Far North Land Use Strategy: A Draft

September 2015

Ontario

Opportunities to comment

We value your feedback on this Draft Strategy. What do you think about the guidance and information contained in the Draft Strategy? Is there any guidance or information that you feel is missing? Those interested in commenting on the Draft Strategy can provide comments through:

- Ontario's Environmental Registry **http://www.ebr.gov.on.ca**, enter Registry Number 012-0598
- Online via the collaboration tool at **www.ontario.ca/farnorthstrategy**
- By email to **farnorthstrategy@ontario.ca**
- By fax to 705-235-1106
- By mail or courier to:

  Far North Branch
  OGC
  5520 Hwy 101 East
  P.O. Bag 3020
  South Porcupine, Ontario P0N 1H0

Written comments must be submitted by December 28, 2015

Comments and feedback will be considered by the Ministry of Natural Resources and Forestry as the Far North Land Use Strategy is finalized. It is expected that the Far North Land Use Strategy will be made available by Spring 2016.

For more information

Please visit our website at **www.ontario.ca/farnorth** for more information on the Far North Land Use Strategy and the Far North Land Use Planning Initiative.

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INTRODUCTION

1. INTRODUCTION

1.1. Preamble

The Far North of Ontario is a spectacular landscape, rich in culture and resources. It is one of the world's largest, most intact ecological systems, reflecting a high level of ecological integrity and providing ecosystem services of global significance far beyond its borders. Interest in developing the Far North's resources, including minerals, forests, and sources of renewable energy, is increasing. It is also predicted that parts of the Far North of Ontario will experience the most dramatic changes in climate in the province.

Through the Far North Land Use Planning Initiative, Ontario is working jointly with First Nations to prepare community based land use plans to guide orderly development in the Far North while maintaining biodiversity, ecological systems and functions, and protecting ecological systems and natural heritage and cultural values. Joint planning teams draw upon both Aboriginal traditional knowledge and scientific information when preparing plans.

This Far North Land Use Strategy will assist in the preparation of community based land use plans and guide the integration of matters that are beyond the geographic scope of the individual plans.

This Strategy is intended for a wide audience. The primary audience is First Nations–Ontario joint planning teams and the Minister of Natural Resources and Forestry (MNRF) who must take the Strategy into account in preparing and approving land use plans.

Developers and resource managers (MNRF, other ministries and the federal government) are a secondary audience for the Strategy, as are communities who are not yet engaged in community based land use planning under the Far North Act, 2010. Although not required under the Far North Act, developers and resource managers are encouraged to consider this Strategy when considering, planning and approving projects in the Far North.

1.2. Legislative Authority for Planning

The Far North Act, 2010 applies to public lands in the area shown in Figure 1. The Act provides for community based land use planning in the Far North that:

- sets out a joint land use planning process between the First Nations and Ontario;
- supports the environmental, social, and economic objectives for land use planning for the peoples of Ontario; and
- is done in a manner that is consistent with the recognition and affirmation of existing Aboriginal and treaty rights in section 35 of the *Constitution Act, 1982*, including the duty to consult.

Figure 1. The Far North of Ontario

The Act confirms a leadership role for First Nations through community based land use planning. First Nations must initiate the planning process with Ontario; land use plans are jointly prepared, and must be jointly approved by the First Nation and Ontario. Future amendments to approved community based land use plans can only be made and approved through a similar joint process.

Land use planning provides for orderly development in the Far North. Under the Far North Act, most development requires that a community based land use plan be in place, unless an exception or exemption applies.

Once an approved community based land use plan is in place, the Far North Act requires that decisions respecting the use of the land and water are consistent with the land use designations and permitted land uses specified in the plan. The Act includes compliance and offence provisions.

1.3. Legislative Authority for a Strategy

Under section 8 of the Far North Act, the Minister of Natural Resources and Forestry (the Minister) shall ensure that a **Far North Land Use Strategy** is prepared to assist in the preparation of land use plans and to guide the integration of matters that are beyond the geographic scope of the individual plans. The Strategy must be taken into account by the First Nations and the Minister during the preparation or amendment of a community based land use plan, and by the Minister in approving plans or amendments.

Under section 7 of the Act, a "Joint Body", composed of equal numbers of First Nation and Ontario Government officials may be established, if the First Nations and the Minister agree. One of the functions of the Joint Body may include recommending to the Minister matters to include in the Far North Land Use Strategy, including statements to be issued as Far North Policy Statements from time to time. At this time, a Joint Body has not been established.

1.4. Purpose of this Strategy

The Far North Land Use Strategy sets out a vision for the outcome of land use planning in the Far North. It will guide planning and inform decision making to work towards environmental, social and economic objectives as set out in the Far North Act (the objectives are included in the Strategy in Section 2.2). The Strategy provides guidance on how to apply existing provincial policy and legislation to land use planning in the Far North. It complements the Far North Act and community based land use plans in supporting orderly development in the Far North.

The Far North Land Use Strategy is being prepared by the MNRF. To the extent possible, it reflects what has been heard from First Nations during land use planning discussions and has been prepared respecting the strong connection of First Nation people to the land. Should a Joint Body be established in the future, they may recommend policy statements to include in the Strategy which could better reflect both provincial and First Nation interests in the Far North.

1.5. How to Read this Strategy

The Far North Land Use Strategy references, and should be read in conjunction with, other applicable legislation, regulations and policies including, but not limited to, the following: Ontario's Biodiversity Strategy (2011), the Endangered Species Act (2007), the Range Management Policy in Support of Woodland Caribou Conservation and Recovery (2014), the Mining Act, Ontario's Mineral Development Strategy (2006), the Long-Term Energy Plan, the Ontario Heritage Act, and Ontario's Climate Change Action Plan (2007). This Strategy, in conjunction with other legislation and policy, expresses the province's interests and direction with regard to land use planning and natural resource management.

This Strategy addresses environmental, economic, social and cultural matters that are relevant across the Far North, recognizing that planning teams work to address the specific geographic conditions of their planning areas, as well as the needs and desires of the community. The guidance contained in this Strategy is to be applied to specific planning areas and is designed to help planning teams consider landscape-level matters, such as water and infrastructure, and adjacent planning areas.

There is no implied priority in the order in which the guidance appears.

1.6. Contents of this Strategy

The Strategy is set out in seven sections. Sections 1 and 2 provide information and context. Section 3, 4 and 5 represent the core elements of the Strategy. These are the sections that First Nations preparing land use plans and the Minister will need to take into account as plans are prepared and amended. Section 6 addresses implementation, and Section 7, provides supporting information and guidance for developers and resource managers.

CONTEXT

2. CONTEXT

2.1. Far North Context

The Far North of Ontario encompasses 42 per cent of the province, or 45 million hectares, spanning the width of Northern Ontario from Manitoba in the west, to James Bay and Quebec in the east. A landscape rich in culture, the Far North has been home to many generations of First Nation people living on the land. The landscape is varied, from the bedrock-dominated lake country of the Canadian Shield, to the bog and fen-dominated Hudson Bay Lowlands which features large river systems. It is largely undeveloped and includes the largest intact forest in Canada, and the third largest wetland system in the world. It is also a globally significant carbon sink (i.e., a natural system that absorbs more carbon than it releases). In 2010, the Far North Science Panel completed the *Science for a Changing Far North* report which included a comprehensive review of the environment in the Far North. While there has been a considerable amount of additional mapping, inventory and research, the information in the report remains relevant and established a foundation from which to draw upon in land use planning. This section draws upon information in the Science Panel report, along with other sources, to provide context.

The People and the Ecology

Communities

The Far North is home to 24,000 people living in 34 communities, including 31 First Nation communities. Living mainly in remote communities, First Nation people make up more than 90 per cent of the region's population. Traditional languages spoken include Ojibway, Cree and Oji-Cree. The two municipalities in the Far North are Moosonee and Pickle Lake, while Moose Factory has a Local Services Board established under the Northern Services Board Act.

First Nations express that all of the land and water that they have traditionally used is of cultural importance, and that the land provides the foundation for their culture and way of life. The land is rich in the history, legends, stories and place names with deep imbedded meaning that often form the basis of Aboriginal traditional knowledge (ATK). Traditional activities, such as hunting, fishing and trapping continue to be part of the culture in communities. Many First Nation people in the Far North live close to the land; they know and rely on it. Their presence on the land has helped shape the land into what it is today. This interaction between community and the land creates cultural landscapes where the community cannot be separated from the land nor can the land be separated from the community.

Aboriginal traditional knowledge

Aboriginal traditional knowledge can also be referred to as "traditional knowledge," "traditional ecological knowledge" or "indigenous knowledge". First Nations *across the province define Aboriginal traditional knowledge in many different ways. Aboriginal traditional knowledge can range from site specific values to the inter-relationship of ecological functions, and includes spirituality, teachings of traditional practices and belief systems and the concept of natural laws. Natural laws explain the balance and interconnectedness of the people to the land and guide First Nations' relationship with, and responsibilities for, the land. Aboriginal traditional knowledge is culturally based and unique for every First Nation community.*

This knowledge of people's relationship to and use of the land provides a foundation for land use planning in the Far North. In the first stage of land use planning, communities draw upon traditional knowledge holders to document Aboriginal traditional knowledge. Knowledge holders participate in planning to provide interpretation of the Aboriginal traditional knowledge.

Sharing information and knowledge in a planning process can take place through a variety of forums, including workshops, celebrations, interviews, meetings and training. Communities guide the appropriate sharing and use of their traditional knowledge as it is a foundation for planning initiatives. An appreciation and awareness of Aboriginal traditional knowledge is also central to decision-making processes for development.

Biological Diversity

The Far North of Ontario has a natural wealth of ecosystem, species and genetic diversity. Landscapes rich in biological diversity provide direct goods and indirect services that support human well-being. These benefits are known as ecosystem services. Ecosystem services are important because they provide critical life support and underpin our economy and quality of life. Examples of these in the Far North include hunting and fishing, drinking water, flood protection, carbon storage, traditional medicine, and natural elements used for traditional and cultural practices.

The Far North provides essential habitat for species at risk like Forest-dwelling Woodland Caribou and wolverine, as well as lake sturgeon and habitat for Ontario's only populations of polar bears, beluga whales and snow geese. The Far North also provides nesting habitat for millions of North American migrating birds, and internationally important habitat for a wide variety of shorebirds.

The Far North is subject to natural processes on the landscape, such as wind and fire, which are part of the important ecological processes and functions supporting biodiversity. Wildland fire plays an important role in shaping the environment; the Far North is the last place in Ontario that fire functions as it does naturally[1].

