies, only 10 (or approximately 3 percent) are temperate needleleaf forests.

In 2004, the IUCN organized a World Heritage Boreal Zone Workshop to assess gaps in the existing World Heritage List and to identify sites of potential Outstanding Universal Value (IUCN 2004). The St. Petersburg Statement (IUCN 2004) emphasizes the high urgency of taking immediate measures to conserve the natural and cultural heritage of the boreal biome. The workshop identified Pimachiowin Aki as one of 10 sites that had potential Outstanding Universal Value, and noted that this boreal landscape would help fill an important gap because the North American (called Canadian in the report) boreal shield is currently under-represented. No additional sites in the North America boreal biome have been inscribed on the World Heritage List since this workshop.

There is also an identified shortage of large natural heritage sites in the World Heritage network. Sites must be large to maintain natural ecological processes, and thus ecological integrity, in the boreal biome (see discussion of size in Representative Features and Processes, above). However, as of 2008, the immense global boreal biome





included only five World Heritage sites larger than 10,000 square kilometres (Badman and Bomhard 2008), and none of these is in the North America boreal shield. Patry and Horn (2011) argue that UNESCO States Parties should be encouraged to nominate larger forests, or to increase the size of existing World Heritage forests wherever possible.

Lists of Sites for Comparisons

The global comparative analysis evaluates existing, nominated, and potential World Heritage sites and protected areas within the circumpolar boreal biome, while the regional analysis focuses on the subset of these sites within the North American boreal shield.

To cast the net as widely as possible, the long-list of sites for global comparison includes all sites meeting the following criteria:

1. The site is located within or overlapping Udvardy's boreal biome;
2. The site is an existing World Heritage site or protected area (IUCN and UNEP 2010), or a tentative or potential World Heritage site (IUCN and UNEP 2010; UNESCO 2010); and
3. The site is larger than 2,000 square kilometres, which is the minimum size needed to support some boreal ecological processes or some boreal species in some locations (Gurd *et al.* 2001).

Since the combined area within contiguous sites should generally provide higher conservation value than each of the sites considered individually, the analysis combines sites that are adjacent to each other into a single larger site.

A global long-list of 132 sites was identified based on these criteria. Of these, 13 sites are in the North American boreal shield and therefore comprise the regional long-list of sites.

To focus the comparative analysis on the sites that are predominantly boreal and may be sufficiently large and intact to represent the key natural features and ecological processes of the boreal biome, the following criteria were used to identify a short-list of sites from the long-list:

1. The majority of the site is within the Udvardy boreal biome;
2. The site is larger than 10,000 square kilometres, which is the minimum size needed to support all of the key boreal ecological processes and characteristic species; and
3. The human industrial footprint comprises less than 70 percent of the total site area.

A short-list of twelve sites was identified using these criteria. Figure 3.16 shows the locations of the short-list sites evaluated in the global comparative analysis. Figure 3.17 provides information regarding their conservation status and biogeographical classification.



Figure 3.16 Sites identified for the global and regional comparative analyses

North Pole Orthographic





Four of the twelve short-list sites from the global comparative analysis are within the North American boreal shield and comprise the short-list sites for the regional comparative analysis (highlighted with bold font and shading in Figure 3.17):

1. Albnel-Témiscamie-Otish, Quebec, Canada;
2. Mealy Mountains National Park, Newfoundland and Labrador, Canada;
3. Pimachiowin Aki (nominated), Manitoba and Ontario, Canada; and
4. Wabikimi Provincial Park, Ontario, Canada.

Figure 3.17 The short-list of global and regional sites, and some relevant attributes (boldface, shaded rows are the regional short-list sites).

Site (locations included in the site using names from IUCN and UNEP 2010)	Status	Country	Udvardy Bio-geographic Province	Global 200 Ecoregion
Albnel-Témiscamie-Otish (<i>Projet de parc national Albnel-Témiscamie-Otish- Proposed park</i>)	Proposed Provincial Park	Canada	Canadian Taiga	Central Canadian Shield forests
Green Belt (contiguous sites from the Green Belt of Fennoscandia: Sompion luonnonpuisto, Laplandsky, Urho Kekkosen kansallispuisto, Pirengskiy, Girvasskiy, Nottinskiy, Vuvskiy, Laplandskiy Les)	State Biosphere Nature Reserve, State Nature Reserve, National Park	Norway, Finland, Russia	West Eurasian Taiga	Scandinavian and Russian taiga
Kluane/Wrangell (Kluane/Wrangell-St Elias/Glacier Bay/ Tatshenshini-Alsek, Tatshenshini-Alsek, Tetlin National Wildlife Refuge, Wrangell-St. Elias Preserve Wilderness, Wrangell-saint Elias National Park And Preserve)	World Heritage List, National Wildlife Refuge, Provincial Park, Wilderness Area, National Preserve	USA and Canada	Yukon Taiga	Alaska-St. Elias Range tundra
Koyukuk (Koyukuk National Wildlife Refuge, Koyukuk National Wildlife Refuge Wilderness Area, Selawik National Wildlife Refuge)	National Wildlife Refuge	USA	Yukon Taiga	Beringia lowland tundra
Mealy Mountains (Mealy Mountains National Park)	National Park	Canada	Canadian Taiga	Eastern Canadian Shield taiga
Pimachiowin Aki (Pimachiowin Aki tentative World Heritage site)	World Heritage Tentative List	Canada	Canadian Taiga	Midwestern Canadian Shield forests
Sibirskie Uvaly (Sibirskie Uvaly National Nature Park and Verkhne-Tazovsky Nature Park)	Nature Park and Zapovednik	Russia	West Eurasian Taiga	West Siberian taiga
Verhne-Amginsky (Verhne-Amginsky Nature Park and proposed extension)	Nature Park and Zakaznik	Russia	East Siberian Taiga	East Siberian taiga



Site (locations included in the site using names from IUCN and UNEP 2010)	Status	Country	Udvardy Bio-geographic Province	Global 200 Ecoregion
Virgin Komi (Virgin Komi Forests World Heritage Site, Yugyd Va, Vishersky, Ilychskiy, Boloto Usinskoe, Syninskiy, Synenskiy, Saranpaul'skiy, Severo-Ural'skiy, Leshak-Schel'ya, Lyapinskaya)	World Heritage List, National Park, Nature Park, Zapovednik, Zakaznik	Russia	West Eurasian Taiga	Ural montane forests and tundra
Wabakimi (Wabakimi Provincial Park, Albany River, Brightsand River)	Provincial Park	Canada	Canadian Taiga	Central Canadian Shield forests
Wood Buffalo (Wood Buffalo National Park, Peace-Athabasca Delta, Whooping Crane Summer Range)	National Park, Ramsar Site	Canada	Canadian Taiga	Muskwa-Slave Lake forests
Yukon Flats (Yukon Flats National Wildlife Refuge)	National Wildlife Refuge	USA	Yukon Taiga	Interior Alaska-Yukon lowland taiga

3. COMPARATIVE ANALYSIS OF SHORT-LIST SITES

This section summarizes the results of the comparative analysis at the level of the boreal biome (the global analysis) and of the North American boreal shield (the regional analysis). For the global analysis, summary results are presented for each theme. For the regional analysis, results are presented in more detail (i.e. including individual indicators and attributes), given the importance of demonstrating that Pimachiowin Aki is an outstanding example of the North American boreal shield.

Global Analysis

THEME 1: CHARACTERISTIC CONDITIONS

Based on the overall site scores for characteristic conditions, Wood Buffalo and Pimachiowin Aki are considerably more similar to characteristic boreal biome conditions than any other short-list site (Figure 3.18). This conclusion also holds for the rest of the 132 long-list sites.

The remarkably high standing of Pimachiowin Aki is supported by two additional findings. First, it is tied with Wood Buffalo National Park for the lowest number of extremely low scores for the indicators assessed in Figure 3.18. Second, out of a total of 11 indicators, Pimachiowin Aki has a high score for two indicators and a moderately high score for four indicators. Wood Buffalo National Park achieves a higher rating with five high scores and four moderately high scores, while other short-list sites fall well below in their scores for indicators assessed.

A noteworthy finding from the global analysis is that the nominated area is the only site that adequately represents the rock soil region (global soil regions are used as a proxy for surface materials in the global analysis), a rare soil region type in the boreal biome. Since surface materials are a key factor for mapping large-area ecosystems, and in this case the Rockland type, this means Pimachiowin Aki is the only site that is sufficiently large and intact to provide a global representation of ongoing processes for rockland ecosystems.

The evaluation of indicators for characteristic conditions identifies that no long-list sites excluded from the short-list are highly representative of the boreal biome (detailed results in Appendix K.2.1). Therefore, the comparative analyses for large-area ecosystem diversity and site integrity address only the short-list sites.





Figure 3.18 Characteristic conditions: Overall site scores and number of individual indicators with extremely low scores for the boreal biome short-list sites

Site	Overall Score ¹	Number of Extremely Low Individual Indicator Scores
Wood Buffalo	22.0	1
Pimachiowin Aki	16.5	1
Wabakimi	11.5	2
Mealy Mountains	10.0	2
Yukon Flats	9.5	3
Koyukuk	8.0	2
Virgin Komi	8.0	3
Albanel-Témiscamie-Otish	8.0	3
Sibirskie Uvaly	4.0	3
Kluane/Wrangell	2.5	4
Verhne-Amginsky	1.0	5
Green Belt	0.0	4

Notes: ¹ See Appendix K.2.1 for individual scores for the eleven indicators summed into the overall site scores and for method details.

THEME 2: LARGE-AREA ECOSYSTEM DIVERSITY

Wood Buffalo National Park and Pimachiowin Aki achieve higher overall scores than other short-list sites for large-area ecosystem diversity (Figure 3.19). While Wood Buffalo ranks first for all three indicators, Pimachiowin Aki ties for the highest score for one indicator and second for the other two indicators. All other sites achieve substantially lower scores.

Pimachiowin Aki and Wood Buffalo are the only short-list sites that represent at least one third-order watershed. Additionally, Pimachiowin Aki captures approximately 80 percent of the headwater areas for two of the watersheds, whereas Wood Buffalo does not achieve this for any watershed. The importance of protecting headwater areas is well established (Kaplan *et al.* 2008).

Four sites, including Pimachiowin Aki, share the highest score for water body zones, meaning they all capture two large geographic areas with substantially different water body densities and size distributions.





Figure 3.19 Large-area ecosystem diversity: Overall site scores and individual indicator scores for the boreal biome short-list sites

Site	Overall Score	Individual Indicator Scores		
		Surface Materials	Hydrological Complexity	
		Surface Material Diversity	Watersheds	Water Body Zones
Wood Buffalo	10	5	3	2
Pimachiowin Aki	6	2	2	2
Virgin Komi	4	3	0	1
Yukon Flats	4	2	0	2
Kluane/Wrangell	3	2	0	1
Mealy Mountains	3	2	0	1
Sibirskie Uvaly	3	1	0	2
Wabakimi	2	1	0	1
Koyukuk	2	1	0	1
Albanel-Témiscamie-Otish	2	1	0	1
Verhne-Amginsky	1	1	0	0
Green Belt	1	0	0	1

Notes: See Appendix K.2.1 for method details.

THEME 3: SITE INTEGRITY

Wood Buffalo has the highest overall score among the short-list sites, followed by Pimachiowin Aki (Figure 3.20). Neither site has a low score for any of the four indicators. Both have a moderate score for the indicator of surrounding intactness, which for the nominated area results mainly from the presence of resource development south of the site. Areas to the west, east, and north of the nominated area are virtually undeveloped and fall within the management purview of Pimachiowin Aki partners (see Section 1.e, Buffer Zones).

Pimachiowin Aki, Virgin Komi, and Sibirskie Uvaly are the highest-scoring sites for temperature gradient length. All of these sites span more than 300 kilometres along the regional temperature gradient.





Figure 3.20 Site integrity: Overall site scores and individual indicator scores for the boreal biome short-list sites

Site	Overall Score	Site Size	Intactness		Climate Change Resilience Potential
		Site Area	Site Intactness	Surrounding Intactness	Temperature Gradient Length
Wood Buffalo	8.5	3	3	1.5	1
Pimachiowin Aki	7.2	2	2	1.2	2
Albanel-Témiscamie-Otish	6.2	1	3	2.2	0
Virgin Komi	6.0	4	-1	0.0	3
Wabakimi	5.7	1	3	1.7	0
Sibirskie Uvaly	5.5	2	0	1.5	2
Yukon Flats	4.9	3	0	1.9	0
Mealy Mountains	4.7	2	2	1.7	-1
Koyukuk	4.6	2	1	1.6	0
Kluane/Wrangell	4.4	4	-1	0.4	1
Verhne-Amginsky	1.0	1	-1	1.0	0
Green Belt	-2.4	1	-1	-1.4	-1

Notes: See Appendix K.2.1 for method details.

CONCLUSION FROM THE GLOBAL ANALYSIS

The global comparative analysis demonstrates that Pimachiowin Aki ranks highly in representing the natural features and ecological processes of the global boreal biome. Pimachiowin Aki attains the second highest score for site integrity, characteristic conditions and large-area ecosystem diversity. Pimachiowin Aki is also tied with Wood Buffalo National Park for the lowest number of extremely low scores for any of the indicators.

Pimachiowin Aki compares very well to other global sites, and surpasses most, because the nominated area is very large, highly intact, and includes four large-area ecosystems, a high degree of hydrological complexity, two wildfire regimes, and climatic diversity (see Section 2.a(ii)).

Pimachiowin Aki's high score for some indicators is also due to its mid-continental setting, which produces climatic conditions more similar to those found in much of the boreal biome. In contrast, most existing World Heritage sites and several other comparative sites are either within an oceanic influence or are located in a colder climate (i.e. near the northern limit of the boreal biome, partly overlapping the tundra biome and/or located in montane areas).

The comparative analysis identified Wood Buffalo National Park and Pimachiowin Aki as the outstanding examples of the boreal biome biodiversity and ecological processes, with Wood Buffalo attaining a higher score than Pimachiowin Aki. Wood Buffalo, located more than 1,000 kilometres northwest of Pimachiowin Aki, was inscribed on the World Heritage List under criterion (ix) as "the most ecologically complete and largest example of the entire Great Plains-Boreal grassland ecosystem of North America, the only place where the predator-prey relationship between wolves and wood bison has continued, unbroken, over time."





Wood Buffalo and Pimachiowin Aki are located in different ecological zones (ecozones) within the North American boreal biome; they are starkly different in terms of geology, topography, drainage patterns, and vegetation patterns. Wood Buffalo, in the North American boreal plains ecozone, encompasses a large, flat inland delta predominantly covered by grass and sedge meadows. Its boreal forest is discontinuous, covering large expanses of gypsum karst and salt plains. By contrast, Pimachiowin Aki, in the North American boreal shield ecozone, displays: the ancient beginnings of Precambrian bedrock formation; continental glaciations; the formation and retreat of glacial Lake Agassiz; and vast organic deposits resulting from the accumulation of dead plant material over millennia. Together, these processes have produced a landscape of large-area Wetland, patchily vegetated Rockland, and Needleleaf Forest ecosystems. Pimachiowin Aki also has a milder climate and permafrost is less widespread than in Wood Buffalo National Park.

The area of the Rockland ecosystem in Pimachiowin Aki is sufficiently large and intact to represent the global rock soil region type, which is a rare type in the global boreal biome. This means that Pimachiowin Aki is the only existing or proposed site that could adequately represent ongoing ecological processes for the global rock soil region type on the World Heritage List.

Regional Comparative Analysis

This section summarizes the results of the comparative analysis at the level of the North American boreal shield. The regional and global comparative analyses use the same methods, with the following exceptions:

1. Availability of additional regional datasets allows for the inclusion of five more indicators (Figures 3.12, 3.13 and 3.14);
2. The North American boreal shield boundaries define the area included when calculating the benchmark for the regional analysis; and
3. More accurate regional datasets are substituted for global ones, where available. The latter two exceptions explain why the same indicator may have a different score in the global and regional comparative analyses.

The scores of characteristic conditions for the 13 regional long-list sites are provided in Appendix K.2.1. The overall scores of characteristic conditions for the four regional short-list sites are provided below. Also provided are radar plots that graphically illustrate these scores. This is followed by a more detailed presentation of the results of the evaluations for the short-list sites of characteristic conditions, large-area ecosystem diversity, and site integrity.

THEME 1: CHARACTERISTIC CONDITIONS

Overall Site Scores

Pimachiowin Aki is the highest scoring site by far among the short-list of sites for indicators of characteristic conditions. In addition, Pimachiowin Aki is the only site that has no extremely low indicator scores (Figure 3.21).





Figure 3.21 Characteristic conditions: Overall site scores and number of individual indicators with extremely low scores for the North American boreal shield short-list sites

Site	Overall Score	Number of Extremely Low Indicator Scores
Pimachiowin Aki	31.5	0
Wabakimi	25.0	1
Albanel-Témiscamie-Otish	12.0	4
Mealy Mountains	8.0	6

The radar plots shown in Figure 3.22 illustrate the individual indicator scores for each of the short-list sites and how they compare with Pimachiowin Aki. These plots show that Pimachiowin Aki has scores that are higher than or equivalent to those of the short-list sites for most indicators of characteristic conditions.

Figure 3.22 Radar plots illustrating the individual indicator scores for each of the regional short-list sites

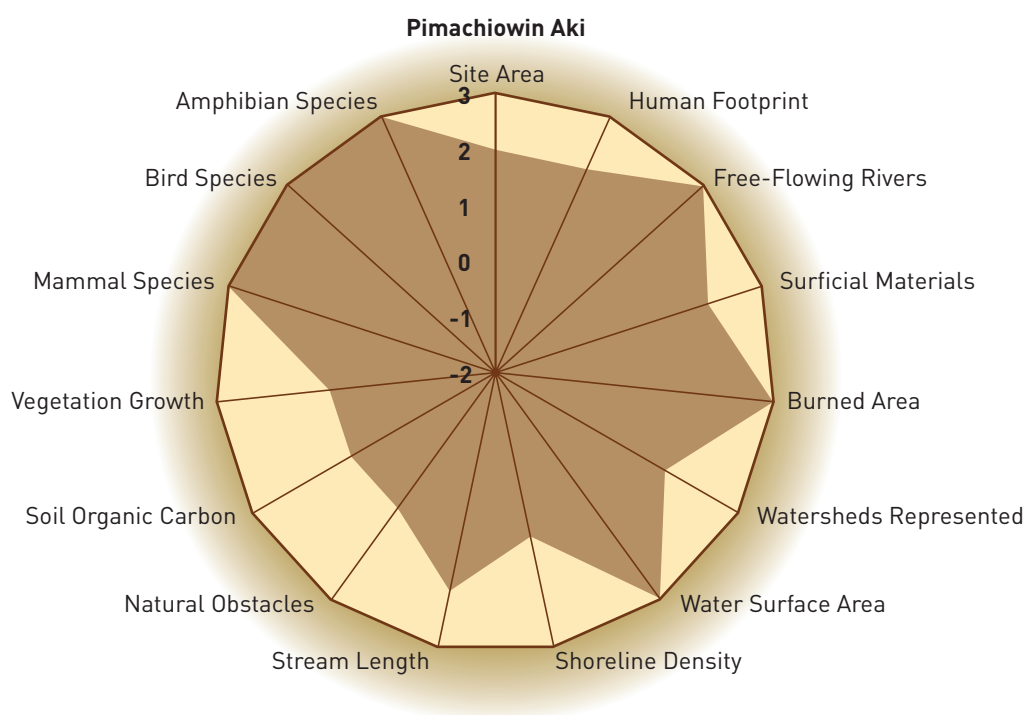




Figure 3.22 Radar plots illustrating the individual indicator scores for each of the regional short-list sites

