Leveraging Payments for Ecosystem Services:

Poplar River First Nation leads the way with innovative conservation
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Introduction

As stewards of its traditional territory for generations, Poplar River First Nation (PRFN) has an immense opportunity to undertake and lead on nature-based and land management projects. The community wants to maximize the potential of nature-based solutions to support climate and biodiversity co-benefits and create positive socioeconomic outcomes for both PRFN and Manitobans at large. PRFN’s successes could spur the adoption of nature-based solutions and innovative conservation efforts by other communities, including the 70 per cent of Indigenous communities in Canada that are located in the boreal forest (Natural Resources Canada, 2018; NRTEE, 2005).

PRFN has been working for years on management planning for its traditional territory. A critical next step is for the community to develop third-party partnerships to pursue payments for ecosystem services (PES). Through PES, PRFN’s forest management strategies can better contribute to community and regional socioeconomic and environmental well-being.

Paving the Way

Over the past 20 years, PRFN has taken unprecedented steps to conserve and protect the 862,000-hectares of its traditional territory, Asatiwisipe Aki. The management plan PRFN developed is rooted in Anishinabek relationships to the boreal forest and provides a pioneering blueprint for sustainable forest management. It highlights the significance and value of PRFN’s traditional territory as “a benchmark of an intact boreal ecosystem, complete with Indigenous human populations and culture” (PRFN, 2011, p. 27). With support from the International Institute for Sustainable Development, PRFN has recently done extensive research on forest carbon management in its territory, including the potential for carbon offsets and benefits-sharing agreements.

PRFN has also spent years collaborating with neighbouring First Nations (Bloodvein River, Little Grand Rapids and Pauingassi First Nations) on the creation of the UNESCO World Heritage Site Pimachiowin Aki, of which PRFN traditional territory is a part. Covering 29,040 square kilometres, Pimachiowin Aki represents nearly a quarter of the lands occupied by Anishinaabeg peoples and is the “most complete and largest example of the North American boreal shield” (UNESCO, 2018). These communities’ shared vision for the management of this area supports cultural survival, health and well-being, and economic prosperity (PAC, 2016). PRFN’s hard work has ensured the area is protected from development, including commercial logging, mining and hydroelectricity.

In terms of ecological resilience and carbon sequestration, the role of Asatiwisipe Aki and Pimachiowin Aki is significant. PRFN believes there is high potential for PES to support its local management of these lands in culturally relevant ways.
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Timeline of the active efforts Poplar River First Nation has undertaken to date

7,000 YEARS AGO:
Anishinaabeg practise Ji-ganawendamang Gidakiiminaan (Keeping the Land) as they hunt, gather and fish across Pimachiowin Aki and adjacent landscapes

2002:
PRFN signs Protected Areas Accord with Pauingassi, Little Grand Rapids and Pikangikum First Nations

2005:
Draft management plan to protect and sustainably manage Asatiwisipi Aki, PRFN’s traditional territory

2008:
PRFN and Manitoba sign the Poplar River Traditional Territory Land Relationship Agreement, committing to forest management and benefit sharing

2008:
IISD’s carbon inventory study shows 444 million tonnes of stored carbon in Asatiwisipi Aki*

2011:
Asatiwisipe Aki Management Plan completed

2011:
PRFN and Manitoba sign Asatiwisipe Aki Traditional Use Planning Area Regulation with the Government of Manitoba

2018:
Pimachiowin Aki designated as a cultural and natural UNESCO World Heritage Site

2018–2019:
IISD conducts study of offsets and carbon sequestration potential in Asatiwisipe Aki


Why Payments for Ecosystem Services?
PES could help PFRN develop an effective forest-based economy, one that generates revenue to pay for the implementation of both the Asatiwisipe Aki Management Plan and Pimachiowin Aki World Heritage management programs. PES could provide well-paying and meaningful research and work opportunities for PFRN members and its project partners. PES is an instrumental tool to support PFRN’s role as a conservation leader on boreal forest management. Leveraging PES will help PRFN do this well into the future.
Payments for Ecosystem Services in Poplar River First Nation

In both the Pimachiowin Aki and Asatiwisipe Aki Management plans, PFRN has identified ways that PES could support local activities and protection of the land. But these management plans are just the beginning. Now, it is time to strengthen management efforts and concrete action through local economic diversification in a way that benefits, and is directed by PFRN and neighbouring First Nations.