The First Nations have a close relationship with the land. In particular, Elders and harvesters have a wealth of knowledge of species and species habitat in the Far North. Their knowledge of the land

provides an important observational record of changes that have occurred across the landscape over generations.

Scientists advise that climate change may impact biological diversity in the Far North more than other parts of Ontario. The Far North is also susceptible to the introduction of invasive species as a result of new developments (e.g., linear infrastructure corridors) or climate change.

Caribou

Woodland caribou live across Ontario, including the Far North. Caribou require large, connected, relatively undisturbed areas to feed, migrate, reproduce and rear their young. At a broad landscape scale, caribou require large, undisturbed areas of old or mature conifer upland forest and lowlands dominated by jack pine and/or black spruce. At smaller scales, caribou select specific habitat features that support successful reproduction and calf-rearing, provide summer and/or winter forage, and/or facilitate movement between areas of use.

Caribou are distributed throughout the diverse landscapes of the Far North, where they are able to take advantage of different landscape features, such as large lakes with islands, peatland complexes, moraines and esker systems or other topographical or physical features, to raise their young and meet their life requirements.[2]

There are two ecotypes of woodland caribou in the Far North of Ontario (see **map 1** in Appendix 1). The more northerly Forest-tundra Woodland Caribou which is not considered at risk in Ontario; and the Forest-dwelling Woodland Caribou, which is listed as threatened under both the Ontario's Endangered Species Act and the federal Species at Risk Act. MNRF has completed Integrated Range Assessments for the Forest-dwelling Woodland Caribou. The range assessments, which provide information on the condition of the range, can be found in the *State of the Woodland Caribou Resource Report: Part Two*[3].

Water

Lakes, rivers and wetlands cover almost half of the surface area of the Far North[4]. Three of Canada's largest rivers, the Albany, Moose and Severn, cross the region. In addition, the Hudson Bay Lowlands are the globe's third largest wetland system, and the largest in North America. Far North water systems are largely free flowing and unchanged by development. They provide important ecological and hydrogeological connections across the landscape.

First Nations' settlement patterns were historically associated with waterways; as a result, many cultural, spiritual and burial sites are near waterways. Waterways continue to be associated with traditional activities such as the harvest of waterfowl and fish, collection of traditional medicines, and for travel. The *Water Declaration of the Anishinaabek, Mushkegowuk and Onkwehonwe in Ontario* articulates First Nations cultural values, perspectives and responsibilities linked to protection of the waters.

Water and associated aquatic systems perform a variety of ecological functions. Healthy water systems support ecosystem processes, functions and biodiversity and human health. Many wildlife populations, including species at risk, have specific habitat requirements related to water quality and water quantity. Headwaters are of particular importance, playing a critical role in maintaining the integrity of downstream ecosystems.

Wetlands and Peatlands

Wetlands are the dominant land class in the Far North, accounting for nearly 50% of the total area, and nearly 75% of the area in the Hudson Bay Lowlands. Wetlands, such as bogs and fens, were formed in the Hudson Bay Lowlands over the flat, impermeable clays laid down by a sea that covered the area 6,000 to 8,000 years ago. Many of the wetlands in the Far North are considered to be peatlands, which are areas with peat soil more than 40 centimetres deep. Peatlands play an important role in storing carbon in the Far North (for more on the role of peat, see climate change on **page** 20).

Wetlands help purify and store large quantities of water, and thus play an important role in regulating water flows. Wetlands also provide important habitat to many species of flora and fauna, including large populations of migrating songbirds.

Forests

Forests in the Far North are characteristic of the northern boreal forests of Canada, with black spruce as the dominant species, and white spruce, jack pine, aspen, tamarack and white birch the other important species. Tree growth and forest productivity in most of the region is limited. Only an estimated 6–7% of the Far North—located in the southernmost areas of the Far North—includes forests with commercial potential for forestry.

Geology

There are two distinct geological regions in the Far North of Ontario. The Canadian Shield includes rugged topography underlain by old igneous and metamorphic rocks. The lowlands of Hudson Bay and James Bay are relatively flat land and are underlain by younger sedimentary rocks. Rock in the lowlands is almost completely covered with loose sediments deposited by glaciers or in ocean waters.

More details of the geology and mineral resources of the Far North are provided in the descriptions of areas of the Far North in **Appendix 2**. The Ontario Geological Survey (OGS) in the Ministry of Northern Development and Mines (MNDM) carries out geological mapping across all of Ontario. Geological data can be used to help determine where there may be minerals for mining developments, aggregates to meet community needs, possible safety hazards that need to be avoided, or where surface water enters the earth to form groundwater.

Data collection in the Far North is very costly because it is remote. Therefore, the OGS's work in the far North is incomplete and much of the mapping that has been done is limited by factors such as the age and scale of the data. In addition, few exploration companies have done work in the Far North, again because the area is remote. Only about 25% of the geology of the Far North has been mapped to modern standards by the OGS (See **map 2**, Appendix 1)

Natural Resources for Economic Development

The Far North has many natural resources with potential for economic development, including forests, sources of renewable energy (e.g., water, onshore wind, solar and bioenergy), fish and wildlife, minerals, aggregates, and potentially non-renewable energy sources, including oil and natural gas. The natural and cultural resources of the Far North also provide a foundation for tourism as an economic development opportunity. Natural resource development in the Far North is currently relatively limited, but interest in further harvesting, extraction or use of these resources is growing. Economic development, while it provides benefits to communities and Ontario, can also have negative environmental impacts that require consideration in planning and decision making.

Mining

At present, there are two operating mines in the Far North, De Beers Canada Victor diamond mine located in the Hudson Bay Lowlands, west of Attawapiskat, and the Goldcorp Musselwhite gold mine in the northwest on the Canadian Shield, south of North Caribou Lake First Nation.

There are known deposits of gold, nickel, copper, diamonds, chromite and other minerals in the Far North. Recently identified deposits of chromite, nickel and other minerals in the area east of Webequie First Nation, known as the “Ring of Fire”, are considered one of the most promising economic development opportunities in Ontario in a century. The chromite deposits in the Ring of Fire are considered globally significant. The Government of Ontario set up the Ring of Fire Secretariat to work and consult with Aboriginal peoples, northern Ontarians and the mining industry to encourage responsible and sustainable economic development in the region.

The Far North represents 42% of the province, however to date only 2% of minerals produced in the province from mines have come from the region. The limited mineral development to date across the Far North is not because of lack of mineral potential. It is due to a lack of infrastructure and the remoteness of the Far North; this has discouraged geological mapping, and mineral exploration and development. The mineral potential of the Far North is considered significant as the geology of the Far North is identical to the geology of the Canadian Shield to the south (See **map 2** in Appendix 1) which has produced billions of dollars of wealth.

Mineral exploration is an on-going activity in the Far North. As of early 2015, there are approximately 50,000 16-hectare mining claim units and 600 mining leases in the Far North. The locations of current and past mining claims and leases, and mineral exploration projects provide information about where further exploration and development may occur in the future.

Providing for ongoing access for exploration and potential mining development may lead to economic benefits for communities in the Far North.

Ontario has a Mineral Development Strategy that supports the long-term sustainability of the industry and promotes community development while ensuring a focus on environmentally sound practices. Mineral exploration and development are managed by Ministry of Northern Development and Mines (MNDM) under the authority of the Mining Act. While mineral exploration and mine closure are largely

governed by the Mining Act, they—along with mining—are also subject to other environmental and resource management legislation. These include acts and regulations administered by the MNRF and the Ministry of Environment and Climate Change (MOECC).

Oil and Gas

Currently there is no oil or gas development in the Far North of Ontario. Oil and gas resources occur in sedimentary rock basins, and there are two such basins in the Far North (the Hudson Bay and Moose River basins) that could yield oil and gas. Oil and gas exploration and development are managed by MNRF under the authority of the Oil, Gas and Salt Resources Act and Part VI of the Mining Act.

Aggregates

Aggregate resources, such as sand, gravel and crushed rock are important for the building of roads, airports and other community infrastructure. Sand and gravel are dug from pits, while rock is blasted and crushed from quarries. Aggregate operations (pits and quarries) are regulated by MNRF under the authority of the Aggregate Resources Act. MNDM is responsible for the geological mapping of the types and distribution of aggregate resources. Some aggregates are also minerals, and may be subject to the Mining Act overseen by MNDM.

There is limited knowledge of the quantity and quality of aggregate available in parts of the Far North. Aggregate resources are often part of natural features such as eskers that also contain important natural or cultural values.

Forestry

Commercial forestry is managed under the authority of the Crown Forest Sustainability Act (CFSA), which is administered by MNRF, and MNRF's approvals for forestry under the Environmental Assessment Act. Currently, there are no active commercial forestry operations in the Far North, but Forest Management Plans are in place or underway where community based land use plans have been completed and where forestry is a permitted activity, such as in the Whitefeather Forest in Pikangikum First Nation community members also use the forest to harvest wood for their own or for their community's use.

Non-Timber Forest Products

Non-timber forest products are botanical products other than wood that can be harvested (e.g., plants, bark, berries). Historically, many First Nation people have made use of various non-timber forest products for food (e.g., blueberries, teas), medicines and domestic needs (e.g., baskets, snowshoes). Traditional use of these products continues today and there is increasing interest in non-timber forest products as potential commercial opportunities.

Renewable Energy Generation

Limited commercial electricity generation exists at the present time in the Far North. Several hydroelectric generation facilities are located on the Moose River and its tributaries (within or close to

the southern limit of the Far North). No large developments exist on the other large northern river systems – the Severn, Winisk, Attawapiskat and Albany.

MNRF's Renewable Energy on Crown Land Policy (PL4.10.06) sets out how MNRF manages access to Crown land for renewable energy development (i.e., on-shore wind, solar and water power). Under this policy, further waterpower development in the Moose River Basin north of highway 11 must proceed by way of co-planning with certain First Nations. Within the Northern Rivers watersheds (see **map 3** in Appendix 1) development of individual sites is limited to 25 megawatts. This limit may be reviewed in conjunction with the community based land use planning process if First Nation communities have an interest in developing larger waterpower sites.

A recent study commissioned by the Ontario Waterpower Association (2013) provides updated information on waterpower potential in the Far North and identifies waterpower opportunities close to individual First Nation communities. Ontario's 2013 Long-Term Energy Plan includes a commitment to identify hydro potential in northern Ontario, including potential sites close to off-grid First Nation communities.