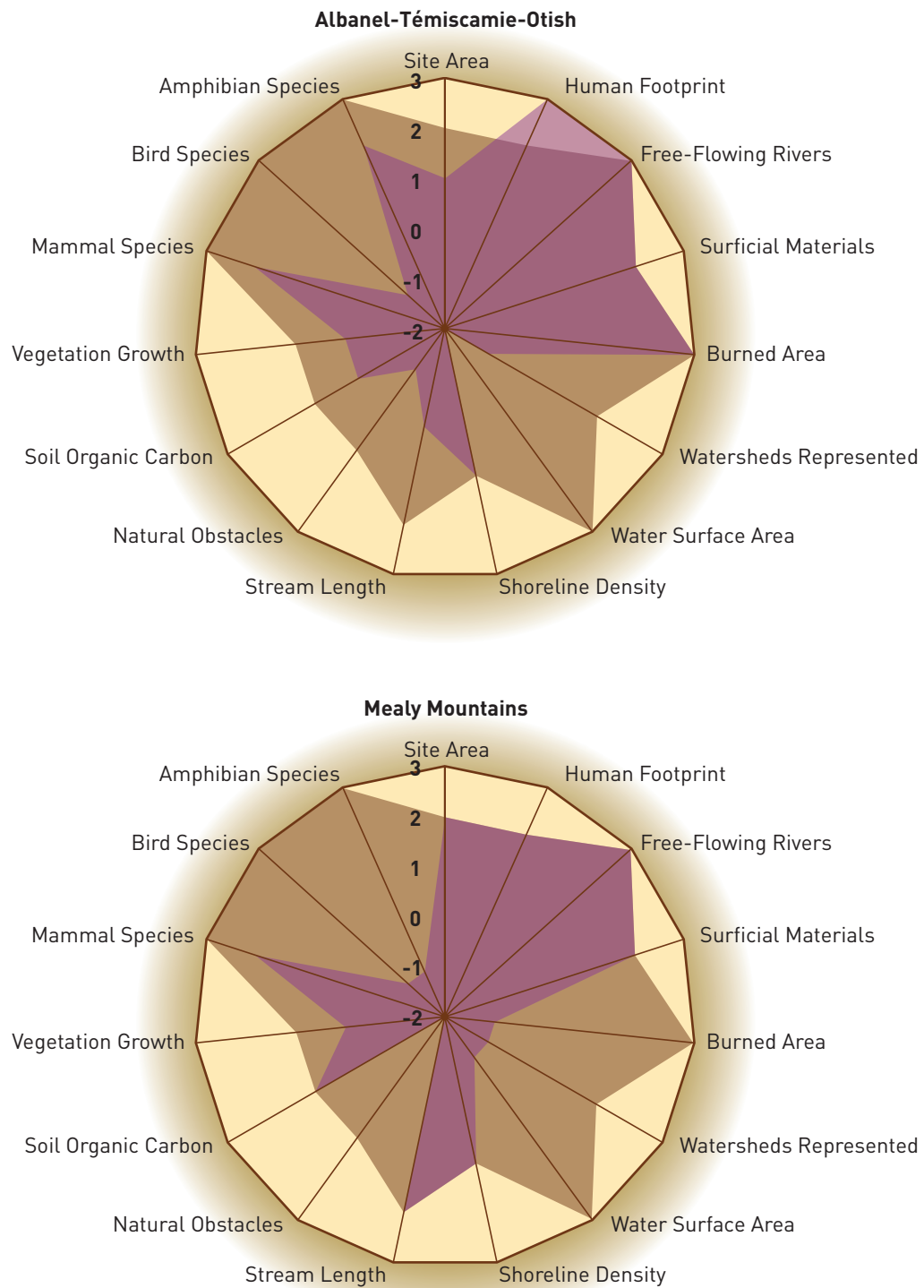
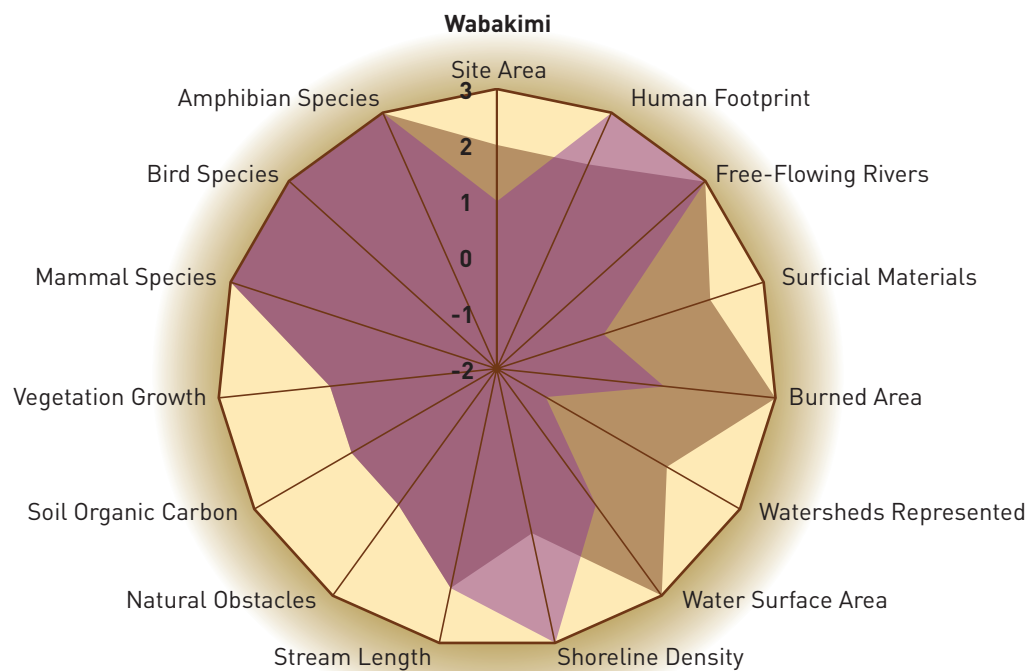




Figure 3.22 Radar plots illustrating the individual indicator scores for each of the regional short-list sites



Site Size

At 29,040 square kilometres (Figure 3.23), Pimachiowin Aki is the largest site. The nominated area is three times larger than the 10,000-square-kilometre area often presented as the minimum size needed to support all large-area ecosystem processes and wide-ranging species in the North American boreal shield.

Figure 3.23 Characteristic conditions: Site size scores for the North American boreal shield short-list sites		
Site	Site Size	Score ¹
	Site Area (km²)	
Pimachiowin Aki	29,040	2
Mealy Mountains	27,627	2
Albanel-Témiscamie-Otish	12,978	1
Wabakimi	10,231	1

Notes: ¹ The bigger the better.

Intactness

All four sites are highly intact. At 95.2 percent, Pimachiowin Aki ranks third. All of the short-list sites receive the highest possible score for the free-flowing rivers indicator (Figure 3.24). This reflects well the extremely low amount of built infrastructure at all of these remote sites.





Figure 3.24 Characteristic conditions: Intactness scores for the North American boreal shield short-list sites

Site	Intactness		
	Human Footprint		Free-Flowing Rivers
	Intact Percentage	Score ¹	Score ²
Albanel-Témiscamie-Otish	98.7	3	3
Pimachiowin Aki	95.2	2	3
Wabakimi	96.6	3	3
Mealy Mountains	92.3	2	3

Notes: ¹ Higher intact percentage is better. ² Fewer manufactured dams is better, and none is preferred.

Surface Materials

Site representation for surface materials was evaluated as follows: First, the number of common boreal-shield surface material types comprising at least 5 percent of site area was determined. Second, further analysis determined whether the included types occur as large, well-formed blocks rather than as many small, isolated patches.

As shown in Figure 3.25, Pimachiowin Aki, Mealy Mountains, and Albanel-Témiscamie-Otish are the highest-scoring sites for surface materials. In all three sites, three of the four common North American boreal shield surface material types (i.e. till veneer, till blanket, fine lacustrine, and rock outcrop) cover at least 5 percent of the site and two of these common types occur as large, well-formed blocks rather than as many small, isolated patches.

Figure 3.25 Characteristic conditions: Surface materials scores for the North American boreal shield short-list sites

Site	Surface Materials		
	Surface Material Composition		
	Number of Common Types	Number of Common Types with Spatial Contiguity	Score ¹
Pimachiowin Aki	3	2	2
Mealy Mountains	3	2	2
Albanel-Témiscamie-Otish	3	2	2
Wabakimi	0	0	0

Notes: ¹ More is preferred.

Wildfire

Pimachiowin Aki and Albanel-Témiscamie-Otish attain the highest scores for wildfire. Their average annual percentage of area burned is most similar to the benchmark of 0.76 percent (Figure 3.26).





Figure 3.26 Characteristic conditions: Burned area scores for the North American boreal shield short-list sites

Site	Wildfire	
	Burned Area	
	Mean Annual Area Burned (%)	Score ¹
Boreal Shield Benchmark	0.76	n/a
Pimachiowin Aki	0.89	3
Albanel-Témiscamie-Otish	0.58	3
Wabakimi	0.24	1
Mealy Mountains	0.01	-1

Notes: ¹ The closer to the boreal mean the better.

Hydrological Complexity

Five indicators represent different aspects of surface water that contribute to aquatic ecosystem diversity and health; these are presented in Figures 3.27 through 3.31.

Only Pimachiowin Aki captures more than 50 percent of the watershed and the headwater areas for one or more third-order watersheds (Figure 3.27). Pimachiowin Aki actually captures approximately 80 percent of two watersheds and two headwater areas.

Figure 3.27 Characteristic conditions: Watershed scores for the North American boreal shield short-list sites

Site	Hydrological Complexity				
	Watersheds				
	Individual Indicators				Overall Score
	Number of Watersheds Attribute		Number of Headwater Areas Attribute		
	Number of third-order watersheds represented	Score ¹	Number of third-order headwater areas represented	Score ¹	
Pimachiowin Aki	2	2	2	1.0	1.5
Mealy Mountains	0	-1	0	-1.0	-1.0
Albanel-Témiscamie-Otish	0	-1	0	-1.0	-1.0
Wabakimi	0	-1	0	-1.0	-1.0

Notes: ¹ The more watersheds and headwater areas captured the better.

Pimachiowin Aki scores highest for the indicator of water surface area. With 10.7 percent of its area as water, it is very close to the North American boreal shield benchmark of 11.7 percent (Figure 3.28).





Figure 3.28 Characteristic conditions: Water surface area scores for the North American boreal shield short-list sites

Site	Hydrological Complexity	
	Water Surface Area	
	Water Fraction (percentage of site that is water)	Score ¹
Boreal Shield Benchmark	11.7	n/a
Pimachiowin Aki	10.7	3
Wabakimi	17.4	1
Mealy Mountains	24.0	-1
Albanel-Témiscamie-Otish	67.1	-2

Notes: ¹ The closer to the boreal mean, the more preferred the site.

Wabakimi has the shoreline edge density most similar to the North American boreal shield benchmark (Figure 3.29). Wabakimi has the highest score for this indicator.

Figure 3.29 Characteristic conditions: Shoreline density scores for the North American boreal shield short-list sites

Site	Hydrological Complexity	
	Shoreline Density	
	Shoreline Edge Density (km/km²)	Score ¹
Boreal Shield Benchmark	8.6	n/a
Wabakimi	9.3	3
Pimachiowin Aki	10.6	1
Albanel-Témiscamie-Otish	6.5	1
Mealy Mountains	5.2	1

Notes: ¹ The closer to the boreal mean, the more preferred the site.

In the North American boreal shield, average waterway flow length density is 1.02 kilometres per square kilometre. Wabakimi, Pimachiowin Aki and Mealy Mountains are most similar to the boreal shield benchmark and attain the same score for this indicator (Figure 3.30).





Figure 3.30 Characteristic conditions: Stream length scores for the North American boreal shield short-list sites

Site	Hydrological Complexity	
	Stream Length	
	Waterway Flow Length Density (km flow/ km ² of site area)	Score ¹
Boreal Shield Benchmark	1.02	n/a
Wabakimi	1.16	2
Pimachiowin Aki	0.77	2
Mealy Mountains	1.26	2
Albanel-Témiscamie-Otish	1.69	0

Notes: ¹ The closer to the boreal mean, the more preferred the site.

All of the short-list sites have densities of natural water obstacles that are higher than the boreal shield benchmark of 16 per 100 square kilometres, with Pimachiowin Aki and Wabakimi being closest (Figure 3.31).

Figure 3.31 Characteristic conditions: Natural water obstacles scores for the North American boreal shield short-list sites

Site	Hydrological Complexity	
	Natural Water Obstacles	
	Natural Water Obstacles per 100 km ²	Score ¹
Boreal Shield Benchmark	16.0	n/a
Pimachiowin Aki	22.7	1
Wabakimi	28.5	1
Albanel-Témiscamie-Otish	64.4	-1
Mealy Mountains	218.2	-2

Notes: ¹ The closer to the boreal mean, the more preferred the site.

Carbon Capture and Storage

Soil organic carbon (SOC) density averages 50.1 kg/m² across the intact North American boreal shield. Although all three sites score low, Pimachiowin Aki has an SOC density that is closest to the benchmark for this indicator (Figure 3.32).





Figure 3.32 Characteristic conditions: Soil organic carbon density scores for the North American boreal shield short-list sites

Site	Carbon Capture and Storage	
	Soil Organic Carbon	
	SOC Density	Score ¹
Boreal Shield Benchmark	50.1	n/a
Pimachiowin Aki	64.5	1
Wabakimi	32.5	1
Mealy Mountains	73.9	1
Albanel-Témiscamie-Otish	21.7	0

Notes: ¹ The closer to the boreal mean, the more preferred the site.

Primary Productivity

For the indicator of primary productivity, vegetation growth, none of the short-list sites achieve a high score that would reflect a normalized difference vegetation index (NDVI) close to the benchmark (Figure 3.33). Pimachiowin Aki has a high NDVI for a boreal site because it is located in the southern portion of the boreal shield where vegetation growth is higher.

Figure 3.33 Characteristic conditions: Vegetation growth scores for the North American boreal shield short-list sites

Site	Primary Productivity	
	Vegetation Growth	
	NDVI	Score ¹
Boreal Shield Benchmark	2.90	n/a
<i>Southern Portion of Boreal Shield</i>	<i>3.80</i>	<i>n/a</i>
Wabakimi	3.28	1
Pimachiowin Aki	3.27	1
Albanel-Témiscamie-Otish	2.29	0
Mealy Mountains	2.18	0

Notes: ¹ The closer to the boreal mean, the more preferred the site.

Species Diversity

The attribute measured for each indicator of species diversity is the number of relatively widespread species with ranges that overlap the comparative site. Since the sites are scattered across the North American boreal shield, a relatively widespread species is one that occurs in at least 5 of the 23 regional long-list sites.

Pimachiowin Aki and Wabakimi represent a high proportion of the relatively widespread boreal shield mammals (Figure 3.34), both attaining the highest possible score for this indicator.





Figure 3.34 Characteristic conditions: Mammal richness scores for the North American boreal shield short-list sites

Site	Species Diversity	
	Mammal Richness	
	Number of Relatively Widespread Mammals	Score ¹
Boreal Shield Benchmark	42	n/a
Wabakimi	40	3
Pimachiowin Aki	38	3
Albanel-Témiscamie-Otish	36	2
Mealy Mountains	32	2

Notes: ¹ The more species the better.

Pimachiowin Aki overlaps the ranges of more of the relatively widespread North American boreal shield bird species than any other short-list site (Figure 3.35). In fact, the nominated area includes 164 of the 180 relatively widespread bird species. Wabakimi is the only other site that attained a high score for this indicator.

Figure 3.35 Characteristic conditions: Bird richness scores for the North American boreal shield short-list sites

Site	Species Diversity	
	Bird Richness	
	Number of Relatively Widespread Species	Score ¹
Boreal Shield Benchmark	180	n/a
Pimachiowin Aki	164	3
Wabakimi	161	3
Mealy Mountains	100	-1
Albanel-Témiscamie-Otish	99	-1

Notes: ¹ The more species the better.

For the indicator of amphibian species, Pimachiowin Aki and Wabakimi achieve the highest score, overlapping the ranges of seven of the nine relatively widespread amphibian species (Figure 3.36).





Figure 3.36 Characteristic conditions: Amphibian richness scores for the North American boreal shield short-list sites

Site	Species Diversity	
	Amphibian Richness	
	Number of Relatively Widespread Amphibians	Score ¹
Boreal Shield Benchmark	9	n/a
Pimachiowin Aki	7	3
Wabakimi	7	3
Albanel-Témiscamie-Otish	6	2
Mealy Mountains	3	-1

Notes: ¹ The more species the better.

THEME 2: LARGE-AREA ECOSYSTEM DIVERSITY

The indicators of large-area ecosystem diversity evaluate the degree to which comparative sites include more than one representation of key features and ecological processes.

Of the four short-list sites, Pimachiowin Aki has by far the highest overall score for large-area ecosystem diversity (Figure 3.37). It also has the highest score for three of the four indicators used to calculate the overall site score. The other three sites score low for at least three of the four indicators.

Figure 3.37 Large-area ecosystem diversity: Overall site scores and individual indicator scores for the North American boreal shield short-list sites

Site	Overall Score	Individual Indicator Scores			
		Surface Materials	Hydrological Complexity		Wildfire
		Surface material Diversity	Watershed	Water Body	Fire Regime
Pimachiowin Aki	9	2	2	2	3
Mealy Mountains	4	2	0	1	1
Wabakimi	3	1	0	1	1
Albanel-Témiscamie-Otish	3	1	0	1	1

THEME 3: SITE INTEGRITY

The indicators of site integrity evaluate the degree to which sites have a high state of intactness and a high potential to retain this intactness into the future.

Pimachiowin Aki has the highest overall score for site integrity, followed by Wabakimi and Albanel-Témiscamie-Otish (Figure 3.38).





Figure 3.38 Site integrity: Overall site scores and individual indicator scores for the North American boreal shield short-list sites

Site	Overall Score	Individual Indicator Scores				
		Site Size	Intactness		Climate Change Resilience Potential	
		Site Area	Site Intactness	Surrounding Intactness	Temperature Gradient Length	Within Holocene Limits
Pimachiowin Aki	9.2	2	2	1.2	2	2
Wabakimi	7.7	1	3	1.7	0	2
Albanel-Témiscamie-Otish	7.2	1	3	2.2	0	1
Mealy Mountains	5.7	2	2	1.7	-1	1

SUMMARY

The regional comparative analysis demonstrates that Pimachiowin Aki is outstanding in providing the very best example of natural features and ecological processes of the North American boreal shield ecosystem. Pimachiowin Aki attains the highest overall site score by a significant margin for all three themes evaluated. It is also remarkable as the only site to have no extremely low score for any individual indicator.

Pimachiowin Aki's overall score for large-area ecosystem diversity is more than double that of the next-highest-scoring site. It also attains the highest score for three of the four individual indicator of large-area ecosystem diversity used to calculate the overall score.

To further strengthen the above conclusion, an additional comparative analysis was conducted for all remaining large, intact blocks of the North American boreal shield, treating these as hypothetical protected areas. In this analysis, the best site achieved a characteristic conditions score of 23.5, considerably lower than high-ranking Pimachiowin Aki's score of 34.0 (see Appendix K.2.1.).

4. THE CASE FOR OUTSTANDING UNIVERSAL VALUE

Global Comparative Analysis

The global comparative analysis, which evaluated sites across the entire boreal biome, demonstrates that Pimachiowin Aki ranks highly in representing the natural features and ecological processes of the global boreal biome. For the global long-list of 132 sites, the nominated area attained the second highest score for Themes 1-3, characteristic conditions, large-area ecosystem diversity, and site integrity.

Wood Buffalo National Park is inscribed on the World Heritage List, and is the one boreal site that attains higher theme scores than Pimachiowin Aki. As previously described, Wood Buffalo is very different from Pimachiowin Aki for two main reasons: first, it lies within the North American boreal plains ecozone, whereas Pimachiowin Aki lies within the North American boreal shield ecozone; second, because it encompasses very different bedrock geology, surface materials, landforms, soil types, and vegetation types.

Regional Comparative Analysis

As the diversity of natural features and ecological processes of the very extensive North American boreal shield are not represented on the World Heritage List, a regional comparative analysis was conducted to assess whether Pimachiowin Aki could possess potential Outstanding Universal Value as an example of this major subdivision of the global boreal biome.





The regional comparative analysis demonstrates that Pimachiowin Aki is the outstanding example of the natural features and ecological processes of the North American boreal shield ecosystem. The nominated area attains the highest site score by far for all three evaluated comparative themes (characteristic conditions, large-area ecosystem diversity, and site integrity), and it is the only site to have no extremely low scores for any specific indicator. In relation to the other comparative sites, Pimachiowin Aki has higher or equivalent scores for most of the 24 indicators assessed.

Pimachiowin Aki's high scores, and thus high rank as an outstanding representation of the North American boreal shield, arises in part because it is very large, highly intact, includes multiple large-area ecosystems, and is located fairly centrally in the boreal shield ecosystem and the North American continent. Thus, Pimachiowin Aki supports a broad range of species, ecosystems, and fully functioning ecological processes.

Conclusion: The Case for Outstanding Universal Value

The comparative analysis demonstrates that Pimachiowin Aki is an outstanding example of the characteristic features and key ecological processes found in the boreal biome. The analysis also demonstrates that Pimachiowin Aki is the very best example of these for the North America boreal shield.