Third-party efforts to conserve this valuable area can be ad hoc, not engaging the community and not context-specific enough to enable co-benefits while amounting to a considerable cost for the maintenance and restoration of the forest, which represents PFRN's home and natural capital. But with its community members eager to conserve the land, PFRN can not only ensure efficient and sustainable management but also ensure that the economic benefits stay within the community. Support from funders will help PFRN leverage Pimachiowin Aki's ecosystem services, which have been estimated at 28 times greater than the public expenditure that would be needed for conservation (Voora & Barg, 2008).

What is PES?

Payments for ecosystem service schemes are gaining traction as an economically effective way to provide financial returns for the protection, preservation and maintenance of natural environments (World Wildlife Foundation, 2006). Establishing PES follows three general phases: a) identifying the biophysical functions that provide people with beneficial services, b) quantifying those services, and c) determining how these services are economically valued by people in order to compensate those who maintain the ecosystem and its services.

Here is just a sampling of some of the valuable types of ecosystem services that PFRN territory provides:

Provisioning Services

Provisioning ecosystem services are essentially natural resources that contribute to human well-being. In the case of PFRN's traditional territory, they include:

Food and Material Provision

Hunting, fishing, harvesting and trapping provide PRFN community members with vital sources of culturally relevant food and material, which is of particular importance given the remoteness of the community. For example, moose is crucial not only for food but for materials for clothing, shelter, equipment and handicrafts (PRFN, 2011). Medicinal plants enable community members to treat minor and major ailments in effective, culturally appropriate ways. Trapping provides the community with economic opportunities, depending on animal type and availability, as well as fur market values. PFRN has regular traplines, a community trapline for youth and women and associated winter trails (PAC, 2016).
Hunting and fishing also benefit non-residents through food and recreation.

**CAD 800,485 / YEAR***
In employment for commercial fishing, presenting an economic opportunity in Pimachiowin Aki (Voora & Barg, 2008)

**CAD 41.20 MILLION/YEAR**
Considering both commercial fishing and recreational fishing economic opportunities (e.g., fishing licences, supplies, food, fishing and repair gear, lodging and travel) (Voora & Barg, 2008)

**50**
Types of plants community members use for sustenance and cultural practices (PRFN, 2011)

**30%**
Ailments community members treat with local medicinal plants (Voora & Barg, 2008)

* The original study noted CAD 680,000 in 2008. Based on Bank of Canada’s Inflation Calculator this figure is estimated at CAD 800,485 in 2019.

** The original study noted CAD 35.10 million in 2008. Based on Bank of Canada’s Inflation Calculator this figure is estimated at CAD 41.20 million in 2019.

Pimachiowin Aki Corporation is already working to identify market opportunities for local wild products such as tea, mushrooms and berries (Pimachiowin Aki, 2019). For example, manoomin (wild rice) harvesting is possible in approximately 100 lakes in the area and contributes economic value for subsistence.

To promote sustainable harvesting, Pimachiowin Aki Corporation is tracking endangered species and is also researching cultural keystone species that are vital food sources for community members. This work helps identify how much can be harvested by locals, and how much can be allocated to licensed hunting and fishing.

**Water Supply & Energy Provision**

Water is a priceless resource and service that PRFN’s traditional territory provides. Put simply, water’s function and necessity are irreplaceable.

**30%**
Amount of Pimachiowin Aki covered by water

**6.89 BILLION M³ PER YEAR**
Annual volumetric discharge of rivers in the area is 2.57 % of the supply to Lake Winnipeg (Voora & Barg, 2008).
After receiving water from sources including Pimachiowin Aki, Lake Winnipeg acts as a water reservoir to turn hydropower into electricity that is then supplied across the province. In short, local water flows are directly connected to the provision of electricity in Manitoba. That means that Manitoban residents receive a direct energy benefit from the preservation of waterbodies in PFRN’s traditional territory.