Because transmission lines and markets are so far away, the feasibility of commercial renewable energy generation in the Far North is limited. However, investments in transmission, distribution, water, wind, solar and bioenergy resources could support industrial development such as mining and could also provide local alternatives to help reduce the dependency of Ontario´s off-grid northern communities on diesel power generation.

MOECC manages the Renewable Energy Approvals program to assess and regulate solar and wind projects pursuant to regulation 359/09 under the Environmental Protection Act (EPA). Waterpower projects are assessed pursuant to the Environmental Assessment Act (Waterpower Class EA) and regulatory approvals under the EPA and Ontario Water Resources Act (OWRA).

MNRF's Renewable Energy on Crown Land policy (2014) states that access to public land in the Far North for on-shore wind, solar and waterpower development opportunities will only be granted to local Ontario First Nation communities and/or their partners.

Peat Extraction

In addition to providing important habitat and having a key role in hydrological and ecological functions and processes, including storing carbon, peat may also be used as a fuel or for use as a soil conditioner for gardening. The removal of peat can also be a consequential activity during site preparation for development and infrastructure projects. There are currently no peat-extraction operations in the Far North. Peat is considered to be a non-renewable resource in the province of Ontario.

Trapping

First Nation people trap for cultural and traditional reasons, as well as for commercial purposes. Commercial trappers in Ontario operate within a trap line allocation framework. Trapping as a

commercial activity has declined in the recent past due to several factors, including low market demand and economic fluctuations in fur prices.

Fishing

Fish are an important food resource for people in the Far North. Community-scale harvest of fish for traditional and subsistence use is common. Recreational fishing by community members and the public visiting the Far North as part of a tourism adventure is also common.

There are several commercial fish licences in the Far North, most of which are inactive. Fishing as a commercial activity has declined in the recent past for several reasons including economic factors. MNRF has developed the Strategic Policy for Ontario's Commercial Fisheries to provide a framework to guide the management of commercial fisheries.

Bait

The harvest and use of live bait (i.e., baitfish and leeches) in Ontario has been part of recreational fishing for nearly a century. Commercial bait harvesting in Ontario is managed by MNRF using the Commercial Bait Program Guidelines. In some areas of the Far North, commercial bait harvesting is prohibited. Where bait harvesting is permitted, MNRF has established bait harvest areas. Some of these areas experience high demand whereas in others there has been no harvesting for decades. For a map of the areas where harvesting is permitted see the Commercial Bait Program Guidelines.

Tourism

Tourism has long been recognized in the Far North as an economic opportunity that is compatible and complementary to communities' traditional use of the land (for example see the Final Report and Recommendation of the Royal Commission on the Northern Environment [1985]). The Far North offers a variety of recreational activities with destinations accessible by air, water or rail that often possess abundant fish and wildlife resources where tourists can enjoy a remote recreational experience. Potential activities tourists can participate in include: hunting and fishing, ecotourism, camping, snowshoeing, canoeing, hiking, snowmobiling, boating, cultural tourism and heritage appreciation and wildlife watching/photography. Tourism uses can be compatible with protection of natural and cultural values. For a map of current tourism operations, see **map 4** in Appendix 1.

Infrastructure

Relative to other parts of Ontario, there is very little infrastructure in the Far North (for a map showing existing infrastructure, see **map 5** in Appendix 1). In the western section of the Far North there are two all-season roads (the Nungesser Road leading from the town of Red Lake to the Berens River, and the Pickle Lake road providing access to the Town of Pickle Lake and the Musselwhite Mine, terminating at Windigo Lake). The Ontario Northland Transportation Commission provides rail access from Cochrane to Moosonee. Otherwise, access to most of the First Nation communities is via air or seasonal winter roads.

Ontario operates 29 airports in remote First Nation communities; a further six airports are run by communities. Air travel may also be used to access remote tourism opportunities and development interests such as mining claims.

The existing electricity transmission system in the Far North is limited and includes: a line from Ear Falls to the Town of Pickle Lake that also serves Cat Lake, Slate Falls and Mishkeegogamang First Nations; a line from Pickle lake to the Musselwhite Gold Mine; a line along the James Bay coast supplying Moose Factory, the Town of Moosonee and Fort Albany, Kashechewan and Attawapiskat First Nations; and a line from Attawapiskat First Nation to the Victor diamond mine. The remaining communities rely on diesel fuel that is brought in by winter road or aircraft to generate electricity. Transmission and distribution line connections are being considered to reduce communities' reliance on diesel fuel, which would have climate change and other environmental benefits. The Province supports the connection of remote communities in Northwest Ontario and identified it as a priority in the 2013 Long-Term Energy Plan.

Many communities have modern telecommunications, including high-speed internet. The Northwestern Ontario Broadband Initiative—a network of fibre optic lines— is being phased in to expand broadband service to 26 remote communities in the Far North.

Interest in creating additional infrastructure is driven by community, resource development and provincial interests, such as desires for better and cheaper access to a variety of goods and services, for cost-effective, reliable and clean electricity supply, and for new job opportunities through industrial development, such as mining and forestry. Infrastructure development can also lead to additional resource-development opportunities as new areas are opened up. Currently, options such as corridors for all-season and winter roads and other infrastructure, airstrips and rail are being considered to enable potential mining projects in the Ring of Fire.

Despite its benefits, the development of linear infrastructure such as electricity transmission and roads can lead to habitat fragmentation, increased predation, and changes to drainage patterns. These linear corridors provide access for hunting and fishing but can also increase the risk of introducing invasive species.

Climate Change

Climate change impacts are expected to vary across the Far North (see **map 6** in appendix 1). First Nation communities in the Far North are already observing changes on the land that are consistent with climate change projections, including changing river levels, more extreme fires and wind storms, landslides, and new species becoming apparent as some species, such as smallmouth bass, extend their range.

Disruption of travel by winter road to many communities is likely as a result of shorter, warmer winters and increased rain or snowfall. It is also expected that communities throughout the region may experience increased spring runoff and flooding. It is likely that some of the most dramatic changes will occur in the most northern extent, near the coast of Hudson Bay and James Bay[5].

The effects of climate change on species in the Far North may include habitat disruption due to more extreme weather events, more invasive species, and greater susceptibility to native and non-native pathogens. How species adapt will depend on the location of their range boundaries, tolerance to wider environmental conditions and the ability to disperse.

At present, greenhouse gas emissions as a result of communities and resource development are very small in the Far North. As infrastructure and resource development expand, this may push emissions upward; however, these emissions may be limited by encouraging new development to take advantage of opportunities for renewable energy and energy efficiency.

By acting as a large carbon sink, the Far North's forests, peatlands and wetlands play a key role in the fight against global climate change. The Hudson Bay Lowlands is one of the Earth's major carbon storehouses, storing over 35 gigatonnes of carbon, as much as all the other natural ecosystems of Ontario combined. Protecting and sustainably managing the carbon stores in the Far North is an important component of Ontario's Climate Change Strategy.

As the climate changes, the ability of Far North's forests, peatlands and wetlands to continue to store and sequester carbon will be affected. Rising or lowering of peatland water levels, for example, will affect the sequestration and storage roles of these systems. This is expected to be an issue particularly for ecosystems at the southern limits of permafrost, which are especially sensitive to climate change because small changes in temperature can have significant effects on snow cover and thaw depth. Increases in fire in Far North forests and peatlands may also alter carbon storage, resulting in carbon being released to the atmosphere.

2.2. Areas of the Far North

The Far North is vast and varied with more than a 1,000 kilometres of coastline, a complex network of streams and rivers, a landscape that ranges from forests to wetland and tundra, and a climate that varies considerably. However, there are areas of the Far North that do share common characteristics. **Appendix 2** describes five areas of the Far North with similar ecosystems and economic drivers. Planning teams are encouraged to refer to these areas when they are planning, as they can provide broader context and can help them consider landscape level matters that are beyond the geographic scope of individual land use plans. The descriptions may also provide a useful context for developers and resource managers as they plan for development in the Far North.

The Far North can also be described in terms of landscapes such as watersheds, wildlife and geology. Section 4.1 on a stewardship approach provides additional insight on broad-scale landscapes as they relate to land use planning and decision making. **Appendix 1** provides maps for these and other landscapes.

2.3. Community Based Land Use Planning Model

Ontario and First Nations have long recognized the need for a planning model suited to the Far North. The 1985 report of the Royal Commission on the Northern Environment made important recommendations about enhancing the participation of northerners, especially First Nations, in land use and resource management decision making. As well, several land use planning processes initiated in the past by both First Nations and Ontario have contributed to the understanding and evolution of planning.

The "community based land use planning" model was developed in 2002 by several First Nations working together with Ontario. It was designed upon a foundation of sharing responsibilities, applying local knowledge in decision making, and consensus-based decision making. Using this model, the first community based land use plan was completed in 2006, called *Keeping the Land; the Whitefeather Forest Land Use Strategy*.

In July, 2008, the Far North Land Use Planning Initiative extended the joint planning approach to all of the Far North and in 2010, Far North Act provided a legislative foundation for community based land use planning. Across the Far North, many First Nation communities are now engaged with Ontario in community based land use planning, including some communities in Manitoba with areas of traditional use in Ontario.

Community based land use planning is initiated by First Nations and plans are prepared and approved by both First Nations and Ontario. Public consultation occurs at various stages during the planning process. Land use designations in the plans provide the broad direction on what land uses will be permitted in which areas. The plans do not provide authority for specific developments to proceed; further approvals (e.g., under the Environmental Assessment Act) are typically required for specific proposed projects (see list of legislation in **Appendix 4**).

In general, development cannot proceed in the Far North until a community based land use plan is in place, unless an exception or exemption applies (as set out in section 12 of the Far North Act). This gives First Nations and Ontario the time to plan for orderly development. Activities that can proceed in advance of a community based land use plan include mining claim staking and mineral exploration, and environmental clean-up and feasibility studies.

Steps in the community based land use planning process are described in **Appendix 3**. This description provides an overview of the process only; planning typically includes additional components and details.

In preparing community based land use plans, joint planning teams consider both the community scale and the landscape scale as they are planning for land use in their areas. This Strategy provides additional direction to guide how community based land use plans can contribute to landscape objectives; the areas described in **Appendix 2** can also be used as a reference when considering landscape-level matters.

VISION, OBJECTIVES AND PRINCIPLES

3. Vision, Objectives and Principles

This section sets out a vision and principles to guide planning and development in the Far North. First Nations and the Minister must take the vision and principles into account in preparing and approving community based land use plans. Developers and resource managers are encouraged to consider them when working in the Far North.