The regional comparative analysis demonstrates there is no other existing or potential North American boreal shield site that is comparable to Pimachiowin Aki. The global analysis demonstrates that of the 132 global sites compared, Pimachiowin Aki clearly illustrates the features and processes of naturally functioning boreal ecosystems, including the diversity of large-area ecosystems, and is therefore an outstanding representation of the global boreal biome.

Pimachiowin Aki can make a valuable contribution to the development of a representative, balanced, and credible World Heritage List. If inscribed, Pimachiowin Aki will add to the List a large, diverse, and healthy ecosystem mosaic encompassing a vast boreal forest, biodiversity, free-flowing rivers, and myriad lakes and wetlands, representing a distinctive major subdivision of the global boreal biome. Its addition would complement iconic World Heritage sites representing floodplain, grassland, montane, and oceanic environments.



Pimachiowin Aki is an outstanding boreal forest, integral to the traditional lifeways of Anishinaabeg (© H. Otake 2006)





3.3 PROPOSED STATEMENT OF OUTSTANDING UNIVERSAL VALUE

Brief Synthesis

Pimachiowin Aki (the Land that Gives Life) is a 29,040-square-kilometre cultural landscape of Anishinaabeg (Ojibwe people). Through the cultural tradition of *Ji-ganawendamang Gidakiiminaan* (Keeping the Land), Anishinaabeg have for millennia lived intimately with this special place in the heart of the North American boreal shield.

Ji-ganawendamang Gidakiiminaan consists of the beliefs, values, knowledge, and practices that guide Anishinaabeg in their interaction with *aki* (the land and all its life) and with each other in ways that are respectful and express a reverence for all creation. The cultural tradition is given tangible manifestation in habitation, harvesting, and processing sites, traplines, travel routes, named places, ceremonial sites, and sacred places such as pictographs associated with powerful spirit beings. These attributes are dispersed widely across a large landscape and concentrated along waterways, which are an essential source of livelihood resources and a means of transportation. Anishinaabe customary governance and oral traditions ensure continuity of the cultural tradition across generations.

Pimachiowin Aki is a vast area of healthy boreal forest and wetlands, exposed bedrock, myriad lakes, and long free-flowing rivers. Waterways provide ecological connectivity across the entire landscape. Wildfire, nutrient flow, species movements, and predator-prey relationships are key, naturally functioning ecological processes that maintain an impressive mosaic of ecosystems. The nominated area supports an outstanding diversity of boreal plants and animals, including iconic species such as wolf, moose, woodland caribou, and loon.

Pimachiowin Aki is the most complete and therefore exceptional example of a landscape within the North American Subarctic geo-cultural area that provides testimony to the cultural tradition of *Ji-ganawendamang Gidakiiminaan*. This could not be without Pimachiowin Aki being an exceptional example of a large, healthy and diverse mosaic of the characteristic North American boreal shield ecosystems. Anishinaabeg are an integral part of the boreal ecosystem in Pimachiowin Aki, which is the foundation for their survival as a people. The beliefs, values, knowledge, and practices that reflect this intimate adaptation have preserved the boreal forest of Pimachiowin Aki. In this way, Pimachiowin Aki exemplifies the indissoluble bonds between culture and nature.

An innovative and collaborative, cross-cultural partnership has been formed between four Anishinaabe First Nations and two provincial governments with the shared vision of sustaining this living cultural landscape. The cultural tradition of *Ji-ganawendamang Gidakiiminaan* will sustain this outstanding cultural landscape into the future.

Criterion (iii)

Pimachiowin Aki provides the most complete testimony to the ancient and continuing cultural tradition of *Ji-ganawendamang Gidakiiminaan* (Keeping the Land). Through the beliefs, values, knowledge, and practices embodied in this cultural tradition, Anishinaabeg have lived for millennia with the boreal forest that sustains them. Ancient and contemporary harvesting sites, habitation and processing sites, travel routes, named places, traplines, and sacred and ceremonial sites provide tangible representation of *Ji-ganawendamang Gidakiiminaan*. These sites are found throughout Pimachiowin Aki and are especially evident along waterway travel routes, which provide connectivity throughout the landscape.

Criterion (vi)

Pimachiowin Aki is directly and tangibly associated with the living cultural tradition of *Ji-ganawendamang Gidakiiminaan* through which Anishinaabeg uphold a sacred trust to ensure *aki* (the land and all its life) is cared for and respected. Anishinaabe customary governance ensures collaborative use of the land, including between neighbouring and related communities. The cultural tradition is maintained across generations through a vibrant





oral tradition that includes legends, stories, and songs. The deep and abiding connection between Anishinaabeg and the land through *Ji-ganawendamang Gidakiiminaan* is a compelling example of the inseparability of an indigenous culture and its local environment that can inspire people around the world.

Criterion (ix)

Pimachiowin Aki is the most complete and largest example of the North American boreal shield, including its characteristic biodiversity and ecological processes. Pimachiowin Aki contains an exceptional diversity of terrestrial and aquatic freshwater ecosystems and fully supports wildfire, nutrient flow, species movements, and predator-prey relationships, essential ecological processes in the boreal forest. Predator-prey relationships are sustained among species such as wolf, and moose and caribou, and lynx and snowshoe hare. Sustainable hunting and trapping by Anishinaabeg are part of predator-prey interactions. Pimachiowin Aki's remarkable size, intactness, and ecosystem diversity support characteristic boreal species and species of conservation concern such as woodland caribou, wolverine, lake sturgeon, leopard frog, and Canada warbler.

Integrity

Pimachiowin Aki contains all of the attributes that express the cultural tradition of *Ji-ganawendamang Gidakiiminaan* (Keeping the Land) and all the elements necessary to ensure continuity of the key ecological processes of the boreal shield. The robust combination of contiguous First Nation and provincial protected areas forms the largest network of protected areas in the North American boreal shield. The vast size of the nominated area provides for the future livelihood and cultural needs of Anishinaabeg and for ecological resilience, especially in the context of climate change. Extensive buffer zones further contribute to integrity.

The cultural attributes and natural features of Pimachiowin Aki are remarkably free from the adverse effects of development and neglect. There is no commercial forestry, mining, or hydroelectric development in the nominated area. Waterways, the lifeblood of *aki*, are free of dams and diversions.

Authenticity

The authenticity of Pimachiowin Aki is remarkable. Anishinaabe knowledge, ethical and spiritual teachings, and customary governance associated with *Ji-ganawendamang Gidakiiminaan* guide behaviour in relation to the nominated area today, as has been the case for millennia. Oral traditions in the Anishinaabe language continue to be central to the expression and intergenerational transmission of the cultural values of *Ji-ganawendamang Gidakiiminaan*. The nominated area illustrates more than 7,000 years of indigenous occupancy that is centred on the traditional land use areas of the four Pimachiowin Aki Anishinaabe First Nations. Archaeological evidence demonstrates contemporary cultural sites and travel routes have been used from ancient times through to the present.

Protection and Management Requirements

First Nations have played the leading role in defining the approach to protection and management of Pimachiowin Aki. Protection and management of Pimachiowin Aki is achieved through Anishinaabe customary governance, grounded in *Ji-ganawendamang Gidakiiminaan*, contemporary provincial government law and policy, and cooperation among the four First Nation and provincial government partners. Through First Nation-led planning and application of legislation, protection of the nominated area has been established. First Nation and provincial partners have created the Pimachiowin Aki Corporation and developed a consensual, participatory governance structure, financial capacity, and a management plan for the nominated area.

The Pimachiowin Aki Corporation enables the partners to work in an integrated manner across the nominated area to ensure the protection and conservation of all cultural attributes and natural features and processes. The management framework is designed to meet potential challenges in the protection and conservation of the nominated area, such as monitoring and mitigating the potential impacts of the construction of an all-season road over the next 20 to 40 years.





An accord signed by the Anishinaabeg of Pimachiowin Aki affirmed a sacred trust to care for the land for future generations. A *Memorandum of Agreement* between the provincial governments provides assurances about protection and management of the nominated area. The Pimachiowin Aki partners share a commitment to work together to safeguard the potential Outstanding Universal Value of Pimachiowin Aki for present and future generations.







4

STATE OF CONSERVATION AND FACTORS AFFECTING THE PROPERTY





4

STATE OF CONSERVATION AND FACTORS AFFECTING THE PROPERTY

"It is no accident that this place exists. It is the actions and values of our people that have kept this land from being developed like everywhere else."

Sophia Rabliauskas (September 23, 2010)

The cultural tradition of *Ji-ganawendamang Gidakiiminaan* (Keeping the Land) has contributed to Pimachiowin Aki's excellent present state of conservation. The Anishinaabe sacred duty to honour the gifts of the Creator, to behave respectfully in relation to the land and its other inhabitants, and to maintain good relationships with other people continues to guide collaborative planning and management of Pimachiowin Aki so that its cultural attributes and ecological features will continue to be conserved.

4.a PRESENT STATE OF CONSERVATION

Pimachiowin Aki's cultural attributes and natural features are in an excellent state of conservation. The cultural attributes that have been used and honoured for many generations—including harvesting, habitation and processing sites, travel routes, named places, and sacred and ceremonial sites—continue to express *Ji-ganawendamang Gidakiiminaan*. Pimachiowin Aki's ecological features, including composition (such as species diversity and abundance), structure (the interactions between species and with the environment), and function (such as wildfire), are all healthy and whole and exhibit ecological integrity. Anishinaabe beliefs, values, knowledge, and practices inherited from the ancestors, and transmitted through the elders, continue to guide the conservation of the tangible and intangible cultural attributes and the ecological features and processes that contribute to the proposed Outstanding Universal Value of Pimachiowin Aki.

Pimachiowin Aki is highly intact both in absolute terms (95 percent intact) and relative to the boreal shield overall (Lee and Hanneman 2010; Ehnes 2011), as measured by the Global Forest Watch Canada human footprint index. This index represents the cumulative effects of population density, land transformation, accessibility, and electrical power infrastructures.

All of the rivers are free-flowing, with no dams or diversions. Air quality, which has not yet been measured, is expected to be high given the absence of and distance from heavy transportation corridors, industries, large urban areas, and the prevailing air flow that originates from the sparsely populated northwest. Moreover, there is a low level of resource development within 100 kilometres of Pimachiowin Aki.



Canoeing calm waters (© H. Otake 2004)



4.b FACTORS AFFECTING THE PROPERTY

4.b(i) DEVELOPMENT PRESSURES

ACCESS ROADS

Although the majority of Pimachiowin Aki will remain roadless, a new all-season road (East Side Road) is being planned by the Manitoba Department of Infrastructure. This road will be adjacent to the shoreline of Lake Winnipeg on the western side of the nominated area and will replace the existing winter road network. Staple items such as fuel, groceries, construction materials, and general freight are presently transported to communities on the winter road network, typically from late January to mid-March. Use of these winter roads is becoming increasingly unreliable and dangerous, and the length of time the roads are open is becoming shorter, due to the effects of climate change (Manitoba Infrastructure 2011).

Routing for the road has been carefully considered by the Pimachiowin Aki First Nations to both provide for livelihood opportunities and to prevent, minimize, and mitigate potential adverse impacts to cultural and natural values. Corridors for the development of the road have been identified in the zoning schemes of the land management plans completed by the four First Nations, and a full environmental impact assessment was completed in 2010 for the first phase of the road. Planning and mitigation measures include selecting the preferred route based on traditional knowledge and community input, protocols for protecting cultural resources and ecological features, balancing socio-economic factors, and minimizing the human footprint by aligning the new route closely with the existing winter road. In 2012, the identification of previously undocumented cultural sites resulted in the realignment of a segment of the road near Bloodvein River, demonstrating the commitment to protecting the values of the nominated area.

The road, planned to be developed over several decades with an anticipated completion date of 2040, will link the four First Nation communities of Pimachiowin Aki with the existing road system to the south. Although the development of all-weather access to previously remote First Nations communities has the potential for negative socio-cultural impacts, the potential benefits outweigh the potential risks. The road will reduce the high cost of living in these communities—by up to 50 percent for essential goods, including medical supplies and diesel fuel to generate electricity, which are now largely flown in to remote communities—provide for greater flexibility in emergencies, and improve connections with other communities. The road will also create job opportunities in road construction and maintenance, as well as support potential community-based economic development opportunities such as eco-cultural tourism.

Given the standards being applied in road construction and the involvement and support of the First Nations, the road will not compromise the proposed Outstanding Universal Value of Pimachiowin Aki.

COMMERCIAL FORESTRY

There are no commercial forestry interests within Pimachiowin Aki, and commercial forestry is prohibited by law within the nominated area.



Elders requested relocation of the road right-of-way to ensure the protection of this Manitou stone (© H. Otake 2015)





Existing forest management activities southeast of the nominated area follow the highest Canadian sustainable forest management standards. Pimachiowin Aki Corporation is informed about and has opportunities to comment on both long-term and annual forest management plans for these areas.

Pikangikum First Nation plans to establish a community-led commercial forestry operation in the Whitefeather Forest adjacent to the eastern boundaries of the nominated area that will provide for community economic opportunities, while also protecting cultural and natural values. The Whitefeather Forest 2012–2022 Forest Management Plan (FMP) was approved on June 21, 2012. The FMP integrates customary stewardship practice, indigenous knowledge, and the guiding role of elders, and fully considers cultural attributes, including customary harvesting sites, travel routes, and sacred sites, and their intangible associations. The FMP also specifically addresses the habitat needs of woodland caribou and makes provisions for the protection of other species, such as fur-bearing mammals, and their habitats.

Harvest patterns will follow natural boundaries as lightning-caused wildfire, and will leave tree branches with their seed-source cones and other residues in place where the trees are harvested. Post-harvest forest renewal practices are to be based on customary stewardship traditions, such as spring marsh burning, to mirror natural succession patterns and promote the diversity and abundance that result from lightning fires. Maintaining remoteness and preserving cultural values have been thoroughly considered in the approved FMP.

MINING

There are no mines, active or former, within Pimachiowin Aki. Consistent with the direction set out in the approved First Nation land management plans and related provincial legislation and regulations, mineral exploration and mine development are not permitted in the nominated area. The development of small aggregate quarries is permitted only in designated zones that correspond with the proposed East Side Road alignment.

Adjacent to Pimachiowin Aki, two locations with low to medium mineral potential have been identified within the Management Area near Little Grand Rapids and Pauingassi First Nations. Taking geological survey results and provincial policy into account, the First Nations and provincial government partners have excluded these areas from the nominated area and provided guidance in the land management plans as to how mineral exploration and development activities may proceed.

Any proposed mineral exploration activities in the buffer area are subject to the issuance of licences and permits by Manitoba or Ontario, in consultation with First Nations. First Nation plans in the Management Area adjacent to Pimachiowin Aki call for the application of best practice for any mineral sector activities, with guidelines for mitigating potential threats to cultural and ecological values, including potential adverse effects on culturally significant sites, fish and wildlife habitat, and downstream water quality. Collaboration between First Nations and the mineral exploration and development industry through negotiation of community benefit agreements is also encouraged through direction provided in the approved First Nation plans.

Any future mineral exploration or mine development in the vicinity of the nominated area would conform strictly to provincial and national legislation and would be designed, operated, and decommissioned with consideration for the cultural and natural values of Pimachiowin Aki.

HYDRO-ELECTRIC TRANSMISSION LINES

In Manitoba, hydro-electric generating capacity is delivered by direct current transmission lines from the northern hydropower generating complex on the Lower Nelson River to the conversion and delivery system in southern Manitoba. Ninety-eight percent of electricity generation in Manitoba comes from renewable hydroelectricity which is virtually greenhouse gas-free, thus enabling Manitoba to maintain a low greenhouse gas emission profile and help reduce global greenhouse gas emissions. Should hydro-electric generation capacity expand in the future to meet any increased demand, or if there is a need to strengthen the reliability and security of Manitoba's electricity



supply and reduce the risk of electrical outages due to severe weather events, transmission and conversion facilities separate from those associated with existing infrastructure may be required. If any such development was to be proposed within the nominated area in the future, regulatory approval (a Class 3 licence under The Environment Act; and authorization for the use and occupancy of Crown land for the transmission line corridor) and amendment of First Nation land management plan(s) and regulation(s) would be required. These decisions fall under the jurisdiction of the Minister of Sustainable Development, and would require consultations with First Nations, Métis and other indigenous communities to guide Manitoba in route selection and identify any issues of concern to the communities that may require mitigation or accommodation.

4.b(ii) ENVIRONMENTAL PRESSURES CLIMATE CHANGE

Anishinaabe knowledge and practices have evolved alongside boreal forest ecosystem dynamics over time and space. The ability to adapt to changing conditions is a feature of the *Ji-ganawendamang Gidakiiminaan* cultural tradition. Anishinaabeg have observed changes potentially resulting from climate change in Pimachiowin Aki (e.g., increasing extreme weather events such as blowdown, drying of muskeg, and unfamiliar bird species), but do not report any significant changes to species numbers or habitats at this time. First Nation plans address the importance of climate change monitoring, mitigation, and adaptation.



Pimachiowin Aki exhibits resilience in the context of climate change
(© H. Otake 2007)

Forested landscapes in a high state of conservation, such as Pimachiowin Aki, can help to moderate the effects of climate change by storing greenhouse gases as well as by acting as a benchmark in the greater landscape to monitor the potential effects of climate change on both natural and cultural values. An initial analysis of potential climate impacts and related mitigation strategies for Pimachiowin Aki has been completed (Dohan and Voora 2010b). The methodology consisted of identifying future potential climatic regimes for the nominated area and then assessing the potential impacts. In addition, an assessment of above- and below-ground carbon in the Poplar River area has been conducted, providing baseline data for climate change research (Cooley *et al.* 2009).

While climate change may significantly impact boreal forest ecosystems generally, Pimachiowin Aki's mid-continental position, vast size, and longitudinal extent contribute to the ecological resilience of the area in the context of a changing climate (see Section 3.2.b, Theme 3: Site Integrity).

4.b(iii) NATURAL DISASTERS AND RISK PREPAREDNESS FOREST FIRE

Forest fire is an essential ecosystem process of the boreal forest and a dominant force in the dynamic landscape of Pimachiowin Aki. Anishinaabeg have a sophisticated understanding of boreal forest dynamics and have described two types of fire—large-scale *Binesi ishkode* (Thunderbird fire) or lightning-caused fire, and small-scale *Anishinaabe ishkode* (customary burning)—that enable *geeminizahgeegink* (the land to grow beautifully). Maintaining the ecological and cultural role of fire on the land is fundamental to the proposed Outstanding Universal Value of the nominated area.



Firefighting (© H. Otake 2006)





Between 2003 and 2012 there was an average of 17 forest fires per year in Pimachiowin Aki, with a maximum of 76 fires during a single severe forest fire season. A total of 243,067 hectares (2,430 square kilometres), or approximately 8 percent of the nominated area, burned in this period (Ontario Ministry of Natural Resources and Forestry 2016; Manitoba Sustainable Development Fire and Emergency Response Program, November 2016). Some of these fires were managed (i.e. suppressed by firefighting efforts) and, where no values were threatened, other fires were allowed to burn to fulfil their ecological role.

Over the last century, provincial firefighting crews have suppressed wildfires in order to protect communities and resources both within and adjacent to the nominated area. Pimachiowin Aki First Nations played a pivotal role in the development of local fire management programs and expertise.

Pimachiowin Aki First Nations continue to play a fundamental role in fire management and response within the nominated area, not only through employment in the provincial firefighting systems but also in the development of provincial fire management strategies, local fire management plans, and the identification of both cultural and natural values that require protection from the potential threat of forest fires.

Protocols are in place to maintain public safety and mitigate the socio-economic disruption caused by wildfire. Consistent with provincial fire management strategies, forest fires in Pimachiowin Aki are managed to promote the ecological role of fire in the boreal forest ecosystem, while ensuring the protection of life, resources, values, and infrastructure. All forest fires are monitored to assess their potential threat and to implement appropriate response strategies as required.

INVASIVE SPECIES AND INSECT PESTS

Insects and diseases are inherent components of the boreal forest ecosystem. The spruce budworm (*Choristoneura fumiferana*) and jack pine budworm (*Choristoneura pinus*), for example, are naturally occurring insect pests that infest the forests of Pimachiowin Aki at periodic intervals. Extreme weather such as drought and changing climatic conditions may shorten the periods between or increase the severity of such outbreaks. Spruce budworm contributes to tree mortality in the region and is found in the southern forests of Pimachiowin Aki. However, insect outbreaks and forest mortality events related to insect pests are within the natural range of variation for the nominated area (OMNR 2012).