Protecting its waterways is part of the PFRN way of life, which seeks to maintain their natural flows and does not drain or convert any of their natural paths. In addition, PFRN actively teaches its community members, including children, how important it is to keep bodies of water clean, and have community waste disposal laws that forbid polluting the rivers and lakes.

**What would additional funding help PFRN do?**

- Identify and develop market opportunities for local products
- Track species-at-risk, including lake sturgeon recovery and monitoring
- Maximize economic opportunity from trapping, hunting, and fishing, within a sustainable use framework
- Develop awareness and training programs for local laws and policies regarding community resource use, and enforce where necessary
- Continue to operate PFRN’s fish processing plan and commercial fishery, while working cooperatively with provincial and federal fisheries managers
- Protecting PFRN waterways for its habitat and community

**Regulating Services**

Regulating services ensure that the local environments remain habitable—not just in Poplar River First Nation, but in Manitoba, Canada and across the globe. These services are vital to maintaining the atmosphere, climate, water and life itself.

**Atmospheric and Climate Regulation**

With climate change accelerating rapidly across the globe, the value of carbon sequestration and storage in PFRN’s traditional territory cannot be overstated. The boreal forest serves as one of the planet’s most important carbon reservoirs and prevents enormous amounts of carbon dioxide and methane from being released into the atmosphere (NRTEE, 2005).

![Amount of carbon in PRFN’s traditional area from merchantable forests. When considering its wetlands area, total stored carbon amounts to 444 million tonnes.](image)

![Percentage of Canada’s peatland carbon in PRFN](image)

Natural environments also provide a valuable ecosystem service in terms of micro-climates, since natural vegetation plays a critical role in humidity, precipitation levels and the interception of sunlight and wind speeds. Combined, these functions help to regulate the climate.
Water Regulation

PFRN’s traditional territory has vast amounts of intact waterbodies that provide vital ecosystem services related to flood management, nutrient cycles, transportation of biota and gene flows, and influence on soil and vegetation (PAC, 2016). Another vital ecosystem service is the preservation of regional and downstream flows of water, nutrients, and organic and inorganic materials. PFRN continuously tests the water quality in the community and surrounding territory, ensuring that the water is kept clean for the natural environment and that community members have access to safe drinking water.

Maintenance of PRFN’s traditional territory can help minimize chemical runoffs from watersheds and reduced erosion on riverbanks and similar areas since vegetative covers retain soils and lower their erosion from wind and water run-off. As such, it forms part of Manitoba’s green infrastructure to lower impacts from erosion-related infrastructure damage, reduced soil productivity, and harmful levels of water siltation (Anielski & Wilson, 2005; Belcher et al., 2001; Olewiler, 2004).

Biological Control

PFRN’s traditional territory provides a vital ecosystem service in terms of keeping insect and animal populations in check, ensuring the integrity of entire ecosystems. For example, bird predation limits the spread of harmful insects such as the mountain pine beetle. Other ways to keep populations in check, such as the use of pesticides or genetic engineering, are expensive and often have negative environmental impacts. In addition, PFRN partners with research institutions to monitor bird species in the area. It also has laws against logging, providing a safe habitat for the different bird species residing in our forests.

What would additional funding help PFRN do?

- Conduct annual cleanups of solid waste and garbage on traditional lands, and ensure there is no seepage of pollutants into surface and ground waters
- Introduce modern, self-composting toilets in high-use areas to limit human waste pollution
- Carry out monitoring related to water quality and climate change, including invasive species
- Conduct water quality testing
- Monitor bird species in the area, understanding changes in population
Cultural Services

Cultural services are non-material benefits and are sometimes difficult to place a dollar figure on. PFRN's people, the Anishinaabe, have an intimate connection with the landscape. For them, from a cultural perspective, the value of their traditional territory is infinite.

Spiritual and Cultural Services

PRFN's traditional territory provides the community with many spiritual services (PAC, 2016). It is important to the people of PFRN to maintain the community’s relationship with the land, as this provides immeasurable value for the continual process of healing from the historic and ongoing effects of colonialism (PRFN, 2011).