3.1. A Vision for the Far North

The vision for the outcome of land use planning in the Far North is as follows:

A Far North that sustains us all in all ways. A Far North where:

- the land, water, air, and life are healthy;
- the land and the people live well together, with prosperity;
- First Nation stewardship of lands, waters, air and life is honoured and respected; and,
- First Nations and Ontario share the responsibility to take care of the land as envisioned by our treaties.

3.2. The Objectives for Land Use Planning

Section 5 of The Far North Act sets out four objectives for land use planning:

1. A significant role for First Nations in the planning.
2. The protection of areas of cultural value in the Far North and the protection of ecological systems in the Far North by including at least 225,000 square kilometres of the Far North in an interconnected network of protected areas designated in community based land use plans.
3. The maintenance of biological diversity, ecological processes and ecological functions, including the storage and sequestration of carbon in the Far North.
4. Enabling sustainable economic development that benefits First Nations.

This Strategy advances those objectives by providing overarching principles to guide planning, and guidance on broad-scale planning topics relevant to the Far North, such as cultural and heritage values, biological diversity, climate change or areas of natural resource value for economic development.

The stewardship approach, land use designations and guidance set out in Sections 4 and 5 flow from these objectives. While some of the guidance is directed more towards some objectives than others, this Strategy takes into account all four objectives. The interrelationship among these objectives is as important as each objective individually.

3.3. Overarching Principles:

The principles set out below have guided the development of this Strategy and will also guide the preparation of individual community based land use plans:

1. **Caring for the land**

   Protect the land, water, air and all life to enhance resilience to change and provide for the survival and the health and well-being of present and future generations.

2. **A Focus on Water**

   Water is vital to all life. Protection of water sources, lakes, rivers and all water systems is a priority in planning.

3. **Sustainability**

   Economic development opportunities should support and provide community social and economic benefits, while also sustaining the environment and culture and the needs of future generations.

4. **Respect**

   First Nations' relationship to, and customary stewardship of, land and resources have shaped the land and will be respected. Harmonize new livelihood activities with existing uses and traditional activities and relationships to the land.

5. **Collaboration among communities, and with provinces and territories**

   Decisions are to be made in cooperation and collaboration across planning areas to consider broad-scale matters, and the interests of people beyond individual planning areas. This also includes collaboration, where appropriate, with other jurisdictions such as Nunavut, Manitoba and Quebec.

6. **Informed decision making**

   Decisions will draw upon the combined strengths of Aboriginal traditional knowledge and all information and science. The wisdom and perspectives of knowledge holders in the communities will guide the understanding of traditional knowledge. Subject matter experts will contribute to the interpretation of other forms of information, including science-based information.

7. **Open and transparent processes**

   Opportunities for engagement, within and beyond the community, with a variety of stakeholders, will help to ensure that a range of perspectives is considered.

8. **Guiding direction**

   Planning determines the permitted land uses and establishes broad direction for the permitted uses. This helps work towards the goals and objectives of the land use plan.

9. **Responsive and adaptive**

   Planning is an ongoing process that needs to respond to changing biological, social, environmental and economic conditions, and improved knowledge.

10. **Consensus**

    Building shared understandings and working toward agreement helps strengthen outcomes and relationships.

STEWARDSHIP APPROACH AND LAND USE DESIGNATIONS

4. Stewardship Approach and Land Use Planning Designations

4.1. A Stewardship Approach

Stewardship is about taking care of the land and its people. It is the responsibility that we all have—individuals, communities, companies, and governments—in managing and protecting the land's natural and cultural wealth, both now and for future generations. In the Far North, stewardship is about conserving the unique geography and cultural landscape of the Far North, while also allowing its people to prosper through economic development.

In its Science Panel Report (2010), the Far North Science Advisory Panel described a concept similar to stewardship. Called a "conservation matrix" approach, the report talked about the need to balance protection and development with a focus on protecting all land—identifying those areas that should be protected from industrial development, and also carefully managing activities on the rest of the landscape.

Stewardship is not a new concept in the Far North; First Nations have long embraced this responsibility. Through land use planning, Ontario and First Nations have an opportunity to advance the commitment to stewardship and provide for "orderly development". Joint planning teams aim to balance protection with economic development when making decisions about how land and water will be used into the future. The guidance provided in this Strategy reinforces and strengthens the stewardship approach in planning.

Protected areas have an important role to play in applying a stewardship approach in land use planning. Designating areas as protected helps advance protection objectives under the Far North Act while providing certainty for developers about where development is a desired and compatible use. The Far North Act sets out an objective of protecting at least 225,000 km^2, or 50% of the Far North in an interconnected network of protected areas in order to safeguard sufficient intact natural areas to ensure ecological services and full ecosystem function. Various studies and reports on conservation planning in the North American boreal region, including the Canadian Boreal Forest Conservation Framework (Canadian Boreal Initiative), highlight the importance of the boreal region and the need for large protected areas. Large protected areas can provide sufficient intact habitat and ecological functions to promote continued ecosystem integrity and viable and abundant fish and wildlife populations, and to enhance resilience to climate change.

Planning for economic development opportunities is an equally important component of the stewardship approach, addressing objectives for economic benefits. In all areas, consideration is given to both economic opportunities and conservation.

The Stewardship approach requires consideration of broad-scale matters as well as local matters. The broad-scale component of planning is essential to maintaining the functions of healthy ecological systems while also enabling development and economic opportunities that benefit First Nations. Planners build an understanding of the landscapes relevant to each broad-scale matter; these often include:

- Ecozones and ecodistricts (see Appendix 1, map **7**)
- Watersheds (see Appendix 1, map **8**)
- Caribou Ranges (see Appendix 1, map **1**)
- Infrastructure corridors (see Appendix 1, map **5**)
- Geological regions and structures (see Appendix 1, map 2)

Applying the Stewardship Approach

The Stewardship approach embraces the vision, objectives and principles described in Section 3. The Strategy applies the stewardship approach primarily by:

- establishing land use designations for the Far North that enable protection and development (in Section 4.2 below); and
- providing guidance on planning matters to be considered when applying land use designations (Section 5).

4.2. Land Use Designations

The Far North Act provides for the Strategy to include categories of land use designations and protected areas. **Land use designations** are used to set out the broad objectives and priorities for an area, and the land uses that are permitted and not permitted, consistent with those objectives. Plans set out land use areas and specify the land use designation for each area. This Strategy:

1.) describes primary designations that are currently being used in planning - **Dedicated Protected Areas, Enhanced Management Areas** and **General Use Areas**[6]; and,

2.) suggests new "categories" within the Dedicated Protected Area and Enhanced Management Area designations.

By contributing to the conservation and wise management of the land and its important features, all designations have a role in the stewardship approach. First Nations' uses of the land that are protected by Aboriginal and treaty rights, such as hunting and fishing, continue in all designations, including Dedicated Protected Areas.

Planning teams may also provide names for land use areas that convey a local understanding. Designations or categories set out in the Strategy are not meant to replace these local names; typically, both are identified in the plan.

Developing Categories of Land Use Designations and Protected Areas

Categories are designed to help clarify the purpose of an area and set out expectations for permitted activities that are consistent with that purpose. Developing a set of categories of land use designations and protected areas could help ensure clear and consistent direction in approved plans.

As provided for in the Far North Act, the Strategy may contain policies on categories of land use and protected area designations. The Far North Act also provides for categories to be "prescribed" by Minister's regulation under the Far North Act.

Some ideas for categories of land use designations and protected areas are suggested below – these are suggested as categories of **Dedicated Protected Areas** and **Enhanced Management Areas** for the purposes of the Strategy. These ideas provide the basis for categories to be included in the Strategy, and could help to provide a basis for "prescribed" categories in the future. They suggest, but do not set out definitively, the land uses that would be permitted in each.

Including these categories in the Strategy can serve two purposes.

First, the categories included in the Strategy will be a tool for planning teams to refer to in their plans, to help them clarify the intent of each area, and to help them to align the permitted/not-permitted activities with that intent. However since these categories will not yet be "prescribed" in a regulation, plans will need to continue to apply designations which set out the permitted and not-permitted activities in each land use area.

Secondly, feedback on and experiences with the categories in the Strategy could help inform future work to "prescribe" categories in a regulation if there is interest. Additional conversations can take place, as appropriate, as approaches to categories are honed and refined, including developing a list of the permitted and not permitted land uses in each category.

Advice and feedback on the use of "prescribed" categories in the future and how the suggested categories could evolve into more formalised prescribed categories is welcomed

Dedicated Protected Areas (DPAs)

Planning teams apply a Dedicated Protected Area designation where there is an interest in keeping areas free from industrial development, including where there are sensitive or significant ecological or cultural features and landscapes. The Far North Act requires at least one protected area be designated in each planning area. Dedicated Protected Areas, provincial parks and conservation reserves are all considered to be "protected areas" in the Far North.

All protected areas in the Far North can contribute to a world-class network of protected areas that respects, celebrates and sustains areas of cultural value and the ecological systems of the Far North. Far

North protected areas are established with a commitment to longevity. As specified in the Far North Act, certain developments, land uses and activities may not be carried out in a protected area including but not limited to: prospecting, mining claim staking or mineral exploration, opening a mine, commercial timber harvest, and oil and gas exploration or production (see section 14 of the Act for a complete list).

Dedicating areas of the Far North for protection through community based land use planning provides the opportunity to embrace protection approaches described by First Nations and address First Nations' and Ontario's shared interests for the conservation of ecological values and biodiversity.

Joint planning teams can review existing provincial parks or conservation reserves within the community based land use planning process. If jointly supported, the plan may identify recommendations to change existing parks or conservation reserves.

Approaches to Protected Areas

There are choices for joint First Nation-Ontario planning teams to make on the type and management of protected areas over the long term.

When joint planning teams develop community based land use plans, they commonly recommend that the ***Dedicated Protected Area*** land use designation apply to new protected areas**.** Following the plan's approval, there can be a joint decision to use one of three approaches to confirm protection intent and management.

The three potential approaches to choose from are:

> Approach 1: The Dedicated Protected Area remains as a non-regulated protected area designation under the Far North Act.
>
> Approach 2: The boundary of the Dedicated Protected Area is specified by Minister's regulation, under the Far North Act, following request by the First Nation Council.
>
> Approach 3: A request is made to regulate the Dedicated Protected Area under the Provincial Parks and Conservation Reserves Act as a provincial park or conservation reserve.