Invasive species have the potential to threaten biodiversity, cultural values, and socio-economic well-being. Although invasive species such as the zebra mussel (*Dreissena polymorpha*), purple loosestrife (*Lythrum salicaria*), and spiny waterflea (*Bythotrephes longimanus*) have been introduced to ecosystems south of the nominated area, at present no exotic or invasive species have been reported in Pimachiowin Aki. The First Nation and park management plans provide direction for preventing the introduction of invasive and exotic species.

Mitigating the potential threat of invasive species and insect pests follows an adaptive management approach, where decisions are made following careful considerations of the best available knowledge. Monitoring plays a significant role in managing potential threats. As deemed necessary, control actions may be taken to eliminate or reduce the threat of invasive species or insect pests that may negatively affect the values of Pimachiowin Aki.

4.b(iv) RESPONSIBLE VISITATION

Maintaining good relations among people is a tenet of the Anishinaabe cultural tradition of *Ji-ganawendamang Gidakiiminaan* (see Section 2.a(i)). This explains why Anishinaabeg of Pimachiowin Aki seek to share their cultural landscape with visitors. The development of eco-cultural tourism services is a potential economic opportunity for Anishinaabe communities within the nominated area, a means to maintain and revitalize customary stewardship traditions, and a way to celebrate and share the values of Pimachiowin Aki with the world. The Pimachiowin Aki Corporation supports both new community-based eco-cultural tourism development and partnerships with existing operations to take advantage of emerging market opportunities. Because First Nations are leading the





development of eco-cultural tourism, these opportunities will be consistent with and celebrate Anishinaabe cultural values. Further, it is not anticipated that the potential development of eco-cultural tourism will drastically increase the numbers of visitors to the nominated area.

The principal activities that bring visitors to the nominated area include wilderness backcountry recreation, such as canoeing, and resource-based tourism, such as sport fishing, which is supported by remote fly-in lodges and outpost camps (Marr and IISD 2008). Although rigorous visitation statistics are not available, annual visitation is estimated to be between 6,000 and 9,000 people (Ontario Ministry of Natural Resources and Forestry 2014; Manitoba Sustainable Development 2014). The level of wilderness canoeing is considered low, with approximately 2,000 visitors per year.

Management actions for the more popular canoe routes have been implemented to ensure the protection of cultural and natural values, as well as to maintain a high-quality visitor experience. For example, a designated campsite system and a visitor access management program are being implemented in Woodland Caribou Provincial Park. There is potential to increase wilderness canoeing on other routes and waterways of Pimachiowin Aki, where similar measures would be employed as necessary to protect cultural and natural values and visitor experiences. First Nation and park management plans establish conditions and limits related to any proposed expansion of existing tourism infrastructure and the development of new tourism facilities. Monitoring of visitor use will inform management responses to potential visitor and tourism opportunities and pressures.



Sharing stories with visitors during a Pimachiowin Aki tour (Pimachiowin Aki Corp. 2011)



Canoeists survey rapids (JJ. Ali 2011)

4.b(v) NUMBER OF INHABITANTS

Estimated population for the year 2013, located within:

Nominated Area	5,972
Buffer zones	8,301
TOTAL	14,273

Estimated population of the nominated area, by First Nation (AANDC 2016, September):

Bloodvein River	1,792
Little Grand Rapids	1,655
Pauingassi	657
Poplar River	1,868
TOTAL	5,972

The population density of the nominated area is 0.2 persons per square kilometre, which, compared to the Canadian national average of 3.7 persons per square kilometre, illustrates the remoteness of Pimachiowin Aki. The largest community within a 25–30-kilometre radius of the nominated area is Red Lake, Ontario, with a population of 4,500.





The First Nations communities of Pimachiowin Aki have a large youth population, and are experiencing growth. The low level of out-migration from home communities to urban centres indicates the strong connection that Anishinaabeg of the four Pimachiowin Aki First Nations have with this cultural landscape. With over 80 percent of the population retaining Ojibwe as their primary language, the inhabitants of Pimachiowin Aki are well positioned to preserve and maintain the beliefs, values, knowledge, and practices of *Ji-ganawendamang Gidakiiminaan* into the future. The persistence of the Ojibwe language serves to “maintain, the concepts, connotations, and classifications embedded in speech that [are] consonant with the Ojibwa world view” (Hallowell and Brown 1992: 60).



Young boys in their dance regalia (Pimachiowin Aki Corp. 2012)





5

PROTECTION AND MANAGEMENT OF THE NOMINATED AREA





5

PROTECTION AND MANAGEMENT OF THE NOMINATED AREA

Anishinaabe leadership and customary governance are key to the long-term protection and health of ecosystems in traditional land use areas of Anishinaabeg. The application of customary governance principles in the protection and management of Pimachiowin Aki contributes to sustaining the cultural tradition of *Ji-ganawendamang Gidakiiminaan* and protecting *akiiwi-gikendamowining* (land-based knowledge of Anishinaabeg) relevant to the conservation and use of *aki*.

This section describes the existing governance structure, mechanisms, and plans that provide for the institutional, fiscal, and human capacities to ensure effective protection and management of the nominated area.

A management framework is in place for the nominated area. The management framework consists of: institutions (e.g., First Nations, provinces, Pimachiowin Aki Corporation) and their associated human resources; legal foundations for protection and management, including formal land management plans; and an adaptive management cycle in which a continuous learning process ensures that decision-making and alignment of resources are focused on safeguarding the proposed Outstanding Universal Value (Figure 5.1). Implementation of management strategies and actions, monitoring and evaluating performance, and feedback ensure that strategies and actions are well-defined, proceeding as planned, and adjusted as necessary.

As previously described (Section 3.1.e), the management framework provides for a unified decision-making process: at the local level through traditional management institutions and processes; by First Nations and provincial governments through their respective land management and planning processes; and by all six partners through the Pimachiowin Aki Corporation. Decision-making is consensus-based and cross-cultural, reflecting *ji-gichi-inenimidiyang*, the principle in *Ji-ganawendamang Gidakiiminaan* of maintaining respectful relationships with other people.

An overview of the Pimachiowin Aki Corporation is provided below. Further details on the management framework are elaborated in the subsections that follow.



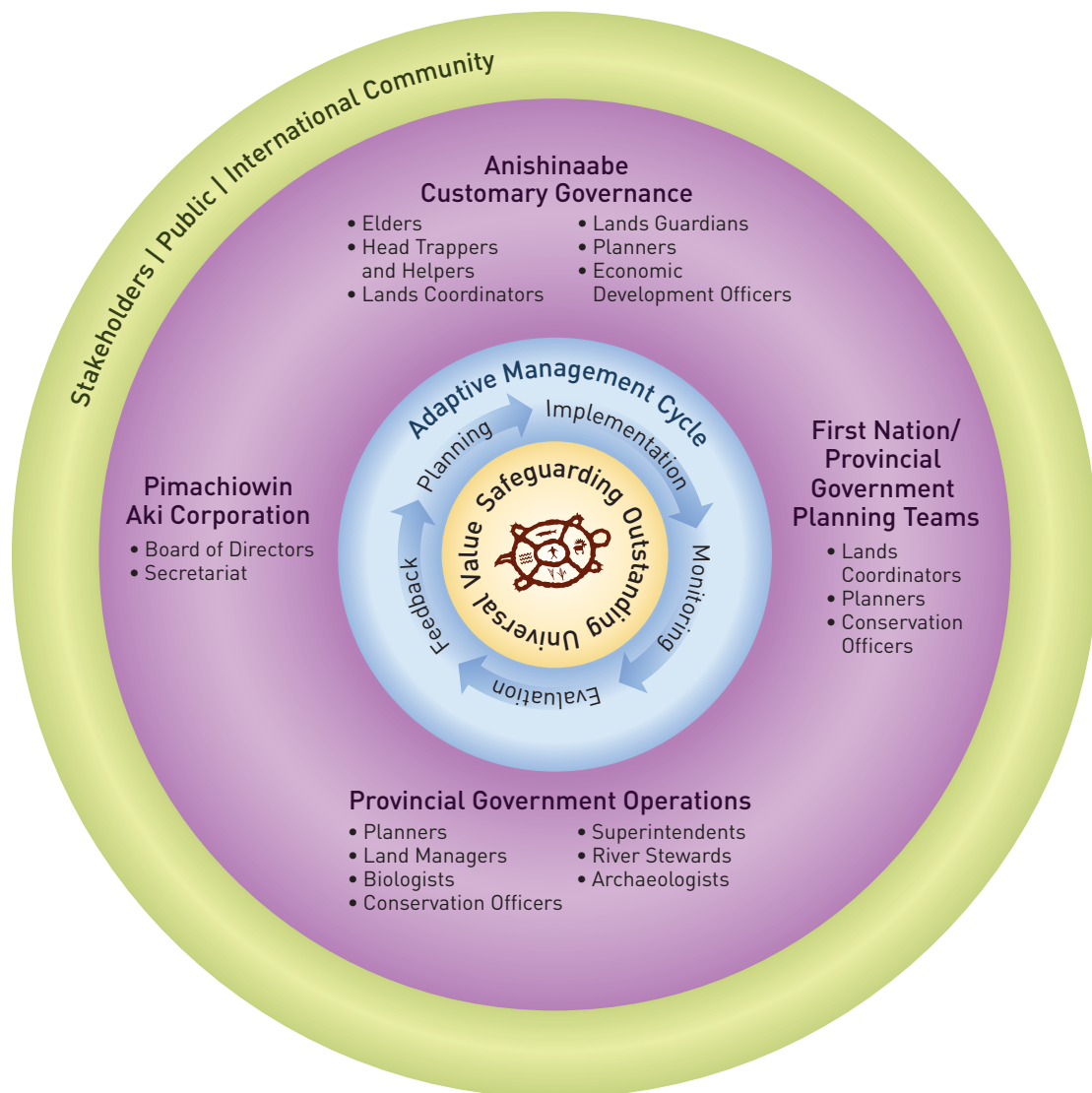


Figure 5.1 Pimachiowin Aki management framework and cycle

The Corporation was established as a non-profit, incorporated body in 2006, affirming the partnership with the common goal of establishing a World Heritage Site. The Corporation is the official local institution accountable to conserve, protect, and present the proposed Outstanding Universal Value of Pimachiowin Aki.

The Corporation's Board of Directors provides strategic direction and ensures resourcing to fulfil the organization's Vision, Mission, and Goals, including implementation of the Pimachiowin Aki Management Plan prepared for the nominated area. Each First Nation and provincial government is represented by one Board member. Advisors and community elders are invited to participate at Board meetings, as business may require. The Board is supported by a professionally staffed Secretariat.

As described in Section 5.d below, individual First Nation and park land management plans have been approved and adopted under provincial legislation to govern land use and decision-making for the constituent parts of the nominated area and to sustain Anishinaabe relationships with the land. While authority for decision-making under these plans will continue to rest with the relevant First Nations and provincial governments, in addition to guiding implementation of the Pimachiowin Aki Management Plan, the Pimachiowin Aki Corporation will participate in the





implementation of these First Nation and park land management plans to ensure decision-making supports the conservation and protection of the proposed Outstanding Universal Value of the nominated area.

The Pimachiowin Aki Corporation serves as a bridging organization, representing and accessible to each First Nation and provincial government. The Corporation has an explicit bylaw regarding the conduct of its activities and affairs. It also has Canadian charitable status, permitting it to raise and receive donor funding.

The Corporation's governance structure reflects the accountability of Board members to their respective First Nation or provincial government. Figure 5.2 illustrates the Pimachiowin Aki governance structure, emphasizing its consensual, non-hierarchical character.

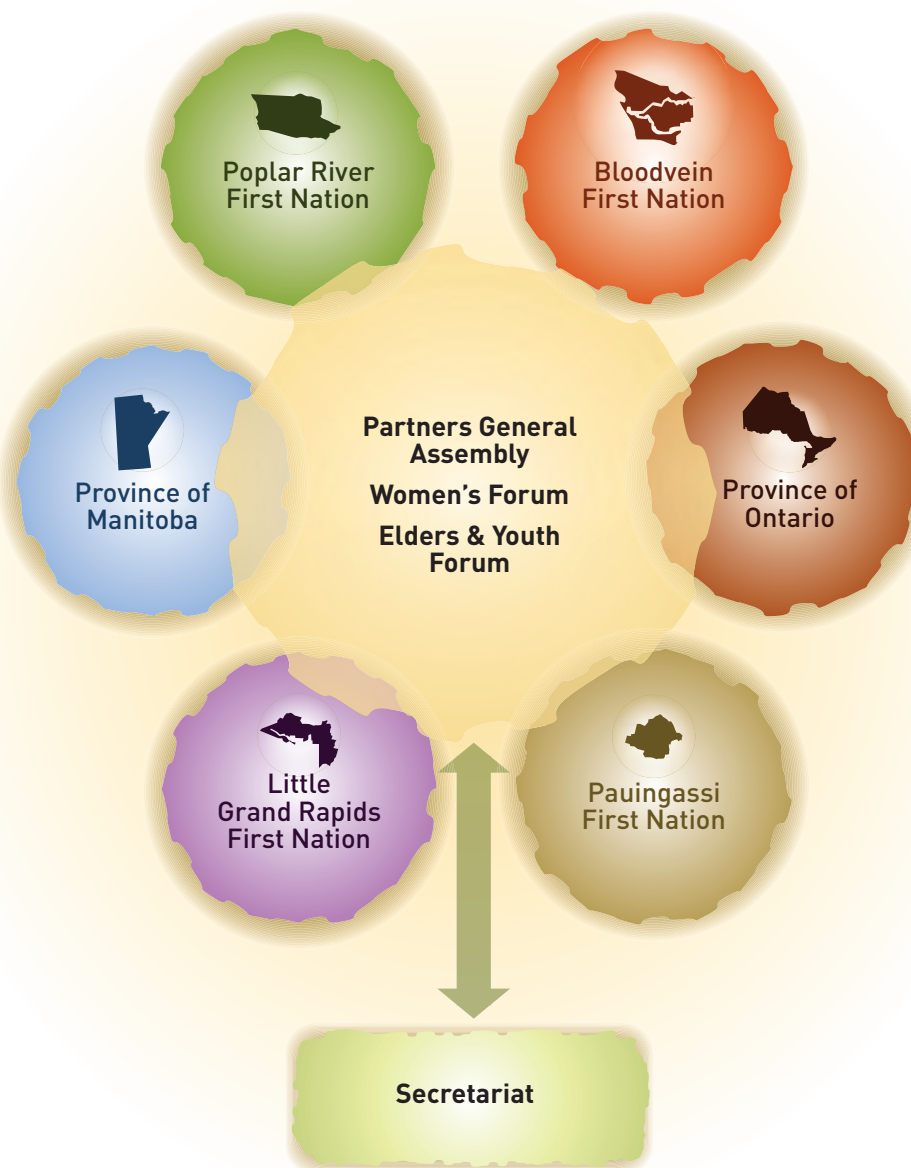


Figure 5.2 Pimachiowin Aki Corporation governance/organization structure

The Corporation holds an Annual General Assembly of Partners where the Annual Report and audited financial statements are reviewed and opportunities are provided for community interaction, information sharing, and planning. An Elders and Youth Forum and a Women's Forum are standing institutions within the structure to promote the exchange of information.

The Secretariat carries out day-to-day functions and programs on behalf of the Board. Priority functions and activities, should Pimachiowin Aki be inscribed on the World Heritage List, include: coordinating the monitoring and reporting on the state of conservation; supporting and conducting research and assembly of traditional and scientific knowledge; supporting initiatives leading to sustainable economic diversification in First Nation communities; communications, community awareness, and public education programs; and branding, promotion, and marketing of the World Heritage Site. The Secretariat will also coordinate the reviewing and updating of the Pimachiowin Aki Management Plan.



Pimachiowin Aki Corporation Annual General Meeting (JJ. Ali 2010)

Further information about the Corporation is provided below and in Appendix H.

5.a OWNERSHIP

In *Anishinaabemowin* (the Ojibwe language), there is no word for ownership. Instead, the “idea of leaving a record of one’s passing is foundational to Anishinaabe concepts of land utilization and ownership. To do something remarkable at a particular place means that one’s name and acts are permanently associated with that place” (Matthews and Roulette 2010b: 20). Claims to specific areas are demonstrated through *akiiwi-gikendamowining* (Anishinaabe knowledge of the land). A person’s knowledge of his/her family’s traditional winter harvesting area (trapline) is inherited or earned through demonstration that he/she is worthy of the privilege of “owning” it (Solomon Pascal, personal communication).

In law, all of Pimachiowin Aki is publicly owned Crown land. There are two categories of Crown land ownership: provincial and federal. The Manitoba and Ontario provincial governments own 99.8 percent of the land; the remaining 0.2 percent is federal Crown land owned by the government of Canada. These federal Crown lands are called Reserves. Reserves are the modern communities of Anishinaabeg, created under the federal *Indian Act*.

Canada is a constitutional monarchy and, under the Canadian constitutional system, sovereignty vests in the Crown acting on the advice and consent of democratically elected governments. Canada is a federation and most Crown lands in Canada are administered and controlled by provincial governments. This is why provincial legislatures have constitutional authority to make laws in respect of the use of provincial Crown lands, including the nominated area, and federal Parliament has constitutional authority to make laws in respect of federal Crown lands, including Reserves.

Executive and legislative authority over Crown land is subject to a continuing and enforceable constitutional obligation by the Crown to uphold Aboriginal and Treaty rights. The Crown has a legal obligation to act honourably in all of its dealings with First Nations. Constitutionally protected Aboriginal and Treaty rights include rights of hunting, trapping, fishing, and gathering plants for food, medicine, social, and ceremonial purposes.





5.b PROTECTIVE DESIGNATION

In 2002, the First Nations *Accord* (Appendix L.27) articulated a shared vision among Anishinaabeg for the protection of Pimachiowin Aki.

Protective designation of Pimachiowin Aki has been established by custom and enabled through provincial legislation. The majority of Pimachiowin Aki's protective designation is established under provincial legislation and is the result of planning decisions made by the First Nations in collaboration with the provinces. The remainder of Pimachiowin Aki's protective designation is established under provincial parks legislation.

Protective designations for First Nation planning areas are established under *The East Side Traditional Lands Planning and Special Protected Areas Act* (Manitoba) and the *Far North Act* (Ontario). Under these laws, First Nation management plans are reviewed by the public and approved by the relevant First Nation(s) and provincial government.

The Provincial Parks Act (Manitoba) applies to Atikaki Provincial Park. The *Provincial Parks and Conservation Reserves Act* (Ontario) applies to Woodland Caribou Provincial Park and Eagle–Snowshoe Conservation Reserve. Protected areas have been designated under these laws to preserve unique and representative natural, cultural, and heritage resources; to maintain biodiversity; and to provide ecologically sustainable recreational and educational opportunities and experiences for the benefit of present and future generations.

Figure 5.3 lists the protective designations and legislation. Full copies of the legislation and consolidated regulations are included in Appendix L.