Contributing to the 2019 International Year of Indigenous Languages, PRFN’s efforts to preserve languages are already being undertaken in Pimachiwin Aki, working with Elders to run presentations, meet with residents, and document the names of the community's ancestors (Pimachiwin Aki Corporation, 2019a). This work also includes language retention surveys and other programs.

PFRN performs ongoing work to preserve and revitalize its traditional language, and recently received CAD 75,000 from the federal government to support this work (Canadian Heritage, 2019). These programs weave environmental conservation with local culture, supporting positive economic, education and health outcomes in the process.
Educational and cultural heritage services

Preserving PFRN’s traditional territory ensures opportunities for educational and cultural heritage services that encourage the gaining of ecological knowledge and the solving of other social, economic and environmental problems by imitating and being inspired by nature.

The Asatiwisipe Aki Management Plan lays out many opportunities for environmental education and cultural heritage activities that would also create employment. PRFN has already researched and documented 150 traditionally named places, and this information has been shared with the Canadian Geographical Names Database to incorporate traditional names in popular sources such as Google Maps (Pimachiowin Aki Corporation, 2019a). Across Pimachiowin Aki, there is ongoing work to develop a complete inventory of cultural sites (including petroforms, pictographs, and campsites), conduct “memory maps” with Elders, and work with archeologists as needed to preserve and protect important sites.

What would additional funding help PFRN do?

- Provide environmental education and training for PRFN youth
- Bridge local knowledge with provincial and national information systems
- Research, document, and preserve important sites
- Continue innovative language and land-based learning programs
- Conduct archeological and historical education research, including pictographs, settlements, burial sites, fur trade history, etc.
- Document and preserve traditional knowledge (e.g., place names, language, oral histories)
Recreational Services

Recreational opportunities are ecosystem services that support mental health, emotional development, and aesthetic enjoyment and freedom (Chiesura & de Groot, 2003) for PFRN community members and visitors.

PRFN’s territory offers an incredible opportunity for recreational services that are tied to eco-business opportunities and recreational infrastructure, including local jobs. They are a clear source of economic value, not to mention being linked to valuable education and health outcomes.

It is important to PFRN that tourism is managed in a way that supports environmental conservation and protects cultural sites. PRFN’s Asatiwisipe Aki Management Plan outlines the actions planned to support sustainable tourism (PRFN, 2011). PFRN community members could have roles to play as backcountry wardens to carry out patrols or monitor trapper lines, or as conservation staff to deliver programs to visitors or carry out protected area operations (PRFN, 2011).

Pimachiowin Aki Corporation received funding support from the federal government, on behalf of the Pimachiowin Aki First Nations. The project included working with land users to ensure that environmental monitoring meets UNESCO requirements (Environment and Climate Change Canada, 2019). So far, the Pimachiowin Aki First Nation Lands Guardians Network has made significant progress on its environmental monitoring work (Pimachiowin Aki Corporation, 2019). This progress shows how effective this funding can be.

In 2019 The Pimachiowin Aki First Nations Lands Guardian Program received additional funding support from the federal government to implement a Lands Guardian Program in each community. PFRN’s Lands Guardian Programs are based on intergenerational knowledge between PFRN Elders and community members as well as scientific knowledge. Through such efforts, local communities can undertake conservation activities, manage climate change and ensure the land is taken care of in the long term.
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What would additional funding help PFRN do?

- Develop community guidelines for sustainable tourism, and develop experiential, knowledge-based and environmentally friendly outdoor experiences.
- Assess economic opportunity and feasibility for eco-cultural tourism and support local entrepreneurs.
- Ensure stable employment for community members in the Guardians program or who act as backcountry wardens.
- Train community members for key management, administrative, interpretive or conservation positions.
- Establish a culturally and naturally themed visitor reception and interpretive centre.
- Site, develop and manage designated campsites and points of access along the Poplar River.
- Properly manage and permit boating and back-country camping.
- Promote provincial, national and international appreciation and understanding of the area.

Supporting Services

Supporting services perpetuate the existence of natural environments. In other words, they support life. This is a unique and valuable type of ecosystem service since supporting services cannot be replaced by other means.