For Approach 1 and 2, the protected area is managed in accordance with the community based land use plan and the Far North Act. Specific activity proposals would also be subject to provisions of the Public Lands Act and the Class Environmental Assessment for Resource Stewardship and Facility Development Projects. The Far North Act does not include a subsequent protected area management planning process, such as exists under the Provincial Parks and Conservation Reserves Act.

For Approach 3, the protected area is managed in accordance with the Provincial Parks and Conservation Reserves Act, 2006 (PPCRA) framework. If a provincial park or conservation reserve is recommended, the First Nation would request that the Minister of Natural Resources and Forestry seek the establishment of a new provincial park, new conservation reserve, or to add area to an existing provincial park under the PPCRA. The PPCRA establishes six classes of provincial parks, some of which are geared towards a fairly broad range of uses, while others are more restrictive. A decision on park

classification determines the permitted and not permitted land use activities. Specific activity proposals would be subject to the Class Environmental Assessment for Provincial Parks and Conservation Reserves, where applicable. Management direction is prepared for all provincial parks and conservation reserves.

Planning teams are encouraged to seek additional information on the PPCRA and associated policies to more fully understand and explore Approach 3. In particular, where there may be a potential interest in pursuing regulation under the PPCRA, the planning team should aim to align the permitted and non-permitted activities in the land use plan with the provincial park and conservation reserve framework.

In the land use plan, the First Nation(s) and MNRF can identify the need for further discussion and understanding of the approaches before making a final decision.

MNRF may prepare additional guidance to assist joint planning teams with understanding the approaches noted above.

Suggested Categories of Dedicated Protected Areas (DPAs)

As noted above, the Far North Act provides for the Strategy to include categories of protected areas (referred to here as categories of Dedicated Protected Areas). Categories are suggested below. These categories are new suggestions; currently land use plans are applying a DPA designation without any kind of "category".

Landscape Category DPA

- The primary focus of the Landscape Category DPA would be on protecting large, functioning cultural and ecological landscapes that are foundational to maintaining the integrity of ecological systems, processes and functions, and the biodiversity of plants and animals.
- In addition to the prescribed non-permitted activities (per the Far North Act), linear infrastructure, such as roads and transmission and distribution lines may be discouraged. If crossing the protected area must be considered in route selection, the land use plan guidance would inform the decision-making process (e.g., to reduce adverse effects, avoid sensitive or vulnerable areas, minimize disturbance).

Sensitive Areas Category DPA

- The focus of the Sensitive Areas Category DPA would be on the protection of lands and waters that are sensitive and particularly vulnerable to adverse impacts associated with developments, land uses and activities (e.g., headwaters, natural or cultural heritage features, and sensitive habitat).
- Sensitive Areas Category DPAs may have a greater range of restricted activities (e.g., roads and transmission and distribution lines may not be permitted).

Waterway Category DPA

- The focus of the Waterway Category DPA would be on protecting cultural, historical and ecological values of major waters and waterways, with emphasis on ecological and cultural connections.
- Large rivers may be suitable for this category and it may also be considered for lakes, rivers, headwaters and wetlands and upland features that contribute to the ecological integrity of the waterway.
- Waterway DPAs could include recommendations to keep the number of crossings/disturbance to a minimum and directing them away from sensitive or vulnerable features.

Enhanced Management Areas (EMAs)

An Enhanced Management Area (EMA) is a land use designation that can be used to provide more detailed land use direction in areas of special features or values. EMAs can potentially permit a wide range of activities, and may contain additional guidance (e.g., timing, location, method, access), in order to maintain the features or values that make the area special. Through an EMA, the land use plan may also suggest desired activities on the basis of their compatibility with special features or values, or a characteristic landscape (e.g., considering tourism in areas with high recreation value).

Suggested Categories of Enhanced Management Areas

As noted above, the Far North Act provides for the Strategy to include categories of land use designations (included here as categories of Enhanced Management Areas). Categories are suggested below. These categories are often referenced in existing community based land use plans.

Cultural Heritage EMA

The cultural heritage EMA emphasizes the protection of cultural and/or historic values as well as landscapes, while typically allowing a range of resource activities. Additional guidance for activities in the area may be specified in the EMA to provide an enhanced level of protection of cultural or heritage values in subsequent planning for activities. For example, the plan may suggest that dialogue with community knowledge holders could be essential to understand the nature of cultural heritage values to be protected.

Natural Heritage EMA

A natural heritage EMA is intended to emphasize the protection of areas with significant natural values, while typically allowing a range of resource activities. For example, natural heritage features having earth and life science values may be protected by recommending additional guidance for activities. This guidance may describe matters to be addressed in subsequent planning and decision making, such as preferred location, size and timing of operations, or the recommended extent or duration of access.

Fish and Wildlife EMA

The fish and wildlife EMA category can be applied to areas that are managed for the stewardship, maintenance and enhancement of fish and wildlife habitat and populations, while allowing for the multiple use of other natural resources. More specifically, this EMA may have the intent of protecting

important habitat of a certain species, such as woodland caribou seasonal calving areas or lake sturgeon spawning sites. For example, there may be a recommendation to restrict specific activities during certain times of year.

Remote Access EMA

The remote access EMA is intended to maintain and promote the remote character of an area. Desirable and compatible activities could include cultural activities, tourism and recreation. Activities that require access roads, such as commercial timber harvest, can be permitted; the EMA may include guidance that subsequent planning for those activities would aim to minimize the number of roads or use temporary roads, where possible. All proposals for access roads should consider the intent of the EMA in planning, designing, constructing and locating roads accordingly.

General Use Area (GUA)

A General Use Area is a land use designation which generally permits a full range of resource uses. Policies for GUAs can contain guiding direction for permitted land uses (e.g., new access maybe subject to restrictions). Cultural and ecological values are afforded further protection through project-level environmental assessments, resource management planning (e.g., forest management), and other permits and licences.


GUIDANCE

5. GUIDANCE

Guidance in this section of the Strategy helps planning and decision making to work towards environmental, social and economic objectives and supports orderly development in the Far North of Ontario. It provides guidance on how to apply existing provincial policy and legislation to land use planning in the Far North throughout the land use planning process.

Planning teams can use the Stewardship approach in applying land use designations as described in Section 5. In preparing the land use plans, the First Nations and the Minister will need to take into account this Strategy, including the guidance offered in this section. The Minister of Natural Resources and Forestry will also need to take the Strategy into account in deciding whether to approve community based land use plans. Although not required under the Far North Act, where it is appropriate to do so, developers and resource managers are encouraged to consider the guidance in this section of the Strategy when considering, planning and approving projects in the Far North.

This section of the Strategy also contains policies on making amendments to community based land use plans.

5.1. General Guidance for Planning

This section provides general guidance to emphasize good planning practices.

In preparing plans, joint planning teams should do the following:

- Rely on the best available science and information, the wisdom of Elders and community members (ATK), and knowledge of subject matter experts.
- Consider all values significant to the First Nations and Ontario.
- Understand the relevancy and applicability of legislation and provincial policies.
- Build an understanding of the potential impacts of climate change (e.g., increased risk of flooding and forest fires) in the planning area by assembling available information such as historical weather and regional climate change projections and local knowledge.
- Consider potential climate change impacts in designing land use areas and designations. For example, consider the potential impacts of planning decisions on greenhouse gas emissions, and on carbon storage and sequestration.
- Consider actions to adapt to climate change using the guidance provided in each of the planning topics below.
- As appropriate, apply available and emerging decision support tools (e.g., to assess the potential effects of proposed land use activities)

- Collaborate with neighbouring communities and others who may have an interest in or be affected by planning efforts.
- Consider results of monitoring to provide input to current and future planning efforts. Results of environmental or "effects" monitoring can provide information on the environmental effects of different developments, activities and events. After plans are in place, results of "effectiveness" monitoring can help planning teams determine whether plan implementation has achieved planning objectives.
- Adjust plans as new information becomes available.

5.2. Designing Protected Areas

The Far North Act requires that each community based land use plan designate at least one protected area. A well-designed network of protection is critical to protecting cultural values important to First Nations and to maintaining biodiversity and healthy ecological systems at the landscape level.

Guidance

Joint planning teams are encouraged to design protected areas by applying the following principles:

a. Scale: Be mindful that cultural, ecological or geological values occur at many scales – for some values, such as site-specific cultural values, it may be enough to look within a planning area, whereas for other values, such as watersheds and wide-ranging species, it is necessary to consider them within and beyond an individual planning area.

b. Size and shape: Consistent with the stewardship model, look first to identify possibilities for protecting large areas with little disturbance, within and adjacent to each planning area, that are foundational to protecting cultural and ecological systems and functions and biodiversity at a landscape-scale, as well as areas that contain sensitive values at specific sites. Generally, large, compact and contiguous shapes are more effective in providing protection than many small areas.

c. Connectivity: Design networks for connecting protected areas so that people, plants, animals and water can continue to move naturally across the landscape throughout the seasons or over many years.

d. Diversity is important: Include areas that protect a variety of species, habitats and landforms, including those that are unique, rare or at risk.

e. Habitats important to maintaining various species: Include and seek to provide a high level of protection to sites that contain habitats important to the life-cycle of unique, rare or at risk species (e.g., breeding, nursery, feeding, denning areas).

    I. Habitat components that are more likely to persist on the landscape over longer periods of time—such as those associated with enduring geological or physiographic features (e.g., eskers, island complexes)—may be more appropriate as priorities for

long-term protection in dedicated protected areas, than habitat components that are more dynamic in space and time (e.g., a mature forest stand).

f. Areas where nature can work freely are preferred: Wetlands and headwaters, as well as natural disturbances such as fire, perform important functions—it is important to think about how a design protects and maintains those functions.

g. Cultural and heritage values: Lands and waters important to First Nations or Ontario should be considered for inclusion. See guidance on cultural and heritage values on page 38.

h. Existing protected areas: Consider existing provincial parks and conservation reserves in the design of the network—lands and waters that could be added to make these more effective in protecting cultural and ecological values, and portions of existing protected areas that could be replaced by designating other areas as protected areas.

i. Other land use designations: Consider how protection can be provided for values and features in surrounding land use designations, and in adjacent planning areas.

j. In designing protected areas, engage with other communities, in the immediate area and beyond (e.g., those in the same watershed) to understand their interests in protection and development, and work with community members and advisors to look at the design of the protected areas network from a variety of perspectives.

In applying these design principles, joint planning teams should consider how each area proposed for protection contributes to the creation of a Far North protected areas network and to broader provincial and global protection objectives.