Figure 5.3 Designations and Legislation

 MANITOBA			
Designation		Time	Legislation
Atikaki Provincial Park	Order in Council 1319/83	1983	<i>The Provincial Park Lands Act</i> , 1960, C.C.S.M. c. P20 (repealed) <i>The Provincial Parks Act</i> , 1993, C.C.S.M. c. P20
	Regulation 37/97 (designates, classifies and categorizes the park)	1997	
	Regulation, amendment 3/2011 (amends park boundary to accommodate construction of a bridge across the Bloodvein River)	2011	
East Side Management Area	Regulation 149/2010 (designates Poplar River, Pauingassi and Bloodvein traditional use areas as the east side management area)	2010	<i>The East Side Traditional Lands Planning and Special Protected Areas Act</i> , 2009, C.C.S.M. c. E3
	Regulation, amendment 109/2011 (amends Regulation 149/2010 to include Little Grand Rapids traditional use area)	2011	
Poplar River First Nation	Order in Council No. 186 (approves the management plan)	June 1, 2011	<i>The East Side Traditional Lands Planning and Special Protected Areas Act</i> , 2009, C.C.S.M. c. E3
	Order in Council No. 187 (approves Regulation 77/2011)	June 1, 2011	
	Regulation 77/2011 (establishes the planning area and provides for specific prohibitions and restrictions to implement the plan)	June 16, 2011	
Bloodvein First Nation	Order in Council No. 415/2011 (approves Regulation 197/2011)	Nov 22, 2011	<i>The East Side Traditional Lands Planning and Special Protected Areas Act</i> , 2009, C.C.S.M. c. E3
	Regulation 197/2011 (establishes the planning area)	Nov 28, 2011	
	Order in Council No. 434/2011 (approves the management plan)	Dec 7, 2011	
	Order in Council No. 433/2011 (approves Regulation 209/2011)	Dec 7, 2011	
	Regulation 209/2011 (amends Regulation 197/2011 to provide for specific prohibitions and restrictions to implement the plan)	Dec 12, 2011	
	Order in Council No. 43/2013 (approves an amendment to the management plan)	Feb 20, 2013	
	Order in Council No. 44/2013 (approves an amendment to Regulation 197/2011 to reflect the plan amendment)	Feb 20, 2013	
	Regulation 19/2013 (amends Regulation 197/2011 to remove an exception to peat mining, thus prohibiting peat mining in the planning area)	Feb 22, 2013	





Figure 5.3 Designations and Legislation

 MANITOBA			
	Designation	Time	Legislation
Pauingassi First Nation	Order in Council No. 491/2012 (approves Regulation 155/2012)	Dec 12, 2012	<i>The East Side Traditional Lands Planning and Special Protected Areas Act</i> , 2009, C.C.S.M. c. E3
	Regulation 155/2012 (establishes the planning area)	Dec 14, 2012	
	Order in Council No. 513/2012 (approves the management plan)	Dec 19, 2012	
	Order in Council No. 514/2012 (approves Regulation 170/2012)	Dec 19, 2012	
	Regulation 170/2012 (amends Regulation 155/2011 to provide for specific prohibitions and restrictions to implement the plan)	Dec 21, 2012	
Little Grand Rapids First Nation	Order in Council No. 490/2012 (approves Regulation 154/2012)	Dec 12, 2012	<i>The East Side Traditional Lands Planning and Special Protected Areas Act</i> , 2009, C.C.S.M. c. E3
	Regulation 154/2012 (establishes the planning area)	Dec 14, 2012	
	Order in Council No. 511/2012 (approves the management plan)	Dec 19, 2012	
	Order in Council No. 512/2012 (approves Regulation 169/2012)	Dec 19, 2012	
	Regulation 169/2012 (amends Regulation 154/2011 to provide for specific prohibitions and restrictions to implement the plan)	Dec 21, 2012	
Bloodvein Canadian Heritage River	Nomination	1984	Proclamation by federal Minister of Environment and provincial Minister of Sustainable Development
	Declaration	1987	

Figure 5.3 Designations and Legislation

 ONTARIO		
Designation	Time	Legislation
Woodland Caribou Signature Site¹	2007	Woodland Caribou Signature Site Management Plan Approved
Woodland Caribou Provincial Park Ontario Regulation 343/83 (amends Regulation 821 of the Revised Regulations of Ontario to include, <i>inter alia</i> , Schedule 131 which establishes park boundaries)	1983	<i>Provincial Parks Act</i> , 1954, c. 75 (repealed)
Ontario Regulation 316/07, Designation and Classification of Provincial Parks	2007	<i>Provincial Parks and Conservation Reserves Act</i> , 2006, S.O. 2006, c. 12
Ontario Regulation 347/07, Provincial Parks: General Provisions	2007	
Ontario Regulation 198/08 (amends Ontario Regulation 316/07 to add, <i>inter alia</i> , Classification to Regulation name and a section on wilderness class parks)	2008	
Eagle-Snowshoe Conservation Reserve Ontario Regulation 208/03 (amends Ontario Regulation 805/94 to include, <i>inter alia</i> , Schedule 176)	2003	<i>Public Lands Act</i> , R.S.O. 1990, c. P.43
Ontario Regulation 315/07, Designation of Conservation Reserves	2007	<i>Provincial Parks and Conservation Reserves Act</i> , 2006, S.O. 2006, c. 12
Woodland Caribou Park Additions Order No. W-LL-P 2370/02 ONT withdrawn from prospecting, staking, sale or lease	2002	<i>Mining Act</i> , R.S.O. 1990, c. M.14
Order No. W-LL-P 2370/06 ONT withdrawn from prospecting, staking, sale or lease	2006	<i>Mining Act</i> , R.S.O. 1990, c. M.14
Amendment of Ontario Regulation 316/07, Designation and Classification of Provincial Parks	2012-2013 (expected, for the Sydney Douglas addition)	<i>Provincial Parks and Conservation Reserves Act</i> , 2006, S.O. 2006, c. 12
Pauingassi First Nation Pauingassi Community Based Land-Use Plan, The Land of Fair Wind: Pauingassi – Ontario Planning Area	July 12, 2011	Jointly approved by Pauingassi First Nation and the Ontario Ministry of Natural Resources under the <i>Far North Act</i> , 2010, S.O. 2010, c. 18
Order No. W-KRL-89/10 withdrawn from prospecting, staking, sale or lease	2010	<i>Mining Act</i> , R.S.O. 1990, c. M.14
Interim Management Direction for Dedicated Protected Area	Ongoing, to be determined	Part of CBLUP implementation, activities of the Little Grand Rapids Implementation Team
Dedicated Protected Area Regulation		e.g., <i>Provincial Parks and Conservation Reserves Act</i> , 2006, S.O. 2006, c. 12; the <i>Far North Act</i> , 2010, S.O. 2010, c. 18

¹The Woodland Caribou Signature Site in northwestern Ontario includes several land-use designations, including Woodland Caribou Provincial Park and the Eagle-Snowshoe Conservation Reserve, situated in the nominated area.





Figure 5.3 Designations and Legislation

<div>  ONTARIO </div>			
Designation		Time	Legislation
Little Grand Rapids First Nation	Little Grand Rapids Community Based Land Use Plan: Little Grand Rapids – Ontario Planning Area	July 12, 2011	Jointly approved by Little Grand Rapids First Nation and Ontario Ministry of Natural Resources under the <i>Far North Act</i> , 2010, S.O. 2010, c. 18
	Order No. W-KRL-88/10 withdrawn from prospecting, staking, sale or lease	2010	<i>Mining Act</i> , R.S.O. 1990, c. M.14
	Interim Management Direction for Dedicated Protected Area	Ongoing, to be determined	Part of CBLUP implementation, activities of the Little Grand Rapids Implementation Team
	Dedicated Protected Area Regulation		e.g., <i>Provincial Parks and Conservation Reserves Act</i> , 2006, S.O. 2006, c. 12; the <i>Far North Act</i> , 2010, S.O. 2010, c. 18
Bloodvein Canadian Heritage River	Nomination	1986	Proclamation by federal Minister of Environment and provincial Minister of Natural Resources
	Declaration	1998	

The entire nominated area is protected from commercial logging, mining, and the development of hydroelectric power, oil, and natural gas. Within 14 percent of the nominated area, quarries are permitted for the construction and maintenance of an all-season road. Figure 5.4 illustrates the configuration of the types of protected areas.

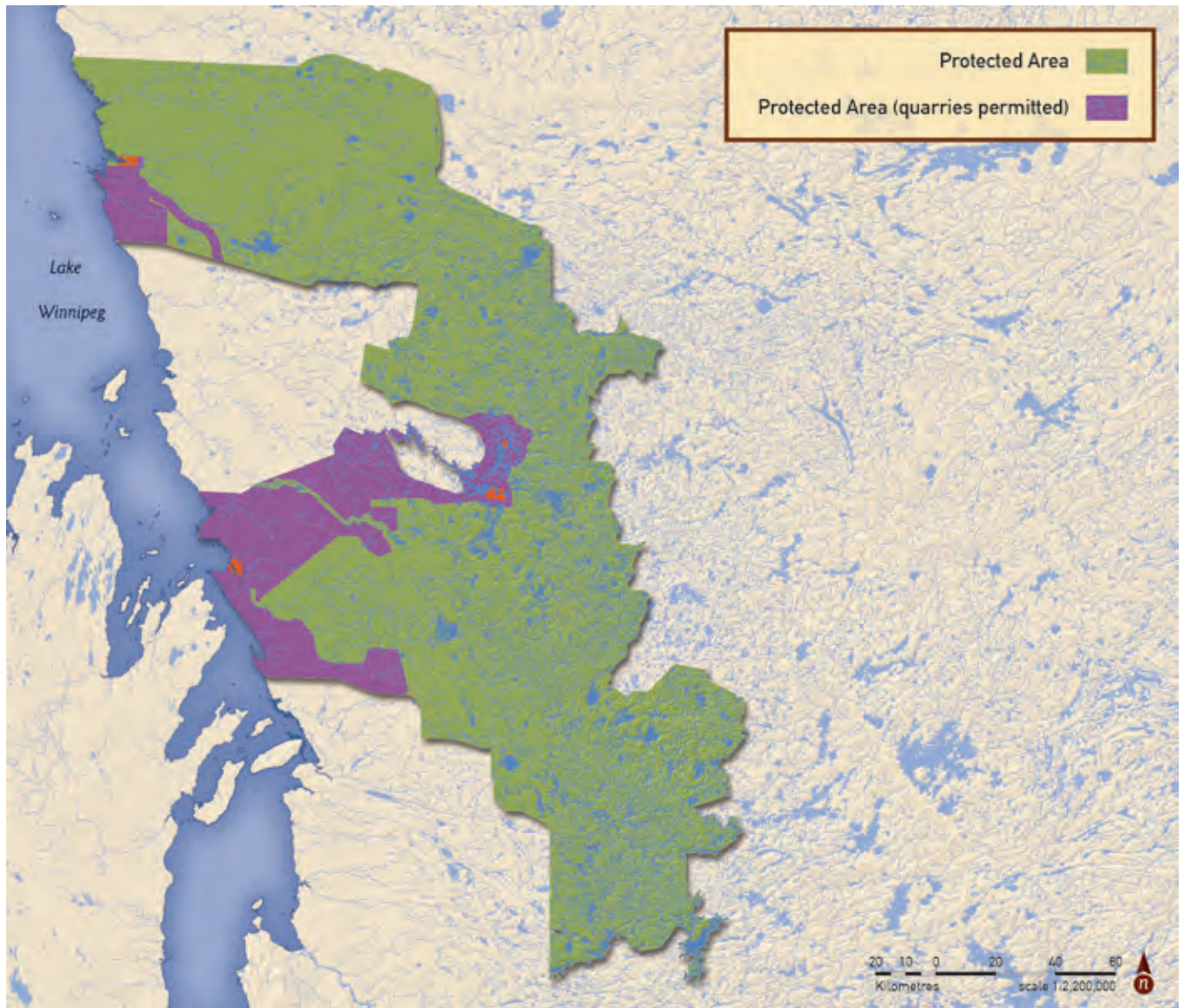


Figure 5.4 Configuration of protected areas

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Other Enabling Legislation

In addition to the above protective designations, there is a substantial body of other legislation that contributes to the protection and management of Pimachiowin Aki and to land management in the surrounding buffer zones. These laws provide mechanisms to establish protective designations, protect species at risk, withdraw lands from disposition, assess potential impacts of development proposals, regulate land and resource use, and provide public consultation opportunities. Figure 5.5 lists this enabling provincial and federal legislation.





Figure 5.5 Applicable provincial and federal legislation




	Canada	Department
 <p>CANADA</p>	Canadian Environmental Protection Act	Environment Canada
	Canadian Environmental Assessment Act	Environment Canada
	Migratory Birds Convention Act	Environment Canada
	Species at Risk Act	Environment Canada
	Fisheries Act	Environment Canada
	Forestry Act	Natural Resources Canada
	Department of Natural Resources Act	Natural Resources Canada
	Canada Wildlife Act	Environment Canada
	Manitoba	Department
 <p>MANITOBA</p>	The East Side Traditional Lands Planning and Special Protected Areas Act	Manitoba Sustainable Development
	The Crown Lands Act	Manitoba Sustainable Development
	The Fisheries Act	Manitoba Sustainable Development
	The Natural Resources Agreement Act	Manitoba Sustainable Development
	The Water Protection Act	Manitoba Sustainable Development
	The Forest Act	Manitoba Sustainable Development
	The Sustainable Development Act	Manitoba Sustainable Development
	The Endangered Species Act	Manitoba Sustainable Development
	The Provincial Parks Act	Manitoba Sustainable Development
	The Wild Rice Act	Manitoba Sustainable Development
	The Wildlife Act	Manitoba Sustainable Development
	The Mines and Minerals Act	Manitoba Innovation, Energy and Mines
	The Heritage Resources Act	Manitoba Department of Tourism, Culture, Heritage, Sport and Consumer Protection



Figure 5.5 Applicable provincial and federal legislation

	Ontario	Department
	Far North Act	Ministry of Natural Resources and Forestry
	Beds of Navigable Waters Act	Ministry of Natural Resources and Forestry
	Lakes and Rivers Improvement Act	Ministry of Natural Resources and Forestry
	Conservation Land Act	Ministry of Natural Resources and Forestry
	Crown Forest Sustainability Act	Ministry of Natural Resources and Forestry
	Endangered Species Act	Ministry of Natural Resources and Forestry
	Fish and Wildlife Conservation Act	Ministry of Natural Resources and Forestry
	Forest Fires Prevention Act	Ministry of Natural Resources and Forestry
	Forestry Act	Ministry of Natural Resources and Forestry
	Provincial Parks and Conservation Reserves Act	Ministry of Natural Resources and Forestry
	Public Lands Act	Ministry of Natural Resources and Forestry
	Wild Rice Harvesting Act	Ministry of Natural Resources and Forestry
	Wilderness Areas Act	Ministry of Natural Resources and Forestry
	Clean Water Act	Ministry of the Environment
	Ontario Water Resource Act	Ministry of the Environment
	Ontario Environmental Protection Act	Ministry of the Environment
	Mining Act	Ministry of Northern Development of Mines and Forest
	Heritage Act	Ministry of Tourism, Culture and Sport

5.c MEANS OF IMPLEMENTING PROTECTIVE MEASURES

Implementation of protective measures is through Anishinaabe customary governance, provincial government operations, and joint First Nation/provincial government planning teams. The Pimachiowin Aki Corporation maintains a thorough shared understanding of the means of implementing protective measures.





Customary Governance

Traditional protection and management of Pimachiowin Aki reflects the cultural tradition of *Ji-ganawendamang Gidakiiminaan*, which guides Anishinaabeg to be respectful in interactions with the land and all of the beings on the land. Respecting the Creator's gift of a healthy and whole boreal forest within Pimachiowin Aki (the Land that Gives Life) is a part of how Anishinaabeg pursue *bimaadiziwin* (a good life).

Cultural and ethical principles are the primary means of implementing Anishinaabe traditional protection and management. These principles are expressed and transmitted across generations through oral traditions, including stories that demonstrate appropriate behaviour and the consequences of contravening the principles of *Ji-ganawendamang Gidakiiminaan*. In addition, Anishinaabe customary governance is an important means through which cultural and ethical principles are upheld. As discussed in Section 2.a(i), Trapline Areas, trapline leaders and other keepers of the land with the greatest experience on the land are responsible for making decisions about how the areas under their stewardship are used for customary livelihood purposes and other cultural activities.



As Anishinaabeg travel, harvest and interact with the other beings in *aki*, knowledge is accumulated and shared with successive generations (Pimachiowin Aki Corp. 2015)

Provincial Government Operations

The Manitoba Department of Sustainable Development and the Ontario Ministry of Natural Resources and Forestry perform a range of management functions: park management; wildlife surveys; visitor services; fire suppression; and ensuring sustainable use of land and resources (see Sections 5.f and 5.j for more information on these functions). Representatives of the provincial governments work directly with representatives of the Anishinaabe First Nations through planning teams and the Pimachiowin Aki Corporation.

The Provinces of Manitoba and Ontario have also established specific agreements in support of the implementation of protective measures (Appendix L). A 2013 *Memorandum of Understanding respecting Transboundary Protection and Management of the Proposed Pimachiowin Aki World Heritage Site* describes means by which the provinces, as members of Pimachiowin Aki Corporation, will coordinate and strive for consistency in the protection and management of Pimachiowin Aki and are committed to doing this in a way that will meet or exceed World Heritage standards. Representatives of the Pimachiowin Aki First Nations and the Government of Canada witnessed the Memorandum to indicate their awareness of and support for this agreement. The 2013 Memorandum expands the scope of a 2008 *Memorandum of Understanding respecting a Manitoba/Ontario Interprovincial Wilderness Area*, which prescribes coordinated research, resource management, and marketing efforts. Full copies of these agreements are included in Appendix L.



Planning Teams

Protective measures are also supported by agreements (six in total) between First Nations, Manitoba, and Ontario to establish teams that guide First Nation management plan implementation, generally referred to here as planning teams. Planning teams have been established for each of the First Nation planning areas and have been operating for more than seven years. Anishinaabeg customary governance is recognized in the management of traplines, sacred sites, cabins, *manoomin* (wild rice), visitor access, and interpretive programs. The planning teams also play a key role in education and training, monitoring, ensuring sustainable resource use, and safeguarding Pimachiowin Aki's proposed Outstanding Universal Value. First Nations and provincial governments are represented equally on the planning teams. Many of the same people who are members of the teams are directors of or advisors to the Pimachiowin Aki Corporation.



Community planning meeting in Pauingassi (D. Gilmore 2010)

5.d EXISTING PLANS

First Nation and park land management plans have been approved and adopted under provincial legislation to govern land use and decision-making and to sustain Anishinaabe relationships with the land. Under this legislation, decisions about land and resource use in Pimachiowin Aki must be consistent with the management plans. Acting in contravention of a regulation that gives legal effect to a plan creates liability upon summary conviction. The Pimachiowin Aki Corporation participates in the implementation of First Nation and park land management plans to ensure decision-making supports the conservation and protection of the proposed Outstanding Universal Value of the nominated area.

Summaries of the First Nation and park management plans are provided below (see Appendix J for full documents). Figure 5.6 illustrates the four First Nation planning areas of Pimachiowin Aki.





Figure 5.6 First Nation planning areas in Pimachiowin Aki

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1. ASATIWISIPE AKI MANAGEMENT PLAN, POPLAR RIVER FIRST NATION

Developed out of respect for “our ancestors who loved and cherished this land and cared for it for centuries to ensure all future generations would have life,” to “keep the land in its natural beauty as it was created.”
(PRFN 2010)

Prepared by the Poplar River Anishinaabeg, the Asatiwisiipe Aki Management Plan was approved in June 2011 by the First Nation and the Government of Manitoba in consultation with the public. The Plan provides for the protection of the entire 8,620-square-kilometre Poplar River Registered Trapline Section from industrial development under *The East Side Traditional Lands Planning and Special Protected Areas Act*. The entire area is included in the nominated area. The *Asatiwisiipe Aki Ma Ma Wichitowin*, also called the Mutual Land Relationship



Working Group (planning team), is established with equal representation of the Poplar River First Nation and the Government of Manitoba and meets four times a year to guide plan implementation.

2. ATIKAKI PROVINCIAL PARK AND BLOODVEIN HERITAGE RIVER MANAGEMENT PLAN

The management plan for this 3,981-square-kilometre park was prepared by the Government of Manitoba in 2008 in consultation with First Nations and the public under authority of *The Provincial Parks Act*. The Plan also addresses management (including monitoring) of the Manitoba portion of the Bloodvein Canadian Heritage River. Treaty and Aboriginal rights to use the land and resources in the Park are acknowledged and respected in the Plan.

3. LITTLE GRAND RAPIDS COMMUNITY-BASED LAND USE PLAN, LITTLE GRAND RAPIDS FIRST NATION (ONTARIO)

"We believe and assert that we are part of the land... We wish to (use) manage our traditional land (in a way) so that our people as (being) part of the land are sustained into the future... Little Grand Rapids First Nation and Ontario value their ongoing relationship, working together for the benefit and health of people, land and water."

(LGRFN and Ontario 2011)

Prepared by the Little Grand Rapids Anishinaabeg, this land management plan was approved in July 2011 by the First Nation and the Government of Ontario, in consultation with the public. The Plan provides for the full protection of the 1,887-square-kilometre Little Grand Rapids Planning Area in Ontario. The entire area is included in the nominated area. The Plan is being implemented by the Little Grand Rapids Implementation Team (planning team) comprised of representatives of the Little Grand Rapids First Nation and the Ontario Ministry of Natural Resources and Forestry.



Signing ceremony for Little Grand Rapids and Pauingassi plans
(K. Crampton 2011)

4. NI-KES LANDS MANAGEMENT PLAN, LITTLE GRAND RAPIDS FIRST NATION (MANITOBA)

"This plan is dedicated to the memory of Ni-Kes (Frank Duck), an esteemed Elder, whose knowledge and way of life continue to be an inspiration to the Little Grand Rapids Anishinaabeg... Healthy rivers and lakes are a cultural and spiritual necessity... Our vision for the land is very much a vision for and of ourselves."