PRFN’s traditional territory “provides habitat connectivity and biodiversity at a landscape scale” (Pimachiowin Aki, 2019). This territory contains several eco-districts, each with distinct vegetation, soil make-up, topography and drainage conditions (PRFN, 2011). PFRN forests, shrublands and wetlands provide diverse habitat that enhances biodiversity.

Species in Pimachiowin Aki

- 376 vertebrate species in the area
- 70% of Manitoba’s fish species represented, including lake sturgeon (Bulloch et al., 2002; PRFN, 2011)
- 80% of local vertebrates are birds (PRFN, 2011)
Supporting services vary, from the successional stages after a fire, to the habitats that sustain biodiversity. For example, without the important functions carried out by soil biota, terrestrial ecosystems would collapse (Decaens et al., 2006). Another example is pollination, which is particularly valuable to the agricultural sector since most of the food we eat needs pollination to grow (Dyer, 2006).

PRFN has also noted the particularly important ecosystem service of viable moose and woodland caribou habitat in its traditional territory (PRFN, 2011), as this habitat has been threatened elsewhere by land-use changes and industrial activities. PRFN’s boreal forest also provides vital habitat to hundreds of bird species, including many migrating species. The flagship report State of Canada’s Birds 2019 (NABCI-Canada, 2019) highlights the urgent need for conservation efforts to ensure biodiversity and economic sustainability of boreal forests. With climate change putting two thirds of North America’s birds at risk of extinction (Audubon, 2019), Pimachiowin Aki and Asatiwsipe Aki Traditional Lands are crucial areas to support bird biodiversity.

PFRN is undertaking qualitative monitoring of its moose population. Because PFRN is well aware of the habitat in the area, it is conducting interviews to determine if the moose population is decreasing. This information is useful not only for the community but also to the Government of Manitoba to support their decision making on hunting licencing to reduce the risk of a shrinking moose population in the province. In addition, PFRN is also monitoring the population of whitefish in the area to understand if this species is at risk, and consequently, if there will be impacts on the community's diet. Based on these studies, PFRN will be able to improve its species management and modify its hunting and fishing habits if necessary to mitigate any potential risks to moose and whitefish populations, ensuring sustainable livelihoods for the community and its ecosystems.
In addition, PFRN is invested in FireSmart initiatives in its community and territory. PFRN has produced a project plan to monitor its forests and identify vulnerable areas that need trimming and cutting to reduce fire hazards. With climate change, extreme weather events like forest fires are projected to increase in frequency and intensity. Actively engaging in FireSmart will not only protect PFRN forests but also increase climate resiliency in the community. Moreover, with the use of technology for monitoring, such as drones, PFRN is gaining technological skills to help combat climate change risks in the area.

PFRN is also actively engaged in monitoring the infestation of the jack pine beetle, which kills trees. PFRN maintains an open dialogue with the Province of Manitoba to remain informed about the penetration of this pest in local forests. Through its Lands Guardian Program, PFRN is committed to maintaining the forest’s health, monitor infestation rates and gain the necessary tools and knowledge to mitigate this risk of decay to local forests.

What would additional funding help PFRN do?

- Continue to partake in the Eastern Manitoba Caribou Advisory Committee and participate more actively in woodland caribou research and conservation strategies.
- Conduct natural disturbance research, monitor wildfires, and improve fire management and response plans.
- Work to mitigate wildfire risks to community infrastructure and our territory at large, for example by conducting FireSmart assessments.
- Develop designated fuelwood cutting areas, and enforce as needed, to ensure careful use of local trees and plants.
- Provide training and job security for community members involved in planting and maintenance of vegetation, species management, and fire prevention and management, and technological tools.
- Work in tandem with Manitoba Conservation to properly manage black bears and address related problems as they arise.
- Research and prioritize areas of concern for habitat conservation, including moose, whitefish and forests.
PES Benefit-Sharing Agreement for the Asatiwisipe Aki Lands

PRFN has a wide range of opportunities to offer ecosystem services that ensure the community and its surrounding ecosystem remain under sustainable management. This includes provisioning, regulating, cultural, recreational and supporting services to support present and future generations.