5.3. Healthy Landscapes

The Far North of Ontario has healthy ecosystems and cultural landscapes. To support the long-term prosperity and cultural and environmental health of the Far North it is important to conserve these systems and landscapes. Maintaining biological diversity, ecological processes and functions, including the storage and sequestration of carbon in the Far North, is reflected in the third objective for planning under the Far North Act. The guidance in this section helps planning to work toward this important objective.

Cultural and Heritage Values

First Nations often convey that their entire traditional territory is of cultural importance, that the land provides the foundation for their culture and way of life. Values important to First Nation communities may include broad areas of land and water associated with traditional use (e.g., hunting, trapping and gathering areas), as well as more site-specific places of importance such as burial grounds and places used for sacred or ceremonial purposes. First Nations, and in particular, traditional harvesters, have a rich appreciation of the landscape and often many names are applied to describe places.[7] By working together on joint planning teams, First Nations and Ontario are advancing the understanding and appreciation of those cultural and heritage values that are important to each community.

Guidance

a. Draw upon Aboriginal traditional knowledge, as well as other sources of information, to identify cultural and heritage values.

b. Respect the cultural and heritage values of other First Nation communities.

c. Protect cultural and heritage values by assigning appropriate land use designations and broad direction in the plan:

   II. Include sensitive cultural and heritage values in Dedicated Protected Areas; and/or

   III. In all land use designations, provide guiding direction for permitted land uses to protect cultural and heritage values.

d. Where suitable, protect values through application of the Sites of Aboriginal Cultural Significance regulation under the Mining Act.

Biodiversity

Protecting biodiversity helps ecological systems to continue providing essential ecosystem services, and makes them resilient in the face of climate change, invasive species and other disturbances.

Ontario's framework for conserving biodiversity is set out in *Ontario's Biodiversity Strategy* (2011) and *Biodiversity: It's in Our Nature* (2012). This framework sets out strategies to protect biodiversity (genetic, species and ecosystem diversity), reduce pressures that lead to loss of biodiversity, and improve knowledge. The guidance set out below builds on some of the concepts and strategies set out in these documents.

Guidance

a. Strive to maintain the full diversity of species and ecosystems representative of the planning area and the Far North.

b. Consider protection of biodiversity in the context of sustaining communities, culture and sustainable economic pursuits, i.e., providing "ecosystem services".

c. Emphasize the maintenance of biological diversity in all land use designations, and in particular, in the design of protected areas that are expansive and connected.

d. Protect habitats at scales that are appropriate to support the life processes of species, from small scale (e.g., arctic buttercup) to large scale (e.g., woodland caribou).

e. Account for the needs of species at risk as well as valued species such as brook trout by:

   I. Providing a high level of protection to sites that contain habitats important to the life-cycle of unique, rare or at risk species (breeding, nursery, feeding, denning areas).

   II. Identifying areas of high concentration of habitat for individual or multiple species at risk by referencing general habitat descriptions in concert with habitat regulations

under the Endangered Species Act; a plan may identify that these areas require special consideration.

f. As a specific requirement, reference the MNRF's Technical Report, *Woodland caribou (Rangifer tarandus caribou) in the Far North of Ontario: Background information in support of land use planning* as a source of direction.

g. When identifying land use designations, consider caribou range condition described in the most recent Integrated Range Assessment Reports.

h. Design for the continuance of fire as a natural process other than where it may threaten communities, infrastructure or resource developments (e.g., mines).

i. Minimize the potential negative impacts of infrastructure development through land use direction by identifying sensitive areas where linear infrastructure should be avoided or limited.

Wetlands and Peatlands

Far North wetlands, including peatlands, are globally significant and provide for the slow movement of water into lakes and rivers, creating a unique ecosystem and providing a sink for carbon, mercury and other materials stored in them (*Far North Science Panel Report)*. Ecological functions of wetlands and peatlands are inextricably linked to their surroundings, particularly aquatic ecosystems.

a. Apply land use designations and broad direction to sustain the hydrologic functions of wetlands, such as water flow regulation, flood protection and water purification.

b. Identify concentrated areas of peat and provide appropriate protection for these areas that are important for carbon storage and sequestration.

c. Provide guiding direction for permitted land uses to minimize adverse effects on wetland functions.

Water

Water and waterways are important ecologically, culturally and spiritually. Protecting water systems contributes to multiple objectives, including establishing interconnections between protected areas, and protecting cultural values.

Guidance

a. Emphasize the protection of water and hydrologic functions in all land use designations and decision making, and in particular, in the design of protected areas that include the most sensitive water bodies, waterways and water features (e.g., drinking water, spawning habitat, sources, shoreline and headwater areas)

b. A combination of Dedicated Protected Areas and Enhanced Management Areas may be useful along waterways to:

I. Provide protection while allowing for a broader range of resource activities within an appropriate distance from the waterway.

II. Enable renewable energy opportunities while emphasizing protection of water and hydrologic functions.

c. Respect that a decision to permit a certain land use in a land use designation could have impacts on downstream and potentially upstream areas and communities; understand the potential impacts (individual or cumulative) of new and existing activities within the broader watershed.

d. Use water and watershed based information products available through Land Information Ontario (LIO), and the Ontario Flow Assessment Tool (OFAT) found through Ontario.ca to:

I. Delineate watershed and sub-watershed boundaries

II. Where appropriate, design natural boundaries for land use areas

III. Understand the water courses and their source in relation to possible developments.

5.4. Use and Management of Resources

In the Far North, there are many opportunities for economic development such as forestry, tourism and mining. Communities need to plan for these opportunities to provide social and economic benefits, while also sustaining the environment and cultural values on the land. How these opportunities are planned for will be critical in working towards both the sustainable development and conservation objectives of the Far North Act and in supporting orderly development.

Areas of Natural Resource Value for Economic Development

Community based land use plans identify those areas where resource-based economic development is a desirable and compatible land use activity.

Guidance – General

a. Draw upon best available information and expertise to understand the capability of the land to support sustainable resource use, the economic potential for development, and the ecological, social and cultural objectives for planning.

b. Understand economic development in each sector (forestry, mining, tourism, etc.) and how it benefits/contributes to community objectives and a healthy provincial economy.

c. Consider local to regional infrastructure needs to enable current and potential future economic development activities.

d. Consider and understand potential benefits and impacts of land use decisions within and beyond the Far North; this may require engagement with multiple First Nations, municipalities, Ontario and neighbouring provinces and territories.

e. Provide flexibility to address new information about resource-based economic development opportunities as it becomes available (e.g., new geology mapping, or discovery of new oil and gas or mineral deposits).

f. Provide broad direction to guide development away from areas that may become unsuitable as the climate changes. For example, if it is expected that flooding or slope failure may increase in future, include broad direction in plans to advise that any development (e.g., tourism operations, mine facilities) should be set well back from areas of potential flooding or related erosion.

Guidance – Mineral resources, mineral exploration and mining:

a. Respect existing mining claims, mining leases, patents or licences of occupation for mining purposes and associated Mining Act requirements (e.g., provision for access).

b. Engage with MNDM to obtain information and expertise on geoscience and mineral resources. This may include using the Metallic Mineral Potential Estimation Tool (MMPET) early in the planning process. Where necessary, it may also include applying the provincially significant mineral potential methodology (PSMP) where withdrawal of mineral staking is being considered.

c. Apply land use designations to enable mineral exploration and development activities in areas of significant mineral potential, except where such activities have been determined through joint planning to be incompatible with other values and uses.

d. For areas where there is limited information about the mineral potential, apply land-use designations that allow mineral exploration and development, where such activities are compatible with other values and uses.

e. Build understanding that where mineral exploration and development activities are permitted they should meet the standards and Best Management Practices, including Prospectors and Developers Association of Canada's e3 Guidelines and toolkits.

Guidance – Oil and Gas

a. Recognizing there may be potential for oil and gas development in the Far North, particularly in the Hudson Bay Lowlands Ecozone, and recognizing there is limited information on impacts specifically in this area of Ontario, land use decisions should be precautionary in nature.

Guidance – Aggregate Resources

a. Demonstrate the consideration of potential growth in demand for aggregate resources in making decisions on permitting aggregate extraction as a land use.

b. Understanding that there is limited knowledge of the quantity and quality of aggregate available in the Far North, apply land use designations in a way that will keep known resources available for infrastructure development, while also protecting special features or values.

Guidance – Commercial Forestry

a. Apply land use designations to enable forestry activities in areas where there is forestry potential and where new forestry activities have been determined through joint planning to be desirable and compatible uses.

b. Apply land use designations in a way that will support a sustainable forest management opportunity (i.e., consider a combination of General Use Area and Enhanced Management Area designations that provide for forestry activities including access in appropriate ways and locations).

c. As appropriate, include broad direction that would guide the manner in which forestry activities will take place, connecting the land use plan with subsequent decision making such as resource management planning.

d. Plans can identify areas where small-scale community forestry opportunities are desirable and compatible.

Guidance – Non-Timber Forest Products

a. Identify areas where the potential for harvest of non-timber forest product opportunities can provide an economic development opportunity; apply appropriate land use designations where such activities are desirable and compatible.

Guidance – Renewable Energy

a. Apply appropriate land use designations to enable potential commercial and community-scale opportunities for renewable energy generation where such activities have been determined through joint planning to be desirable and compatible uses.

b. Engage the Independent Electricity System Operator (formerly the Ontario Power Authority) to obtain information and expertise to help align community objectives with the province's Long-Term Energy Plan.

c. Provide appropriate land use direction to allow for transmission or distribution connection facilities that might be required.

d. The 25-megawatt limit on individual waterpower sites in the Northern Rivers watersheds (see Renewable Energy on Crown Land Policy), may be reviewed through community based land use planning processes to determine if the limit should be maintained, changed or removed.

e. If reviewing the 25 megawatt limit on individual waterpower developments in the Northern Rivers watersheds:

    I. include First Nations within the subject watershed or basin in the review; and,

    II. include broader landscape and watershed-level considerations, such as considering the potential upstream and downstream impacts of these types of developments, including flooding and mercury release, on other permitted developments, land uses and land use activities, and on ecological systems and cultural and heritage values.

Guidance –Peat Extraction

Extraction of peat for fuel use has a greater impact on ecosystem services and biodiversity than extraction of peat for horticultural use.

a. Across the Far North, land use decisions that permit commercial extraction of peat for fuel use should be precautionary in nature, recognizing the ecological, hydrogeological, and climate impacts of this activity.

b. In the Hudson Bay Lowlands Ecozone, commercial extraction of peat for any purpose is discouraged.

c. In the Ontario Shield Ecozone, where such activities have been determined through joint planning to be desirable and compatible uses, consider applying land use designations that permit extraction of peat for use in the horticultural industry. Provide broad direction to locate the extraction away from large waterways and headwater areas.

d. Notwithstanding the above, plans should note that peat extraction, where required and necessary in association with other land uses, would be permitted.