(LGRFN and Manitoba 2012)





The management plan for the 4,725-square-kilometre Little Grand Rapids Registered Trapline Section in Manitoba was prepared by the Little Grand Rapids Anishinaabeg and approved in December 2012 by the First Nation and the Government of Manitoba in consultation with the public. The majority of land in this area is included within the nominated area and is fully protected under *The East Side Traditional Lands Planning and Special Protected Areas Act*. The Little Grand Rapids Stewardship Board (planning team) is established with equal representation of the Little Grand Rapids First Nation and the Government of Manitoba and meets at least four times a year to guide plan implementation.

5. PAUINGASSI COMMUNITY BASED LAND USE PLAN, PAUINGASSI FIRST NATION (ONTARIO)

The management plan for the 1,388-square-kilometre Pauingassi Planning Area in Ontario was prepared by Pauingassi Anishinaabeg and approved in July 2011 by the Pauingassi First Nation and the Government of Ontario, in consultation with the public. The majority of the area to which the Plan applies is fully protected and is included in the nominated area. The Plan is being implemented by the Pauingassi Implementation Team (planning team), comprised of representatives of the Pauingassi First Nation and the Ontario Ministry of Natural Resources and Forestry.

6. NAAMIWAN: THE LAND OF FAIR WIND LANDS MANAGEMENT PLAN, PAUINGASSI FIRST NATION (MANITOBA)

“This plan is dedicated to the memory of Naamiwan (Fair Wind), a renowned medicine man and healer, whose dream, drum and the ceremonies he conducted illustrate the important role of traditional Anishinaabe knowledge, practices and beliefs in land management and protection to this day.”
(Pauingassi FN and Manitoba 2012)

The land management plan for the 3,137-square-kilometre Pauingassi Registered Trapline Section in Manitoba was prepared by Pauingassi Anishinaabeg and was approved in December 2012 by the First Nation and the Government of Manitoba, in consultation with the public. The majority of the land area to which the Plan applies is included in the nominated area and is protected. The Pauingassi Stewardship Board (planning team) is established with equal representation of Pauingassi First Nation and Manitoba Conservation and Water Stewardship, and meets at least four times a year to guide plan implementation.

7. WOODLAND CARIBOU SIGNATURE SITE MANAGEMENT PLAN

The Woodland Caribou Signature Site includes Woodland Caribou Provincial Park (a wilderness-class park), the Eagle-Snowshoe Conservation Reserve, an enhanced management area, and a forest reserve. The 4,565-square-kilometre park and the 356-square-kilometre conservation reserve are included in the nominated area and are protected under the Ontario *Provincial Parks and Conservation Reserves Act* (2006) and regulations. The management plan for the Signature Site, which includes the Park and Conservation Reserve, was approved in April 2007 through consultation and engagement with First Nations and with the public.

8. PIMITOTAH: TO CARE FOR OUR LAND, BLOODVEIN FIRST NATION LAND USE PLAN

“The Elders and members of Bloodvein First Nation hold the knowledge of our ancestral lands and waters/waterways and it is our responsibility as Anishinabe people to take care of our people and our lands.”
(BRFN and Manitoba 2012)





The management plan for the 3,914-square-kilometre Bloodvein Registered Trapline Section was prepared by Bloodvein River Anishinaabeg and approved in December 2011, amended in November 2012, and amended in September 2014 by the First Nation and the Government of Manitoba in consultation with the public. The entire 3,914-square-kilometre area is protected and is included in the nominated area. Implementation of the Plan is guided by the Pimitotah Advisory Board (planning team), established with equal representation of Bloodvein River First Nation and the Government of Manitoba. The planning team meets at least four times a year to guide plan implementation.

5.e PIMACHIWIN AKI MANAGEMENT PLAN

A management plan has been developed by the Pimachiowin Aki partners to guide integrated, adaptive, and responsive management actions in the nominated area over the next 10 years. The complete Plan is included in Appendix I.1.

The Pimachiowin Aki Management Plan has been adopted by the Board of Directors of the Pimachiowin Aki Corporation and represents the partners' collective commitment to protect Pimachiowin Aki's proposed Outstanding Universal Value in perpetuity through participatory means.

The Management Plan draws its primary direction from the First Nations *Accord*. The Plan reflects and supports the policies and land use categories established in each of the First Nation and park management plans, integrating and coordinating their provisions across the nominated area.

The Management Plan is neither prescriptive nor binding, and it does not alter existing authorities or confer new authorities for the protection and management of Pimachiowin Aki. Each partner retains its sphere of jurisdiction, responsibility, and expertise and each brings different knowledge and strengths to the process. Input from all partners is provided to guide management actions through regular meetings of the Pimachiowin Aki Corporation and the planning teams. In this way, the Plan effectively builds on each partner's individual responsibilities, processes, and policies to ensure a cohesive approach to management and decision-making. The Plan will be reviewed by the Corporation at five-year intervals.

The Pimachiowin Aki Management Plan is organized into three sections:

Section 1, the introduction, describes the current status and condition of the nominated area based on existing knowledge. It also gives an account of potential threats to the important values of Pimachiowin Aki and the attributes through which these are expressed.

Section 2, the management cycle, includes the following elements:

1. The legal and policy basis for establishment of Pimachiowin Aki;
2. The vision, goals, and desired outcomes that provide policy direction for Pimachiowin Aki and guide the implementation of specific management actions;
3. Institutional arrangements for integrated and adaptive management among the partners and other stakeholders; and
4. Regulations and zoning to manage human activities and potential threats.





Strategic management direction for Pimachiowin Aki is established by a shared vision of Pimachiowin Aki as a living cultural landscape in which:

1. Anishinaabeg, the forest, waters, fish, and wildlife and other beings are understood and safeguarded as one living entity;
2. Four Anishinaabe First Nations and two provincial governments work together in a spirit of cooperation and mutual respect to protect and care for Pimachiowin Aki;
3. The tangible and intangible attributes of Pimachiowin Aki's proposed Outstanding Universal Value are celebrated and shared for the benefit of Anishinaabeg and all humanity; and
4. Anishinaabe beliefs, values, knowledge, and practices are central to sustaining the cultural and natural values of the landscape and fulfilling the sacred duty to protect Pimachiowin Aki for present and future generations.

The vision statements in each of the First Nation and park plans are supported, integrated and coordinated in the Management Plan to focus actions on safeguarding the proposed Outstanding Universal Value.

Goals have been specified by the Pimachiowin Aki partners to provide a context for resolving issues, identify and focus management actions, provide a rationale for decisions, and offer a link among management actions, policies, best practice, and the public interest. These goals are:

1. Protected lands and waterways maintained in accordance with Anishinaabe customary governance, legislative, regulatory, and institutional means;
2. Continued and respectful use and protection of Pimachiowin Aki, consistent with the cultural tradition of *Ji-ganawendamang Gidakiiminaan*;
3. Appreciation, interpretation, and promotion of the cultural and natural values represented by Pimachiowin Aki and of the enduring bond between culture and nature for the benefit of Anishinaabeg and all humanity; and
4. Promotion and coordination of inter-agency research, monitoring and data management activities that increase understanding of the state of conservation of Pimachiowin Aki and improve management decision-making.

Section 3, management actions, identifies activities that are necessary to realize desired management outcomes over a 10-year planning horizon. These actions are summarized in relation to the goals they are intended to achieve, as follows:

GOAL 1: Protected lands and waterways:

- a. Preserving and enhancing the attributes that provide testimony to *Ji-ganawendamang Gidakiiminaan* and the enduring importance of Pimachiowin Aki to Anishinaabeg (cabin sites, campsites, harvesting sites, processing sites, travel routes, trapline areas, sacred and ceremonial sites, and named places);





- b. Safeguarding and recovering species of conservation concern within Pimachiowin Aki by supporting and implementing recovery strategies for the benefit of these species and the international community as a whole;
- c. Integrating *akiwi-gikendamowining* (land-based knowledge) and the best available scientific knowledge in management decision-making and practice;
- d. Applying the governance model (e.g., Pimachiowin Aki Corporation and planning teams) to ensure that Anishinaabe interests are heard, understood, and reflected in advice to regulatory authorities; and
- e. Developing performance measures to evaluate the effectiveness of management plan implementation (annual benchmarking, management capacity assessment, and outcome assessment).

GOAL 2: Continued and respectful use of the Creator's gifts:

- a. Offering experiential learning opportunities for youth in purposeful, land-based activities, emphasizing that respectful behaviour is required for survival;
- b. Ensuring that local and regional schools are provided with sufficient information and resources to incorporate the cultural, natural, and educational values represented by Pimachiowin Aki into their curricula;
- c. Conducting domestic needs assessments in Anishinaabe communities in Pimachiowin Aki to inform resource allocation and regulation strategies, sustain the Anishinaabe subsistence economy, and ensure that the practice of Anishinaabe livelihoods remains a priority use of this region;
- d. Planning and managing visitor use to ensure that such use can occur in a way that minimizes potential land use conflict and optimizes the possibilities for compatibility with Anishinaabe land use; and
- e. Facilitating local economic growth and diversification where appropriate.

GOAL 3: Appreciation, interpretation, and promotion:

- a. Further developing Anishinaabe community protocols to inform visitors to Pimachiowin Aki of the need to be respectful of all aspects of the living cultural landscape, relayed through signage, brochures, regional, national, and international media and other means;
- b. Ensuring that promotion of, and fundraising for, a Pimachiowin Aki World Heritage site is conducted in accordance with UNESCO guidelines; and
- c. Integrating the results of existing and future research into educational and outreach partnership efforts to engage students and the public in learning about and caring for Pimachiowin Aki.

GOAL 4: Promotion and coordination of research, monitoring, and data management:

- a. Supporting research and filling gaps in knowledge about the landscape and the cultural tradition of *Ji-ganawendamang Gidakiiminaan*, including further characterization of Anishinaabe cultural relationships to Pimachiowin Aki;





- b. Improving the collection, storage, and dissemination of data through the integration of inventories and condition assessments maintained by the partner agencies, and the development of agreements with researchers and information managers that address consent, confidentiality, intellectual property, and indemnification; and
- c. Fully implementing the monitoring program, refining monitoring indicators and measures as necessary, including adapting the Canadian Heritage Rivers System monitoring approach to the cultural waterways of Pimachiowin Aki.

Each action involves several strategies and activities to achieve a desired outcome. Additional activities to assess cultural and natural values are provided in Section 6.

Action plans will be implemented, and where regulations apply, enforced, through collaborative mechanisms based on the jurisdiction of each partner. The Management Plan will be reviewed and updated, incorporating lessons learned and new data and information from monitoring and the application of *akiwi-gikendamowining* (Anishinaabe land-based knowledge) and western scientific knowledge to develop or refine management direction and actions for Pimachiowin Aki



Monitoring supports the protection and management of cultural waterways (Ontario Parks 2011)

5.f SOURCES AND LEVELS OF FINANCE


Funding for the protection and management of Pimachiowin Aki derives from four primary sources, in accordance with the category of land ownership, responsibility, and expertise involved: the First Nations, the Province of Manitoba, the Province of Ontario, and the Pimachiowin Aki Corporation.

Bloodvein River, Little Grand Rapids, Pauingassi, and Poplar River First Nations have been successful in securing funding from the public and private sectors for various initiatives during the past two decades and continue to investigate potential funding sources for projects and programs described in First Nation land management plans. Pimachiowin Aki benefits indirectly from funds allocated by the Government of Canada to First Nations to fund staffing and programs for First Nation/Reserve lands.

The majority of funding for the protection and management of Pimachiowin Aki comes from the governments of Manitoba and Ontario. The departments with primary land and resource management responsibilities are the Manitoba Department of Sustainable Development and the Ontario Ministry of Natural Resources and Forestry. Other departments and agencies of the provincial governments (e.g., Historic Resources Branch, Sport, Culture and Heritage, Infrastructure) also provide financial and in-kind support for management actions and the achievement of desired outcomes in Pimachiowin Aki. Provincial government departments are funded through allocations from the provincial legislatures as shown in the provinces' budgets each year.

Manitoba Sustainable Development and the Ontario Ministry of Natural Resources and Forestry maintain regional operations (headquartered in Lac du Bonnet, Manitoba, and Red Lake, Ontario, respectively) that serve the nominated area and surrounding areas. These regional offices spend over \$1 million per year on staff and operations.





Additional funding support for Pimachiowin Aki is guaranteed by income earned from investment of a permanent fund. The Pimachiowin Aki World Heritage Fund was established in 2010 when the Government of Manitoba enacted *The Pimachiowin Aki World Heritage Fund Act*, C.C.S.M. c. P70, enabling donations to be made to support the goals of the Pimachiowin Aki Corporation. The purpose of the Fund, as set out in the *Act*, is:

1. To generate income to be used to protect, preserve, and celebrate the natural features and the cultural landscape;
2. To support programs and initiatives that are consistent with the Management Plan established for a Pimachiowin Aki World Heritage site; and
3. To support community-driven projects.

The Fund is established as an irrevocable trust regardless of whether Pimachiowin Aki is inscribed on the World Heritage List.

The Government of Manitoba committed to contribute \$10 million to the Fund and provided funding in support of an awareness and fundraising campaign launched in 2010 by the Pimachiowin Aki Corporation. The goal of the campaign is to raise \$10 million for the Fund over the next several years, building on Manitoba's \$10 million commitment, to attain a total endowment of \$20 million. Effective, long-term management of the Fund is provided by the Winnipeg Foundation, which pools and invests gifts from its donors. Through its spending formula the Winnipeg Foundation makes annual grants to the Corporation.

The average annual expenditure of the Corporation since 2006 has been approximately \$500,000, with the most of this funding provided by the provinces of Manitoba and Ontario. The Corporation anticipates similar levels of direct annual expenditures for the next several years. As the market value of the Fund grows, provincial government grants to the Corporation could be adjusted accordingly.

The Pimachiowin Aki Corporation Board of Directors ensures the effective use of financial resources through business planning and other good governance processes and moves the Corporation closer to being self-reliant through well-established and innovative fundraising methods. The commitment of the partners to work together to achieve management outcomes throughout the integrated and adaptive cycle further enhances the capacity of the Corporation to safeguard Pimachiowin Aki's proposed Outstanding Value into the future.



Pimachiowin Aki donor appreciation event at the Canadian Museum for Human Rights (Pimachiowin Aki Corp. 2015)





5.g SOURCES OF EXPERTISE AND TRAINING IN CONSERVATION AND MANAGEMENT TECHNIQUES

Expertise and training are, and will continue to be, available from a variety of sources: Pimachiowin Aki Anishinaabeg; First Nation organizations; provincial and federal governments and agencies; non-government organizations; the private sector; and through the efforts of the Pimachiowin Aki Corporation to provide learning experiences and opportunities for its members.

A broad range of expertise and training opportunities is described below. Some sources are drawn upon for specific needs (e.g., documentation and protection of heritage resources), while others are directed at broader goals such as community economic diversification and climate change adaptation.

Akiwi-gikendamowining

Anishinaabe elders and other keepers of *akiwi-gikendamowining* (Anishinaabe land-based knowledge) about Pimachiowin Aki are essential sources of expertise and training in conservation and management techniques. *Ji-ganawendamang Gidakiiminaan* is an ancient and vibrant oral tradition, held and transmitted in *Anishinaabemowin*, which is spoken widely by Anishinaabeg of Pimachiowin Aki. Community gatherings, school curricula, meetings of the Pimachiowin Aki Corporation, and planning teams are among the means of sharing this intimate knowledge of the land.

Anishinaabe training and teaching methods are harmonized with western scientific methods to provide the best possible learning context for youth, combining experiential learning with existing classroom approaches. Elders and others with land-based knowledge continue to teach young apprentices by travelling, hunting, fishing, gathering, and camping with them so that the youth continue to understand the land, *Ji-ganawendamang Gidakiiminaan*, and the Anishinaabe way of life.



Elder and youth, Weaver Lake community camp
(Pimachiowin Aki Corp. 2009)

First Nation Organizations

SOUTHEAST COMMUNITY FUTURES DEVELOPMENT CORPORATION


The Southeast Community Futures Development Corporation (SCFDC) assists First Nations and businesses in Manitoba that are affiliated with the Southeast Resource Development Council. The four Pimachiowin Aki First Nations belong to this organization and have access to its programs and services. The SCFDC's mandate is to create a level of independence among First Nations by fostering organizational infrastructure and the implementation of economic activities that create income for First Nations.

The SCFDC provides services in small business counselling, business planning, training, workshops and seminars, and financial assistance through loans.

EASTSIDE ABORIGINAL SUSTAINABLE TOURISM INC.

Pimachiowin Aki First Nations are members of Eastside Aboriginal Sustainable Tourism Inc. (EAST Inc.), a not-for-profit corporation established to support the development and expansion of new and existing Aboriginal tourism





businesses in eastern Manitoba, including tourism infrastructure and product development, human resources and entrepreneurial development, marketing, and promotion. EAST Inc. was contracted by Pimachiowin Aki Corporation in 2013 to provide direct, hands-on immersion-style tourism training to Anishinaabeg in Pimachiowin Aki (in Manitoba and Ontario) and to further develop market-ready visitor experiences.

Non-Government Organizations

THE INTERNATIONAL INSTITUTE FOR SUSTAINABLE DEVELOPMENT

Based in Winnipeg, Manitoba, the International Institute for Sustainable Development (IISD) has established a close working relationship with the Pimachiowin Aki Corporation. Specializing in policy research, analysis, and information-exchange, IISD champions global sustainable development to improve the well-being of environment, economy, and society through innovation, research, and relationships that span the world. In addition to supporting the nomination process, IISD is working with Pimachiowin Aki First Nations to develop a broad understanding of potential threats posed by climate change and ways that Pimachiowin Aki Anishinaabeg may adapt to and mitigate potential effects of a changing climate in the future.

INTERNATIONAL BOREAL CONSERVATION CAMPAIGN

The International Boreal Conservation Campaign (IBCC), formerly known as the Canadian Boreal Initiative (CBI), works with governments, First Nations, industry, conservation groups, financial institutions, and scientists on ways to conserve and sustainably manage the boreal forest ecosystem in Canada. In 2014, the Pimachiowin Aki Corporation signed a Memorandum of Understanding with PEW Charitable Trusts, who lead the IBCC, regarding cooperation on public communications. Like the CBI was, the IBCC is a prospective partner in future research opportunities. Poplar River First Nation, through a partnership with the IBCC and with support from the John D. and Catherine T. MacArthur Foundation, completed a study of the above- and below-ground carbon inventory in the Poplar River area (Cooley *et al.* 2009). Poplar River youth participated in field studies along with scientists, sharing knowledge and information.

Provincial Governments

The Manitoba and Ontario governments employ a diverse range of skilled professionals and technicians in various fields of cultural and natural resources management. Staff in regional offices near the nominated area (Lac du Bonnet, Manitoba, and Red Lake, Ontario) have access to additional human and financial resources from department headquarters located in Winnipeg, Manitoba, and Peterborough, Ontario.

The provinces also directly support other land management training initiatives for First Nations. For example, in Manitoba, the Wabanong Nakaygum Okimawin (WNO) is a broad area planning initiative that brings together local communities, First Nations, industry, and other stakeholders to develop a vision for land and resource use that respects both the value of the boreal forest and the needs of local communities on the east side of Lake Winnipeg. Through this initiative, capacity for land management planning is supported by the provision of training and equipment to First Nations for documentation and mapping of land use and occupancy data. The Pimachiowin Aki First Nations utilized WNO as a resource in preparing the Asatiwisipe Aki, Naamiwan, Ni-Kes, and Pimitotah land management plans summarized in Section 5.d and included in Appendix J.

Federal Government

Parks Canada Agency leads implementation of the *World Heritage Convention* in Canada, on behalf of the Government of Canada, as a State Party to the Convention. A representative of the Parks Canada Agency participates as an advisor on the Pimachiowin Aki Corporation Board of Directors.

Indigenous and Northern Affairs Canada and Western Economic Diversification are other federal agencies that have supported capacity development in conservation and management of Pimachiowin Aki.





Private Sector

Pimachiowin Aki partners employ a variety of experts from the private sector, such as planning consultants, ecologists, biologists, and archaeologists. Experienced professionals who have long-standing relationships with the Pimachiowin Aki First Nations continue to be a valuable source of expertise.