Entering into a payment for ecosystem services (PES) agreement with potential funders is a way to ensure financial sustainability to support the community through socioeconomic and environmental stewardship. To illustrate how such an agreement might look, the following is a working draft of a possible PES agreement between PRFN and a buyer of the goods and services. This agreement is drawn from several established national and international examples of PES agreement frameworks, and its main point of reference is the guidance documents from the Katoomba Group, an international working group dedicated to advancing payments for ecosystem services including watershed protection, biodiversity habitat and carbon sequestration.¹

It is important to note that the use of the proceeding draft will require adaptation and legal review. It will be necessary to adapt the terms of this agreement into a final contract with the assistance of local counsel. With this in mind, the following draft highlights the key points that should be considered in PES transactions.

DRAFT Agreement

This benefit-sharing agreement is between the [name if applicable, of relevant government ministry] (the “Buyer”) represented by [name of government representative and Poplar River First Nation (PRFN)]. This agreement recognizes the multiple benefits achieved through the conservation and management of the Poplar/Asatiwisipe Aki Traditional Lands and establishes appropriate payment for the ecosystem goods and services achieved.

Whereas:

A. Poplar River First Nation (PRFN) agrees to implement and maintain Conservation Measures as defined in Asatiwisipe Aki Management Plan under this Agreement;

B. The Buyer agrees to make payment to PRFN and assume the obligations imposed on the Buyer under this Agreement;

1. OBJECTIVE

The Objective of this agreement is to recognize and structure appropriate payment for maintenance of the multiple benefits achieved through the conservation and management of the Poplar/Asatiwisipe Aki Traditional Lands including reduced emissions from deforestation and degradation, enhancement of forest carbon, water supply and energy provision, biodiversity conservation and cultural services.

2. PROJECT AREA

The project covers the area presently designated as the Asatiwisipe Aki Traditional Use Planning Area and extends east from Lake Winnipeg toward the Ontario border. These traditional lands are a fundamental and inseparable part of the Poplar River Anishinabek People.

¹ For templates on water, carbon and biodiversity agreement templates visit: http://www.katoombagroup.org/regions/international/legal_contracts.php
3. **OBLIGATIONS OF THE BUYER**

The Buyer shall:

a. Transfer incentive payments to the Participant as provided in this agreement and the Program Guidelines.

b. Conduct regular monitoring and verification, as provided in the Program Guidelines.

c. Assist participants with implementation.

4. **OBLIGATIONS OF THE PARTICIPANT**

The Participant shall:

a. Implement the Asatiwisipe Aki Management Plan submitted (the "Management Plan").

b. Take positive steps to control the outbreak of fire, plant disease or insect infestation, as outlined in the Management Plan.

c. Allow entry to the technical personnel associated with the Program [upon request/according to the timeline outlined in the Program Guidelines], and facilitate their work in monitoring, reporting and verification.

d. Regularly complete and submit self-reporting documents, as provided in this agreement and the Program Guidelines.

e. Notify the Buyer promptly of any material changes to the ecological condition of the Project Area.

5. **PAYMENTS**

The Buyer shall transfer to Poplar River First Nation [enter amount and currency], per hectare conserved annually as provided in schedule 3.

Payments are strictly conditional on PRFN providing conservation, management or restoration services as provided in this agreement, subject to reporting on activities completed.

6. **VERIFICATION**

a. Verifications will take place through annual site visits to the Asatiwisipe Aki Traditional Lands.

b. An authorized representative from PRFN will accompany the Buyer or an authorized representative of the Buyer in verifying whether Conservation Measures are implemented and maintained, and Biodiversity Services are supplied in accordance with the terms of this Agreement.

c. The reasonable costs of verification will be met by the Buyer.

7. **DISPUTE RESOLUTION**

In the event there is any dispute in respect of the terms of this Agreement between PRFN and Seller, this dispute shall be referred for adjudication by the Dispute Resolution Committee, the decision of which shall be binding upon both the Buyer and PRFN.
7 TERM

a. This Agreement will extend for a period of 5 years from the date of signature to XXXX.

b. Subject to the wishes of both the Buyer and PRFN, a new agreement will be executed for continued management implementation and/or maintenance of Conservation Measures and for payment at a level to be negotiated between the Buyer and PRFN upon completion of this agreement.

c. In the event Buyer or Seller wish to terminate this Agreement prior to its expiration, a minimum 30-day period needs to be presented from the party wishing to terminate the agreement to the other party. The termination will proceed as follows:
   • If termination is requested by the PRFN, then the Buyer is exempted from all future Payments.
   • If termination is requested by the Buyer, then the Buyer shall deliver the current value of all future Payments at the time of termination.