Guidance – Commercial Trapping

a. Respect and affirm ongoing First Nation commercial trapping activities as permitted uses; broad direction may be provided to guide consideration of ongoing trapping while planning for new economic development opportunities.

Guidance – Commercial Fishing

a. Commercial fishing may be identified as a permitted use in areas where there is potential and where commercial fishing is a compatible land use.

Guidance – Commercial Bait Harvesting

a. Commercial bait harvesting may be permitted where it is a compatible land use and where it is consistent with the existing regulatory and policy framework (currently under review).

Guidance –Tourism

a. Recognize tourism as a contributor to the economic well-being of First Nations and Ontario, and that it can be compatible with and enhanced by the protection of ecological systems and cultural values, including traditional land use and Aboriginal traditional knowledge.

b. Identify existing and potential tourism capabilities and provide enabling land use direction by directing new tourism activities to appropriate locations and avoiding conflicting land uses.

c. Maintain remoteness where it is important for existing or future tourism opportunities (e.g., limit or place restrictions on road access, etc.).

d. Consider providing direction to promote new tourism opportunities that benefit First Nations.

Infrastructure

Infrastructure is important to provide access to, and support for, communities and to realize economic development opportunities. Impacts of infrastructure development on the ecosystems of the Far North need to be carefully considered and planned for.

Guidance

a. Draw upon best available information and expertise anticipating infrastructure needs and proposals at the local and regional scales, including anticipating effects of climate change (e.g., the need to realign winter roads).

b. Engage the Independent Electricity System Operator (formerly the Ontario Power Authority) to obtain information and expertise to help align community objectives with broader electricity planning.

c. In plans, provide land use designations that support anticipated infrastructure needs.

d. Provide broad direction in plans for subsequent decision making regarding cultural and/or ecological values.

e. Identify land use areas where infrastructure is desirable or where it should be limited or avoided, for example minimizing linear crossings of dedicated protected areas or waterways.

f. In providing guidance related to access and other infrastructure corridors:

    I. support the highest possible long-term benefit to the First Nation communities within and beyond the planning area, and enable economic development opportunities; and

    II. support multiple access interests while minimizing the number and spatial extent (i.e. physical “footprint”) of roads and other infrastructure corridors, in an effort to minimize fragmentation of the landscape and cumulative effects.

Cumulative Effects

Cumulative effects are changes to the environment as a result of the combined effects of multiple activities and events (e.g., building roads, forestry activities, wildfires). The interactions among effects are not easily foreseen and often are not well understood, making it difficult to predict cumulative effects. Advice on scientific methods to assess cumulative effects is emerging. Both Aboriginal traditional knowledge and scientific knowledge are important sources of information about current conditions and changes to the land that have been observed. Aboriginal traditional knowledge can also contribute teachings on traditional approaches to using land and waters sustainably.

Guidance

a. In planning, design land use areas and designations to reduce potential for cumulative effects. Application of Dedicated Protected Areas and Enhanced Management Areas will direct development away from vulnerable areas (e.g., headwater areas, wetlands along the

coast of Hudson Bay and James Bay, sensitive habitat) and can minimize the extent, intensity and duration of development.

b. Where land use designations permit development, recognize possible impacts, both direct and indirect, of future developments and disturbance at both the local- and landscape-scale. For example, consider water-related impacts of land uses at the watershed scale and consider implications for caribou at the range-scale (e.g., the cumulative "footprint" created by human and natural disturbance).

c. As appropriate, apply available and emerging decision support tools to assess the potential effects of proposed land use activities in planning.

5.5. Amending Community Based Land Use Plans in the Far North

Amendments may be proposed as an outcome of a scheduled plan review or at any time, to incorporate new information, or to address consideration of a change to a land use designation or direction.

Amendments as described in the Far North Act

Under section 10 of the Far North Act, 2010, any of the First Nations that have approved a community based land use plan or the Minister of Natural Resources and Forestry may propose amendments to the following parts of an approved plan:

1. The land use designations in the planning area;
2. The designation of protected areas in the planning area; or
3. The specification of permitted land uses in the planning area.

For the purpose of this Strategy, proposed amendments as described above shall be considered **major amendments.**

Process for making major amendments

Section 10 of the Far North Act further sets out that the process for these proposed amendments will follow some of the same processes and requirements used to prepare and approve a community based land use plan:

- The First Nation(s) that approved the plan and the Minister use the joint planning team when preparing major amendments to the plan. Both parties are involved in discussions about the nature, desirability and suitability of the proposed amendment and the approach to community, public, and stakeholder involvement.
- In preparing the proposed amendment, the First Nation(s) that approved the plan and the Minister must take into account the objectives for land use planning set out in section 5 of the Far North Act and the Far North Land Use Strategy, if any, as it exists at the time the proposed amendment is prepared.

- The proposed amended community based land use plan shall still include the mandatory contents as set out in subsection 9 (9) of the Far North Act.
- The proposed amended community based land use plan may contain other matters related to land use planning in addition to the matters required by subsection 9(9) of the Far North Act.
- An opportunity for comment on major amendments is provided through use of the Environmental Registry.
- Additional opportunities for community, public and stakeholder involvement should be provided as appropriate (e.g., newspaper ads, mail-outs to those that may be affected by or interested in the amendment, etc.).
- The proposed amendment has no effect until:
    - the Minister of Natural Resources and Forestry by "order" approves the parts required to be included by subsection 9(9), and
    - each of the First Nations who approved the plan approve the proposed amendment through a Band Council Resolution.
- When an amendment is approved, the Minister shall post on the Government of Ontario internet site a notice indicating that the amendment has been approved, and a copy of the amendment that the Minister and the First Nation(s) have approved.

Minor amendments

Other amendments of a non-administrative nature are classified as **minor amendments**. Minor amendments would include proposals to amend a "non-mandatory" part of the plan (i.e., content of included in the plan under section 9(10) of the Act). An example would be a proposal to change the broad direction for permitted activities in the plan.

Process for making minor amendments

- The First Nation(s) that approved the plan and the Minister use the joint planning team when preparing minor amendments to the plan. Both parties are involved in discussions about the nature, desirability and suitability of the proposed amendment and the approach to community, public, and stakeholder involvement.
- In preparing the proposed amendment, the First Nations that approved the plan and the Minister are encouraged to take into account the objectives for land use planning set out in section 5 of the Far North Act and the Far North Land Use Strategy, if any, as it exists at the time the proposed amendment is prepared;
- An opportunity for comment on minor amendments is provided through use of the Environmental Registry.
- Any additional opportunities for community, public and stakeholder involvement are discussed on a case-by-case basis by the joint planning team.
- In order to proceed, the proposed amendment must be agreed upon by the joint planning team. The position of MNRF at the joint planning team would be approved by the applicable Director

within the Ministry. The position of the First Nation could be approved through council resolution or other mechanism.

- The Minister will post on the Government of Ontario internet site a notice indicating that the amendment has been agreed upon, and a copy of the parts of the amendment that both parties of the joint planning team have agreed to post.

Administrative amendments

Administrative amendments to community based land use plans include correcting small errors or omissions and updating information. They do not result in a change of land use designation or permitted activities. Some examples include:

- Changing the name of an area.
- Correcting minor errors.
- Providing updates to reflect changes in background information.

Process for making administrative amendments

- The First Nation(s) that approved the plan and the Minister use the joint planning team when preparing administrative amendments to the plan. Both parties are involved in discussions about the nature, desirability and suitability of the proposed amendment.
- Opportunities for the public to comment, including through posting on the Environmental Registry, generally will not be provided for administrative amendments. If a situation arises where community, public or stakeholder involvement may be appropriate, it can be discussed on a case-by-case basis by the joint planning team along with the appropriate level of engagement.
- In order to proceed, the proposed amendment must be agreed upon by the joint planning team. The position of MNRF at the joint planning team would be approved by the applicable Director within the Ministry. The position of the First Nation could be approved through council resolution or other mechanism.
- MNRF will make the agreed-upon amendment available on the Government of Ontario internet site.

Amendment classification process

When an amendment is proposed, MNRF and the First Nation will review the proposal and identify the appropriate category of amendment. The decision and rationale for the classification are then documented by MNRF. Based on the classification, the appropriate process is to be followed.

Third-party amendment requests

An amendment request may be submitted by a third party and/or another First Nation. If the First Nation(s) who approved the community land use plan or the Minister wish to propose the amendment that has been requested, it would be screened to an appropriate category and that process is followed.

The outcome may be to proceed with the proposed amendment, to defer the proposed amendment until the scheduled plan review, or to decline to proceed with the proposal. MNRF documents the decision, and the requester is advised.

Planning area amendments

The Act also speaks to amendments to the boundaries of planning areas before or after a community based land use plan is approved. This type of amendment is accomplished through Minister's order and can involve a process of the First Nation and the Minister working together to prepare terms of reference to guide the making of the amendment.

IMPLEMENTATION

6. IMPLEMENTATION

6.1. Implementation of Community Based Land Use Plans

Jointly approved land use plans provide a foundation for First Nations and Ontario to continue working together on shared interests and goals, with mutual respect and cooperation. Information sharing between communities, planners and MNRF field staff is an ongoing priority during the implementation phase.

Joint implementation teams may be the preferred mechanism for working together to implement the land use plan, and is the model that has already been established for the four completed plans. Membership could consist of First Nation community members and Ministry of Natural Resources and Forestry staff. Other Ministry staff may also participate, depending on the topic at hand. Implementation topics and priorities would be jointly identified and determined, practical, and have realistic expectations of workload and resourcing. Joint implementation teams would be collaborative, work in good faith and build consensus at every opportunity.

If a joint implementation team is established, possible roles and topics could include:

- contributing to advancing shared interests in economic development opportunities that are identified in the approved land use plan;
- providing input to proposed land use activities on whether proposals are consistent with the land use designations and permitted land uses specified in the community based land use plan;
- providing advice on information or broad direction in the land use plan to support consideration of proposals;
- supporting dialogue with the community on plan implementation and land use proposals;
- participating in dialogue with other government departments and agencies as required; and
- facilitating direction in the land use plan for plan review and amendment to keep plans as current and relevant as possible.

Review of Community Based Land Use Plans: An Adaptive Management Approach

Plan review is an integral element of land use planning and includes both ongoing evaluation and formal scheduled reviews. This approach provides for ongoing assessment of land use decisions that have been made through the planning process. Both the scheduled review and the amendment processes provide for an adaptive management approach that is integral to wise resource management and land use planning.