Pimachiowin Aki Learning Initiatives

The Pimachiowin Aki partners have sourced information and expertise within a network of similar organizations on such topics as: site and facilities management, business planning, marketing, and design of interpretive facilities. For example, Pimachiowin Aki Corporation Directors and advisors have visited the Head-Smashed-In Buffalo Jump World Heritage Site, the Joggins Fossil Cliffs World Heritage Site, and the Clayoquot Sound Biosphere Reserve. The Corporation has also established and maintains a relationship with the American Philosophical Society (APS) based in Philadelphia, the first learned society in the United States, established by Benjamin Franklin more than 250 years ago. The APS is the custodian of a significant collection of Anishinaabe material artefacts and photographs, including the work of anthropologist A. Irving Hallowell (see Appendix G.1.8).

Relationships through formal and informal agreements have also been established between Pimachiowin Aki, or its partners individually, and the Universities of Manitoba and Winnipeg. Maintaining and building relationships with post-secondary educational institutions fosters interest among Anishinaabe youth in attending university and promoting research opportunities in the nominated area.

5.h VISITOR FACILITIES AND STATISTICS

Visitor Facilities, Amenities, and Access

TRAVEL INFRASTRUCTURE

A winter road network, boat travel, and air travel are the main means of accessing Pimachiowin Aki. With the exception of Pauingassi First Nation, all of the Pimachiowin Aki First Nations have airstrips. An all-season road has been completed to Bloodvein River First Nation (November 14, 2014) and is projected to reach the Poplar River, Pauingassi, and Little Grand Rapids over the next few decades, depending on funding levels for construction of the road network. The Government of Manitoba constructed a boat launch and parking facility east of the Bloodvein River community in 2016 to manage visitor access to the Bloodvein River and the surrounding area.

ATIKAKI PROVINCIAL PARK

Atikaki Park offers some of Manitoba's finest canoeing with approximately 1,000 kilometres of interconnected waterways. The Pigeon River offers some of the best wilderness white-water canoeing and rafting in North America. Manitoba Sustainable Development estimates an average of approximately 1,000 paddlers a year in Atikaki Park, and lodges and fly-in outposts in the park receive an estimated 1,000 visitors a year. Backcountry camping and canoeing/kayaking are encouraged in the Park along with wildlife viewing, photography, hiking, Nordic skiing, and snowshoeing.



Winter road on a frozen lake (Pimachiowin Aki Corp. 2009)



Most visitation to Atikaki Park occurs in the snow-free months. About two-thirds of visitors access the Park by air and one-third by watercraft. Most visitors stay an average of 10 nights; some stay as many as 30 nights. Due to the remoteness of the area, many visitors are at an intermediate or advanced skill level in canoeing or outdoor survival. Most of the visitors are from Manitoba, Ontario, and the United States of America, with some from Germany, France, and Switzerland.



Atikaki and Woodland Caribou parks are premier canoeing destinations
(© Eric Lindberg 2008)

WOODLAND CARIBOU PROVINCIAL PARK

Ontario's Woodland Caribou Provincial Park offers 2,000 kilometres of connected lakes and rivers, and has an average of 750 paddlers a year. The average length of stay is six to seven days (Ontario Parks 2007). The Woodland Caribou Park Superintendent reports that approximately 70 percent of paddlers come from the United States (Minnesota and Wisconsin), 22 percent from Canada (Manitoba and Ontario), and 3 percent from overseas. Approximately 1,000 backcountry campsites are marked. There are commercial outpost cabins located within the park that accommodate about 1,500 guests a year, primarily visitors from the United States participating in recreational fishing. Sport hunting is not permitted in Woodland Caribou Park.



Red Lake Heritage Centre (D. Gilmore 2011)

Red Lake, Ontario, east of the Park, is the gateway to Woodland Caribou Provincial Park and has a variety of accommodations, outfitters, retail outlets, and restaurants (Marr and IISD 2008).

FIRST NATION COMMUNITIES

Small commercial accommodations exist in Bloodvein River (Bloodvein River Lodge) in Poplar River (Sagatay Lodge) and Little Grand Rapids (Little Grand Rapids Lodge).



Sharing a traditional teaching at Bloodvein River Lodge (JJ. Ali 2011)





PUBLIC SAFETY AND RISK MANAGEMENT

Because the area is remote, visitors (predominantly canoeists) must have wilderness travel and survival skills and engage in trip planning. Visitors are encouraged to register their travel plans with park offices. Most visitation is facilitated by private tourism operations through which visitors are guided, and safety and risk management are important factors in operations management.

On occasion, visitors to and residents of Pimachiowin Aki are evacuated due to forest fires. People are restricted from entering or returning to an area until the fire poses no threat to their health and safety.

FUTURE CONSIDERATIONS REGARDING VISITOR FACILITIES

Implementation of land management plans and the Pimachiowin Aki Management Plan involves the development and enhancement of new and existing sustainable eco-cultural tourism opportunities. The Pimachiowin Aki partners welcome tourism-based commercial enterprise in the area as a means of animating and sharing the values and philosophy of *Ji-ganawendamang Gidakiiminaan* and of bringing Pimachiowin Aki and the cultural tradition that has sustained it to life through storytelling and demonstration of cultural practices. Enhancing the visitor economy will benefit local economies in Pimachiowin Aki (both subsistence and wage sectors) and reinforce customary governance and *akiiwi-gikendamowining* (land-based knowledge) into the future.

The Pimachiowin Aki Corporation has completed an assessment of eco-cultural tourism potential to assist in identifying needs and opportunities in the context of a World Heritage site. Some of the findings and considerations for tourism planning and potential development in Pimachiowin Aki are listed below:

1. The process of tourism planning benefits First Nations through training and education, communication and learning between elders and youth, new infrastructure and increased community pride;
2. Partnerships with the existing tourism industry are being considered to enhance or expand current products, and bundle tourism in Pimachiowin Aki with experiences and facilities in surrounding regions and urban attractions in Manitoba and Ontario (for example, the new Canadian Museum of Human Rights in Winnipeg, Manitoba); and,
3. Short-and long-term financial support and investments from either public and/or private funding sources will enable the development and marketing of the destination and eco-cultural tourism products, and the cultivation of successful businesses.

COMMUNITY INITIATIVES

Poplar River First Nation has initiated a marketing plan to increase tourism into the Poplar River region. The First Nation hopes to achieve this by offering a 6-day river tour package as the initial product (Asper School of Business 2014). The First Nation has also prepared a conceptual development plan for an interpretive/visitor centre, a place to welcome visitors and celebrate Anishinaabe traditions (Asatiwisipe Aki Cultural/Natural Interpretive and Visitors Centre Development Plan, December 2011).

FIRST NATION-PROVINCIAL GOVERNMENT INITIATIVES

Bloodvein River First Nation and Manitoba Sustainable Development have initiated planning to address the potential for community-operated tourism facilities and services (e.g., interpretive/orientation facilities, campground, and hiking trails) that may be appropriate for the area. This is in addition to the boat launch and parking facility mentioned at the beginning of Section 5.h.



PIMACHIOWIN AKI CORPORATION INITIATIVES

The Corporation sponsored two familiarization tours to Pimachiowin Aki in 2011 and 2012. Each tour provided valuable learning experiences for the Pimachiowin Aki partners in planning and conducting tourism activities and is being evaluated by the Corporation as a potential model for an ongoing eco-cultural tourism product. The Corporation received a generous financial donation from the MacArthur Foundation, based in Chicago, after the 2011 tour. In 2013, the Corporation sponsored a Best Practice Mission for Pimachiowin Aki Anishinaabeg interested in eco-cultural tourism. This initiative continues to build capacity and support product development and diversification.

The Pimachiowin Aki Corporation continues to examine ways to implement eco-cultural tourism development by encouraging grassroots involvement. By focusing on and supporting community-led discussion and identification of needs related to training and human resource development, education and transfer of knowledge, local business development, employment, and community infrastructure, the Corporation strives to assist Anishinaabeg individuals and communities to identify and act on opportunities in the short-term, while maintaining a longer-term strategic perspective about tourism in Pimachiowin Aki.

Eco-cultural tourism guidelines have been developed and are being applied in promoting and delivering visitor experiences in Pimachiowin Aki. Well-planned and culturally appropriate tourism is perceived as benevolent, a way to promote prosperity and maintain and strengthen cultural values through the celebration of Anishinaabe history, language, beliefs, values, knowledge, and practices.

5.i POLICIES AND PROGRAMS RELATED TO THE PRESENTATION AND PROMOTION OF THE PROPERTY

Pimachiowin Aki Corporation

The Corporation has identified management actions and outcomes related to presentation and promotion that will be delivered both directly and in collaboration with other organizations. The Corporation continues to develop plans that feature education and community outreach, including linkages to school curricula and visitor experiences, and to develop key messages and marketing strategies for Pimachiowin Aki.

In preparing the nomination, the Corporation established and refined a Pimachiowin Aki brand, including a dynamic website (www.pimachiowinaki.org), which features information on “the land, the people, our past, and our future.” The website makes extensive use of video and photographs to promote awareness, understanding, and support.



Participants in tourism training mission with elders from Poplar River (East Inc. 2013)



Pimachiowin Aki community members participated in an indigenous cultural celebration at the World Parks Congress in Sydney, Australia (Pimachiowin Aki Corp. 2014)





This website and evolving sub-sites will continue to be an important promotional and educational tool in the future.

Prominent magazines (e.g., *Canadian Geographic*, *National Geographic*) have developed or are exploring articles on Pimachiowin Aki. Media and fundraising strategies have been and will continue to be developed by the Corporation to identify and take advantage of opportunities to promote Pimachiowin Aki through this medium.

Pimachiowin Aki partners have attended conferences in Australia, New Zealand, the United States, and Canada and continue to maintain the relationships established with people in these places to help the Corporation present the nominated area to diverse audiences.

First Nation Policies and Programs

Pimachiowin Aki First Nations are developing eco-cultural tourism programs and facilities that sustain the cultural landscape and boreal shield ecosystem through interpretation and cultural appreciation. As discussed in Section 5.h, Poplar River First Nation is investigating the potential for a visitor/education centre where Anishinaabeg and visitors can learn about, and are encouraged to respect, Pimachiowin Aki's cultural and natural values, and Bloodvein River First Nation is developing a visitor information protocol related to the all-season road.

Provincial Parks

Management plans for Woodland Caribou and Atikaki Provincial Parks are a source of information about policies and programs for the presentation and promotion of the parks. The Pimachiowin Aki Corporation is building on these policies and programs as part of a presentation and promotion strategy for Pimachiowin Aki.

WOODLAND CARIBOU PROVINCIAL PARK, ONTARIO

The Park Management Plan (2007) identifies a Natural Heritage Education policy that gives specific program direction to education initiatives designed to enhance awareness of, and involvement in, the park by schools and interest groups such as naturalist clubs and youth groups. The Plan also promotes structured and unstructured recreation opportunities for the exploration and appreciation of Anishinaabe culture, the fur trade, the earth and life science features, and the Bloodvein Canadian Heritage River.

Opportunities to learn about the natural and cultural values of the park are presented in a newsletter, trail and canoe route maps, signs, and information kiosks and through park staff. Emphasis is placed on wilderness ethics, safety in the outdoors, good relations and respectful behaviour, and the use of designated campsites.


Park policy identifies the goal to work in partnership with local First Nations to ensure that any interpretation of Anishinaabe culture is accurate and appropriate.

People also learn about the park through Ontario Parks' publications and website, commercial tourism operators, local tourism organizations, word of mouth, and various publications and internet sites which promote adventure travel. Care is being taken to ensure that marketing initiatives for Woodland Caribou Provincial Park result in compatible activities that protect the values for which the park was created.

ATIKAKI PROVINCIAL PARK, MANITOBA

Atikaki's remoteness precludes the more familiar methods of interpreting its features such as on-site interpretation and amphitheatre programs. Manitoba Sustainable Development continues to publish and sell maps of canoe routes on the Kautunigan and Sasaginnigak Rivers and provides information on natural and human history, rock paintings, camping, canoeing, angling, and fly-in lodges in the park. A video on Atikaki Provincial Park is shown at amphitheatres in other provincial parks.





The Park Management Plan (2008) identifies opportunities for orientation and interpretive displays and materials at key entry points and tourist lodges, and in neighbouring communities. Other priorities include working with First Nations to develop partnerships in pursuit of long-term tourism and other economic opportunities associated with the park, the production of brochures and publications on management and interpretive issues, including an educational video on woodland caribou, and the provision of interpretive training and information to commercial operators in the park. Presentations on the Manitoba Sustainable Development website and the development of publications are among the management plan's proposed strategies to increase awareness of and respect for the natural and cultural values of the park and the Bloodvein Canadian Heritage River.

5.j STAFFING LEVELS

First Nations

Each of the Pimachiowin Aki First Nations employs staff (lands managers, coordinators, guardians) with responsibilities for land planning, implementation, monitoring, and reporting. Many of these people represent the First Nations on the Pimachiowin Aki Corporation and the planning teams described above. Lands staff work directly with established Elders' Councils, Trappers' Councils, and other holders of *akiwi-gikendamowining* to guide land management plan implementation in accordance with Anishinaabe customary governance. Future staffing direction at the First Nations' level is provided in land management plans (presented in Appendix J) and is consistent with current practice.

Provincial Governments

The Ontario Ministry of Natural Resources and Forestry and Manitoba Sustainable Development maintain offices adjacent to the nominated area in the communities of Red Lake, Ontario, and Lac du Bonnet, Manitoba. Staff complements within the two provincial jurisdictions have responsibility for planning and management activities related to Pimachiowin Aki and the surrounding area. In total, there are 30 staff in the Red Lake District in Ontario and 37 in the Lac du Bonnet regional office in Manitoba, including planners, land managers, biologists, enforcement personnel, fire management staff, and technical and administrative support (Graeme Swanwick, personal communication; Bruce Bremner, personal communication).

In Ontario, a full-time Park Superintendent position is dedicated to Woodland Caribou Provincial Park. The remaining (part-time) staff complement for the park includes:

- Assistant Park Superintendent
- Park Biologist
- Park Wardens (two)
- Summer experience employment positions (three)
- Aboriginal youth work experience program position





Manitoba has a Regional Park Superintendent who is responsible for Atikaki Provincial Park as well as other provincial parks in the region. Additional full-and part-time staff that oversee management of Atikaki and other nearby parks include:

- Chief of Park Operations
- District Park Supervisor
- Parks Work Supervisor

Pimachiowin Aki Corporation

The Corporation currently has a Secretariat that reports to the Board of Directors. The Secretariat is staffed by two positions, Executive Director and Community Coordinator, and retains financial and legal support services. The size and composition of the Secretariat will evolve and grow, commensurate with financial capacity and the range of functions assumed in the future. A number of functions and activities of the Corporation (e.g., fundraising) will be carried out by contractors.







6

MONITORING





6

MONITORING

"Ji-ganawendamang Gidakiiminaan is itself a tradition of monitoring, of keeping the land by watching over the land."

Enil Keeper (October 9, 2014)

Monitoring is an important commitment for the long-term protection and management of the nominated area. Both condition and effectiveness monitoring are components of the adaptive management cycle described in Section 5. This section addresses the periodic assessment of the condition of attributes, features, and values that can be reviewed and reported on to identify trends over time—to answer “the most important question of all: whether the World Heritage site is protecting its values and achieving its objectives” (Hockings *et al.* 2008: 60).

6.a KEY INDICATORS FOR MEASURING STATE OF CONSERVATION

The framework for conditions monitoring (Figure 6.1) identifies two themes: the Anishinaabe cultural landscape and ecosystem health. Indicators linked to these themes reflect elements of the proposed Outstanding Universal Value of Pimachiowin Aki as a mixed cultural and natural heritage site under World Heritage criteria (iii), (vi), and (ix).

Six indicators are identified for the Anishinaabe cultural landscape theme, four of which address community well-being: population trends, First Nations governance/leadership, community benefits, and traditional livelihood activities. These measures are important because the Anishinaabe communities are integral to the nominated area. The other two indicators are archaeological sites and oral traditions, key examples of the attributes that provide testimony to the cultural tradition. Most of these indicators can be measured through data that is currently being collected or through replication of past research studies.

Regarding ecosystem health, five indicators have been identified. The status of species of conservation concern and the presence of invasive species will be monitored as surrogate measures of characteristic conditions of boreal shield biodiversity. These indicators are relatively easy to monitor and provide an early warning of potential major biodiversity shifts. The ongoing status of wildfire regimes will be monitored as a key ecological driver that operates at a temporal scale at which land managers also operate. Site integrity will be monitored through periodic assessment of the human footprint using standard Earth observation techniques. Reference to applicable studies and reports will be the means used initially to monitor climate change; however, opportunities for site-specific research within the nominated area will be pursued.

Monitoring indicators are summarized below.



Figure 6.1 Monitoring Indicators

Anishinaabe Cultural Landscape Theme









Indicators		Potential Measures	Periodicity	Location of records
	Anishinaabe community populations	Population growth and stability (out-migration)	2 years	Pimachiowin Aki Corporation, Winnipeg, Manitoba
	Anishinaabe governance/ leadership	Implementation of land use plans	Annual	Pimachiowin Aki Corporation, Winnipeg, Manitoba
	Community benefits	Involvement in eco-cultural sustainable heritage tourism	5 years	Pimachiowin Aki Corporation, Winnipeg, Manitoba
	Traditional livelihood activities	Level of trapping, hunting and fishing	5 years	Pimachiowin Aki Corporation, Winnipeg, Manitoba Ontario Natural Resources and Forestry, Red Lake, Ontario Manitoba Sustainable Development, Winnipeg, Manitoba
	Anishinaabe oral tradition	Rates of language retention and use	10 years	Pimachiowin Aki Corporation, Winnipeg, Manitoba
	Archaeological sites	Integrity/condition of archaeological sites, including pictographs	5 years	Pimachiowin Aki Corporation, Winnipeg, Manitoba Ontario Natural Resources and Forestry, Red Lake, Ontario Manitoba Sustainable Development, Winnipeg, Manitoba





Figure 6.1 Monitoring Indicators

<i>Ecosystem Health Theme</i>				
Indicators		Potential Measures	Periodicity	Location of records
	Species of conservation concern	Condition of habitat and status of populations for woodland caribou and lake sturgeon	5 years	Pimachiowin Aki Corporation, Winnipeg, Manitoba Ontario Natural Resources and Forestry, Red Lake, Ontario Manitoba Sustainable Development, Winnipeg, Manitoba
	Invasive species	Species reported in buffer areas and/or within Pimachiowin Aki	5 years	Pimachiowin Aki Corporation, Winnipeg, Manitoba Ontario Natural Resources and Forestry, Red Lake, Ontario Manitoba Sustainable Development, Winnipeg, Manitoba
	Wildfire regime	Frequency and size per each large-area ecosystem	2 years	Pimachiowin Aki Corporation, Winnipeg, Manitoba Ontario Natural Resources and Forestry, Red Lake, Ontario Manitoba Sustainable Development, Winnipeg, Manitoba
	Intactness	Change in human footprint	10 years	Pimachiowin Aki Corporation, Winnipeg, Manitoba
	Climate change	Number of studies and reports relevant to Pimachiowin Aki	5 years	Pimachiowin Aki Corporation, Winnipeg, Manitoba



Biologists monitor lake sturgeon populations (©D. Watkinson 2011)



6.b ADMINISTRATIVE ARRANGEMENTS FOR MONITORING

The Pimachiowin Aki Corporation will assemble information and report on monitoring for the nominated area as part of its responsibilities. The Corporation maintains a library of baseline data that will be expanded over time to promote research, monitoring, and data management (Section 5.e). For example, under the *Memorandum of Understanding respecting Transboundary Protection and Management of the Proposed Pimachiowin Aki World Heritage Site* (described in Section 5.c), the provinces of Manitoba and Ontario coordinate and share information related to wildlife, wildfire, and waterways. Monitoring activities undertaken as part of the implementation of First Nation and park management plans will provide relevant information on cultural attributes and natural features. In addition to monitoring data provided by its members (i.e. four First Nation and two provincial governments), the Corporation also has access to data collected by the Government of Canada (e.g., community populations).

Full implementation and continuous improvement of monitoring is a priority. In this regard, the Corporation's Board of Directors is considering the establishment of a Monitoring Committee. Under the Board's guidance, the Committee would address both effective implementation as well as future improvements in monitoring. For example, the Pimachiowin Aki partners recognize that a customary system of monitoring inherent in *Ji-ganawendamang Gidakiiminaan* has kept Pimachiowin Aki Anishinaabeg attuned to ecological variability. Maintaining and enhancing Anishinaabeg customary monitoring approaches (Shearer 2008) is a shared goal of the partners and a potential refinement of the monitoring framework shown in Figure 6.1. Better reflection of both Anishinaabe and Western understandings about the condition of attributes, features, and values will provide the most holistic and effective cross-cultural understanding of the state of conservation of Pimachiowin Aki.