9 FORCE MAJEURE

Neither Buyer nor PRFN shall be liable for any failure to perform its obligations where such failure is as a result of acts of nature (including fire, flood, earthquake, storm, hurricane or other natural disaster), war, invasion, act of foreign enemies, hostilities (whether war is declared or not), civil war, rebellion, revolution, insurrection, military or usurped power or confiscation, terrorist activities, nationalization, government sanction, blockage, embargo, labour dispute, strike, lockout or interruption or failure of electricity.

Either Buyer or PRFN asserting force majeure as an excuse shall have the burden of proving that reasonable steps were taken (under the circumstances) to minimize delay or damages caused by foreseeable events, that all non-excused obligations were substantially fulfilled, and that the other party was notified of the likelihood or actual occurrence which would justify such assertion in a timely manner, so that other prudent precautions could be contemplated.

In witness whereof this Agreement has been duly executed.

Authorized PRFN Signatories

Authorized Buyer Signatories
Schedule 1
Asatiwisispe Aki Management Plan, May 2011
## Schedule 2
Conservation Measures as Outlined in the Asatiwisipe Aki Management Plan and Associated Ecosystem Goods and Services

<table>
<thead>
<tr>
<th>Management and Conservation Measures</th>
<th>Ecosystem Goods and Services</th>
</tr>
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<tbody>
<tr>
<td>Protected Area Management</td>
<td>• Atmospheric and climate regulation</td>
</tr>
<tr>
<td>Following the protected area management framework outlined in the Asatiwisipe Aki Management Plan including:</td>
<td>• Water regulation</td>
</tr>
<tr>
<td>• Protecting the designated area from industrial and commercial land uses such as mining, forestry and hydroelectric development</td>
<td>• Biological control (including natural population control)</td>
</tr>
<tr>
<td>• Creating a management authority with effective First Nation membership decision-making power and responsibility</td>
<td>• Spiritual and cultural services</td>
</tr>
<tr>
<td>• Management of ongoing visitor use and environmental monitoring</td>
<td>• Educational and cultural heritage services</td>
</tr>
<tr>
<td>• Training and employing First Nation community members in the operations and delivery of protected area programs, including “field guardian/watchman” or warden operations</td>
<td>• Recreational services</td>
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<tr>
<td>• Developing and delivering orientation and interpretive programs for visitors on Aboriginal culture, traditional uses and treat the protected area respectfully.</td>
<td>• Supporting services that perpetuate the existence of natural environments (including habitat services)</td>
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<table>
<thead>
<tr>
<th>Traditional Community Resource Use including:</th>
<th>• Food and material provision</th>
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<tr>
<td>Moose</td>
<td>• Spiritual, cultural and health services</td>
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<td>Waterfowl and bird hunting</td>
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<td>Trapping</td>
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<td>Medicinal and food use of plants and fungi</td>
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<tr>
<td>Fish</td>
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<td>Woodland Caribou</td>
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<tr>
<th>Habitat Protection and Conservation including:</th>
<th>• Atmospheric and climate regulation</th>
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<tr>
<td>• Integrated habitat conservation</td>
<td>• Water regulation</td>
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<tr>
<td>• Woodland caribou habitat protection</td>
<td>• Biological control (including natural population control)</td>
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<tr>
<td>• Fuel and local building materials</td>
<td>• Supporting services that perpetuate the existence of natural environments (including habitat services)</td>
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<td>• Fire management</td>
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<td>• Garbage disposal</td>
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<td>• Human waste disposal</td>
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<td>• Management of black bears</td>
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<td>• Winter road management</td>
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Schedule 3
Payment Schedule

[EXAMPLE]

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<th>Payment Type</th>
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<td>Second Payment</td>
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References