Adapting the current Canadian Heritage Rivers System monitoring approach more broadly to the cultural waterways of Pimachiowin Aki is another future consideration (see Section 6.c).

The results of monitoring will be reviewed, evaluated, and applied by the Board of Directors on a regular basis as part of the management cycle. Reporting on monitoring will be part of the Annual General Assembly of Partners when the Corporation's Annual Report and audited financial statements are reviewed and opportunities are provided for community interaction, information sharing, and planning.

The Corporation communicates publicly on all of its activities through annual reports made available on its website. Monitoring results will be communicated through annual reporting as well as to the World Heritage Committee through Canada's reporting on the State of Conservation of World Heritage sites in the country.

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6.c RESULTS OF PREVIOUS REPORTING EXERCISES

This section provides a brief overview of monitoring completed to date through the Canadian Heritage Rivers System.

BLOODVEIN CANADIAN HERITAGE RIVER MONITORING

The Bloodvein River traverses 306 kilometres through Pimachiowin Aki and has been the subject of monitoring through the Canadian Heritage Rivers System (CHRS) for two decades. The portion of the river in Manitoba was designated as a Canadian Heritage River in 1987 and the portion in Ontario was designated in 1998, in recognition of the river's outstanding human and natural heritage, recreation, and river integrity values (HTFC 2000).

Through the CHRS, designations are reviewed at least every 10 years and monitoring is required to ensure that all Canadian Heritage Rivers continue to possess the outstanding heritage values for which they were originally designated.

Monitoring reports for the Bloodvein River were published in 2000 and 2007. The 2007 report (see Appendix F.6) states that:

1. There have been no significant changes or threats to the natural heritage values for which the river was nominated;
2. There have been no significant changes or threats to the cultural heritage values for which the river was nominated;
3. There have been changes to some recreational heritage values for which the river was nominated. In general the changes relate to reducing mechanized travel and land occupations that could adversely affect the wilderness experience; access to the river was improved at the headwaters; and non-mechanized recreational use of the river increased; and
4. There were no changes to the river integrity values except for the removal of an outcamp and boat-caches as a means of improving the wilderness canoeing experience along the river.

The report concludes that the river is worthy of continued designation as a river of national significance within the Canadian Heritage Rivers System.

Monitoring of the Bloodvein River system will continue, with reporting at seven- to ten-year intervals.





7

DOCUMENTATION





7

DOCUMENTATION

7.a IMAGE INVENTORY AND PHOTOGRAPH AND AUDIOVISUAL AUTHORIZATION FORM

7.a(i) APPENDIX A

Slides (with thumbnails) and Authorization Table

7.a(ii) APPENDIX B

Videos of the area (DVDs) and Authorization Table

7.a(iii) APPENDIX C

World Heritage Nomination Proposal for Pimachiowin Aki (electronic)

7.b TEXTS RELATED TO PROTECTIVE DESIGNATION, AREA MANAGEMENT PLAN, FIRST NATION LAND USE PLANS, AND PROVINCIAL PARK PLANS

7.b(i) APPENDIX D

Large-scale maps of the nominated area:

Map 1. Pimachiowin Aki Proposed World Heritage Site

Map 2. Pimachiowin Aki Proposed World Heritage Site – Topographic Map

Map 3. Pimachiowin Aki Proposed World Heritage Site – Nominated Area and Buffer Zones

Map 4. Pimachiowin Aki Proposed World Heritage Site – Nominated Area and Buffer Zones – Topographic Map

7.b(ii) APPENDIX E

Pimachiowin Aki Cultural Landscape Atlas



7.b(iii) APPENDIX F

Related Published Works and Reports

- F.1. Davidson-Hunt, Iain J., and R. Michael O'Flaherty. 2010. *Pikangikum Cultural Landscape Guide*. Pikangikum, Ontario: Whitefeather Forest Management Corporation.
- F.2. *Ojibwa of Berens River, Manitoba* (Fort Worth: Harcourt Brace Jovanovich, 1992), A. Irving Hallowell, Ed. Jennifer S.H. Brown.
- F.3. *Bloodvein River Monitoring Report* (prepared for the Ontario Ministry of Natural Resources, Manitoba Conservation and the Canadian Heritage Rivers Board, 2007), Candace Newman and Doug Gilmore.

7.b(iv) APPENDIX G

Background Studies

- G.1. Cultural Landscape Study
 - G.1.1. *Pimachiowin Aki Cultural Landscape Study: Summary of Discussion Papers for the Pimachiowin Aki UNESCO World Heritage Site Proposal*. Maureen Matthews. February 2011.
 - G.1.2. *A. Irving Hallowell on the Berens River in the 1930s: Culture and Experience in Pimachiowin Aki*. Jennifer S.H. Brown. October 2009.
 - G.1.3. *Land Tenure Report for Pimachiowin Aki Nomination*. Nathan Deutsch. 2010
 - G.1.4. *Recent Aboriginal History in Pimachiowin Aki*. Scott Hamilton. 2010.
 - G.1.5. *The Anishinaabeg in the Fur Trade of the Petit Nord and Pimachiowin Aki*. Victor Lytwyn. 2010.
 - G.1.6. *Anishinaabemowin: The Language of Pimachiowin Aki*. Maureen Matthews, Roger Roulette, and Rand Valentine. April 2010.
 - G.1.7. *Mapping the Ojibwe Universe, Giishkaanadong: Ojibwe Cosmology Discussion Paper*. Maureen Matthews and Roger Roulette. May 2010.
 - G.1.8. *Aaajitaawinan izhiitwaawining: Material Culture of the Pimachiowin Aki Region*. Maureen Matthews and Roger Roulette. August 2010.
 - G.1.9. *Giigoowag zhiigwa Noojigiigoo'iweg: Fish and Fisheries in the Pimachiowin Aki Region*. Maureen Matthews and Roger Roulette. February 2011.
 - G.1.10. *Cultural Landscape: Macro Scale Document*. Virginia Petch. August 2010.
 - G.1.11. *Woodland Art as a Tool of Decolonization*. Carmen Robertson. 2010.
 - G.1.12. *Rock Paintings in the Eastern Lake Winnipeg Watershed: With Attention to the Proposed Pimachiowin Aki World Heritage Area*. Jack Steinbring. 2010.
 - G.1.13. *Cultural Documentation Summary: Pimachiowin Aki World Heritage Nomination Cultural Landscape Study*. R. Michael O'Flaherty. October 2011.





G.2. Ecosystem Study

- G.2.1. *Background Information for Section 2.A Description of Natural Features*. Helios Hernandez. September 2011.
- G.2.2. *Ecological Description of Pimachiowin Aki World Heritage Project Area*. Rosemary Dohan. October 2010.
- G.2.3. *Global and Canada Boreal/Taiga Perspectives regarding Key Ecological Criteria*. Peter Lee and Matt Hanneman. 2010.
- G.2.4. *Aquatic Ecosystems of Pimachiowin Aki: Lakes, Rivers and Wetlands*. Terry Marshall. March 2010.
- G.2.5. *Preliminary Assessment: Criteria IX and X*. Robert F. Foster and Allan G. Harris. September 2011.
- G.2.6. *Pimachiowin Aki Draft Feasibility Study for Inclusion under World Heritage Site Nomination Criterion VIII (Geological Heritage Themes 1 and 11) and Description of Site Geology and Geological Values*. Daryl W. Cowell and Charlie E. Blackburn. January 2010.
- G.2.7. *History of Woodland Caribou and Atikaki Provincial Parks*. Helios Hernandez. September 2011.
- G.2.8. *Species Lists*. ECOSTEM Ltd. and Wildlife Resource Consulting Services MB Inc. November 2014.

G.3. Economic Study

- G.3.1. *A Socio-Economic Profile of the Pimachiowin Aki Area*. Rosemary Dohan. December 2010.
- G.3.2. *Tourism Context and Opportunities*. Marr Consulting Services and International Institute of Sustainable Development. March 2008.
- G.3.3. *Pimachiowin Aki World Heritage Project Area Ecosystem Services Valuation Assessment*. Vivek Voora and Stephan Barg. November 2008.

7.b(v) APPENDIX H

Pimachiowin Aki Corporation and First Nation Participation

- H.1. Annual Reports 2009, 2010, 2011
- H.2. Pimachiowin Aki and First Nation Participation
- H.3. Pimachiowin Aki Communications
- H.4. Biographies
- H.5. Pimachiowin Aki Governance Study



7.b(vi) APPENDIX I

Management Framework/System

- I.1. Management Plan, Pimachiowin Aki World Heritage Site Nomination

7.b(vii) APPENDIX J

First Nation Community Land Management Plans and Park Plans

- J.1. Asatiwisipe Aki Management Plan. Poplar River First Nation, June 2011
- J.2. Atikaki Provincial Park and Bloodvein Heritage River Management Plan. April 2008
- J.3. Little Grand Rapids First Nations Community Based Land Use Plan. Ontario Planning Area, July 2011
- J.4. Ni-Kes Lands Management Plan. Little Grand Rapids, Manitoba Planning Area, December 2012
- J.5. Pauingassi Community Based Land Use Plan. Pauingassi, Ontario Planning Area, July 2011
- J.6. Naamiwan: The Land of Fair Wind Lands Management Plan. Pauingassi, Manitoba Planning Area, December 2012
- J.7. Woodland Caribou Signature Site Management Plan, April 2007
- J.8. (Annex J.8. purposely deleted)
- J.9. Pimitotah: "To Care for Our Land". Bloodvein First Nation, Manitoba, November 2012

7.b(viii) APPENDIX K

Comparative Analyses

- K.1 Cultural Comparative Analysis in Support of the Nomination of Pimachiowin Aki under World Heritage Criteria (iii) and (vi)
- K.2.1 Evaluation of Pimachiowin Aki as an Outstanding Example of Boreal Ecosystems
- K.2.2 Natural Values Comparative Analysis: Gap Analysis and Site Profiles





7.b(ix) APPENDIX L

Legislation and Agreements

Legislation, Manitoba

- L.1. The Provincial Parks Act
- L.2. The East Side Traditional Lands Planning and Special Protected Areas Act
- L.3. The Mines and Minerals Act

Regulations, Manitoba


- L.4. Provincial Parks Designation Regulation, M.R. 37/97
- L.5. East Side Traditional Lands Planning and Special Protected Areas Regulation, M.R. 149/2010
- L.6. Asatiwisi Aki Traditional Use Planning Area Regulation, M.R. 77/2011 (Poplar River)
- L.7. Pimitotah Traditional Use Planning Area Regulation, M.R. 197/2011 (Bloodvein)
- L.8. Little Grand Rapids First Nation Traditional Use Planning Area Regulation, M.R. 154/2012
- L.9. Pauingassi First Nation Traditional Use Planning Area Regulation, M.R. 155/2012

Legislation, Ontario

- L.10. Far North Act
- L.11. Provincial Parks and Conservation Reserves Act
- L.12. Mines Act
- L.13. Public Lands Act

Regulations, Ontario

- L.14. Woodland Caribou Provincial Park
Designation of Provincial Parks Regulation 343/83
Ontario Regulation 316/07
Ontario Regulation 198/08 (amends 316/01)
Ontario Regulation 347/07
Ontario Regulation 22/11 (amends 347/07)
Woodland Caribou Signature Site Wilderness Park additions:
Order No. W-LL-P 2370/02 ONT, and Order No. W-LL-P 2370/06 ONT
- L.15. Eagle-Snowshoe Conservation Reserve
Ontario Regulation 208/03
Ontario Regulation 315/07



L.16. Little Grand Rapids First Nation
Order No. W-KRL-88/10

L.17. Pauingassi First Nation
Order Na. W-KRL-89/10

L.18. [Annex L.18. purposely deleted]

Agreements

L.19. Manitoba/Ontario Interprovincial Wilderness Area

L.20. Protected Areas and First Nation Resource Stewardship: A Cooperative Relationship Accord

L.21. Memorandum of Understanding respecting Transboundary Protection and Management of the Proposed Pimachiowin Aki World Heritage Site

7.c FORM OR DATE OF MOST RECENT RECORDS OR INVENTORY

Pimachiowin Aki Corporation maintains current paper copies and electronic files of related data and information. The Corporation has also assembled electronic geographic data on cultural and natural values into a GIS database.

7.d ADDRESS WHERE INVENTORY, RECORDS AND ARCHIVES ARE HELD

Inventory, records and archives are held by the Pimachiowin Aki Corporation located at 220 Rochester Avenue, Winnipeg, Manitoba, R3T 3W2. Electronic data is held at the firm of Hilderman Thomas Frank Cram, 500-115 Bannatyne Avenue East, Winnipeg, Manitoba, R3B 0R3. Each of the official local institutions listed in Section 8.c below also retains paper and electronic copies of information related to this nomination.





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Personal Communication

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Artuso, Christian (Manitoba Program Manager, Bird Studies Canada). Telephone interview with Gord Jones (Pimachiowin Aki Corporation), September 1, 2011.

Bremner, Bruce (Assistance Deputy Minister, Manitoba Sustainable Development), interview with Gord Jones (Pimachiowin Aki Corporation), May 25, 2011.

Gagnon, Jean (Service des Parcs, Government of Québec). Telephone interview with Gord Jones and Susan Buggy, June 23, 2011.

Pascal, Solomon (Pauingassi First Nation). Telephone discussion with Alison Haugh (Manitoba Sustainable Development) and Joe Owen (Pauingassi First Nation), January 7, 2014. Translated by Joe Owen.

Swanwick, Graeme (District Manager, Ontario Ministry of Natural Resource and Forestry), interview with Gord Jones (Pimachiowin Aki Corporation), May 25, 2011.

Wells, Jeff (Senior Scientist, Boreal Songbird Initiative). Telephone interview with Gord Jones (Pimachiowin Aki Corporation), May 28, 2014.

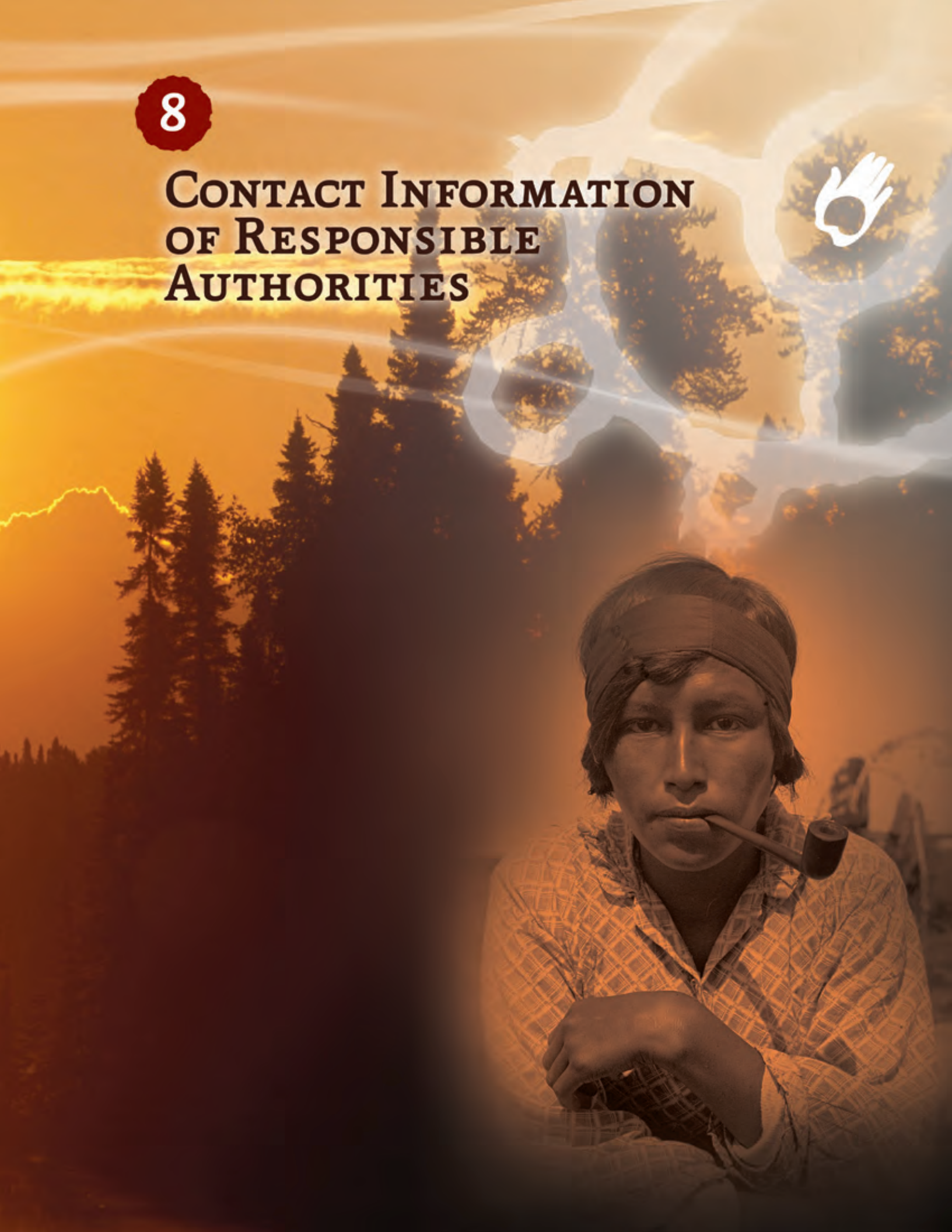
Windsor, Steve (Far North Planner, Sioux Lookout District). Teleconference with Mike Saunders (Ontario Ministry of Natural Resources and Forestry), Gordon Jones (Pimachiowin Aki Corporation) and Michael O'Flaherty, January 10, 2014.





8

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8.b OFFICIAL LOCAL INSTITUTION

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8.d OFFICIAL WEB ADDRESS

The official website address is www.pimachiowinaki.org and is maintained by the Pimachiowin Aki Corporation.





8.e ACKNOWLEDGEMENTS

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The Government of Canada

The Honourable Catherine McKenna, P.C., M.P., Canada's Minister of Environment and Climate Change, and Minister responsible for the Parks Canada Agency

The Government of Manitoba

Premier Brian Pallister, responsible Ministers and staff of the department of Manitoba Sustainable Development

The Government of Ontario

Premier Kathleen Wynne, responsible Ministers and staff of the Ministry of Natural Resources and Forestry

Pimachiowin Aki First Nations

Chief Roland Hamilton, the Council, and the people of Bloodvein River First Nation
Chief Roy Dunsford, the Council, and the people of Little Grand Rapids First Nation
Chief Michael Owens, the Council, and the people of Pauingassi First Nation
Chief Vera Mitchell, the Council, and the people of Poplar River First Nation

Organizations

Aikens Lake Wilderness Lodge, A+LTG Environmental Planning and Resource Management, American Philosophical Society, Bloodvein River Lodge, Cafesonique, Canadian Boreal Initiative, Centre for Indigenous Environmental Knowledge, Clayoquot Sound Biosphere Trust, Eastside Aboriginal Sustainable Tourism, Ecostem Ltd., Fineline Communications, Global Forest Watch Canada, Head-Smashed-in Buffalo Jump Provincial Historic Site, Hidehiro Otake Photography, Hilderman Thomas Frank Cram, J.J. Ali Photography, Joggins Fossil Institute, Lakehead University, Lost Art Cartography, Marr Consulting International Ltd., Nelson Architecture, Northern Bioscience Ecological Consulting, Northern Lights Heritage Services Inc., Overdrive Design Labs Ltd., RBC Royal Bank, Red Lake Heritage Center, Scatliffe, Miller, Marry Inc., Silva Ecosystem Consultants Ltd., Simon Hall Chartered Accountant, Southeast Resource Development Council Corp., TAG Creative Studios Inc., The Boreal Songbird Initiative, Taylor McCaffrey LLP, The David Suzuki Foundation, The International Institute of Sustainable Development, The McArthur Foundation, The Media Bank, The Richard Ivy Foundation, The Winnipeg Foundation, Travel Manitoba, University of Manitoba, University of Winnipeg, Wabanong Nakaygum Okimawin, WordTec Communications



Individuals

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SIGNATURE ON BEHALF OF THE STATE PARTY





SIGNATURE ON BEHALF OF THE STATE PARTY

Signed (on behalf of the State Party)

Signed by George Green

George Green

*Head of the Canadian Delegation
to the World Heritage Committee*

December 19, 2016

DATE