Community based land use plans may identify that new sustainable economic development activities can be pursued (i.e., are permitted) in defined areas. As a result, development may begin to take place in areas where there has not been industrial development in the past. While a precautionary approach is taken during the planning process and careful consideration of the most current information and knowledge available guides planning decisions, the effects of new development cannot be predicted with absolute certainty. Plan evaluation and review provides for the consideration of new information and results of monitoring programs.

Joint implementation teams, where established, may facilitate the ongoing evaluation of plans and recommend adjustments to land use designations or direction for activities if needed; for example, to respond to a better understanding of the ecosystem, new information about resources, assessments of cumulative effects, or First Nation community needs. When new ecological, economic, social or cultural information identifies important new values or opportunities to communities or Ontario, a review of the plan will be considered.

Proposed adjustments to a plan can be through the amendment process outlined in Section 5.5 on page 46, either as a result of a scheduled plan review, or at other times as required.

Scheduled Review Periods

The Far North Act requires that each community based land use plan specify when the plan is to be formally reviewed, which will be not more frequently than once every 10 years.

The plan will be reviewed through a joint process between the First Nation that prepared the plan and Ontario. The scheduled formal review will provide the opportunity to consider the plan as a whole, to keep it current and relevant, to consider any new information, and any results of monitoring and evaluation (e.g., from environmental and “effectiveness” monitoring, to determine if any amendments to the plan are required. Amendments would follow the approach set out in Section 5.5 on page 46.

6.2. Implementation of the Strategy and Next Steps

The Strategy shall be implemented in a manner that is consistent with the recognition and affirmation of existing Aboriginal and treaty rights in section 35 of the *Constitution Act, 1982.* The understanding of Aboriginal and treaty rights continues to evolve.

Effectiveness monitoring

Effectiveness monitoring will be important to evaluate whether and how the guidance in the Strategy is working towards the vision and the objectives for planning set out in the Far North Act. MNRF will track progress toward achieving the Far North Act objective of protecting 225,000 km^2 of the Far North in a system of protected areas. MNRF will also explore the development of performance indicators to assess the effectiveness of the guidance in the Strategy. Results of effectiveness monitoring will be made available, and will help inform future reviews of, and updates to, the Strategy.

Environmental or "Effects" monitoring

Monitoring the effects of human developments and activities, as well as natural events and processes on the environment can inform reviews of the Strategy and community based land use plans. Results of monitoring by government, First Nations, industry and others can provide useful information. To assist with the protection of the environment from any combined effects of large projects (such as in the Ring of Fire), long-term monitoring of environmental impacts on a regional basis is being considered.

Review

MNRF will engage First Nations and the public on any substantive changes to the Strategy. The Strategy will be subject to review to ensure that it stays current and effective, particularly in the event that a Joint Body is established. Results from any long-term environmental monitoring in the Far North should be used to inform potential revisions to the Strategy, as well as inform plans.

Supporting collaboration

As necessary and appropriate, the ministry will facilitate collaborative discussions on landscape level considerations with other provinces and territories. MNRF will continue to assist in collaboration efforts among First Nations communities to support the integration of landscape-level considerations (e.g., facilitating meetings and discussions among communities in a watershed or caribou range).

Joint Body

MNRF continues to engage in dialogue with First Nations in the Far North about interest in establishing a Joint Body in the future. Under the Far North Act, a Joint Body may be created to advise on the development, implementation and co-ordination of land use planning in the Far North. Composed of equal numbers of First Nation and Government of Ontario representatives, the Joint Body may advise the minister on matters related to the implementation of the Strategy, such as advising on Far North policy statements.

7. SUPPORTING INFORMATION

As noted in Section 1 and elsewhere, developers and resource managers are encouraged to consider this Strategy as they plan and approve projects in the Far North. All information and guidance in the Strategy may be useful. In particular, the vision and principles in Section 3, and the guidance for planning teams set out in Section 5, can provide valuable guidance and insights for those planning and approving developments.

This section of the Strategy provides additional supporting information that developers and resource managers in the Far North are encouraged to consider. In certain topics, as guidance for planning teams was developed, ideas for additional guidance that could help developers and resource managers emerged. The goal is to provide supporting information about an area in which industrial development is currently limited and where it is important that new development be carefully planned. This additional guidance can help carry forward the stewardship approach, as projects are planned and approved. It does not cover all matters that developers and resource managers need to consider.

a. Draw upon First Nations' advice and guidance about ongoing traditional use and activities when considering new economic development.

b. Explore opportunities to share the benefits of economic development with First Nations.

c. Reference approved community based land use plans to determine which activities are permitted where, and what broad direction applies to those activities.

d. As appropriate, apply available and emerging decision support tools to assess the potential effects of proposed land use activities in planning and/or decision-making processes (e.g., environmental assessment, land use permits, and ESA permits).

e. To protect biodiversity, consider minimizing the potential adverse impacts of infrastructure development through decision-making processes. Recognize and reduce potential for fragmenting habitat and introducing invasive species through appropriate design and mitigation.

f. Consider using only native and ecologically compatible species when rehabilitating areas disturbed as a result of economic development.

g. Recognize there are specific considerations when allowing for development activities to occur in wetland areas:

    I. Alterations to wetland hydrology through construction of all-season roads, mineral exploration infrastructure, and similar features can result in significant impacts on hydrology.

    II. Large volumes of aggregate are typically required to support infrastructure in wetland environments making reclamation difficult.

h. For new development proposals within the watershed (on land or water), address the protection of hydrologic functions, the maintenance of water quality and quantity and water conservation and water use efficiency.

i. Respect that a decision to permit a certain activity could have impacts on downstream and potentially upstream areas and communities; understand the potential impacts (individual or cumulative) of new and existing activities within the broader watershed.

j. Water and watershed based information products available through Land Information Ontario (LIO), and the Ontario Flow Assessment Tool (OFAT) found through Ontario.ca can be used to understand water courses and their source in relation to possible developments.

k. Where removal of peat is a necessary step to enable implementation of a resource development project, extraction should be minimized and the area rehabilitated.

l. Understanding that there is limited knowledge of the quantity and quality of aggregates available in the Far North, MNRF will encourage applicants to apply for aggregate at advanced stages of project planning, and may require applicants to provide additional information that is not normally required by the Provincial Standards. Further consideration of the application may be refused until such information is provided.

APPENDIX 1: MAPS

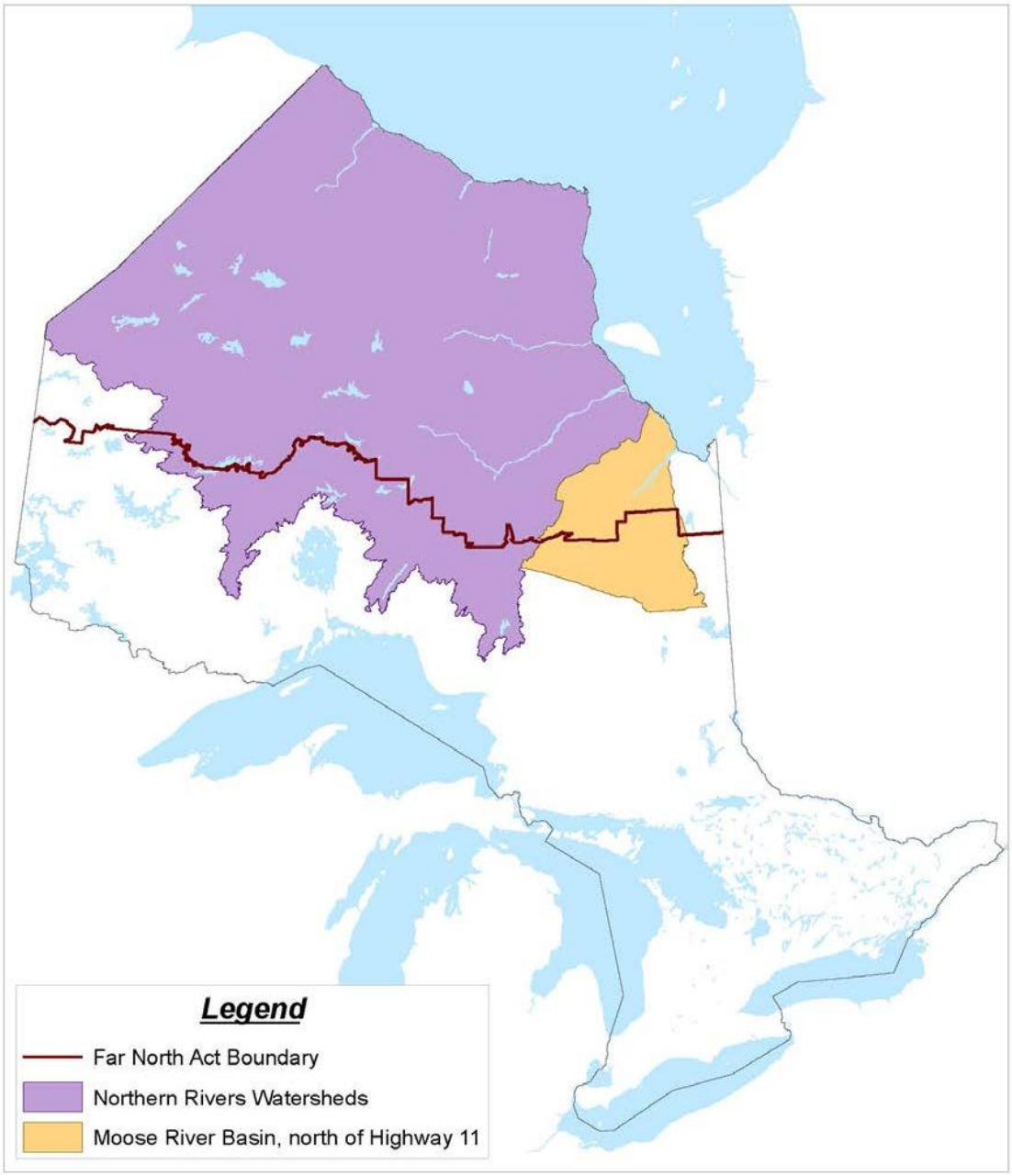
Caribou Ranges (back to text)

Map 1: This map shows distribution of the two types of woodland caribou in the Far North of Ontario, the more northerly Forest-tundra Woodland Caribou which is not considered at risk and the Forest-dwelling Woodland Caribou, which is listed as threatened.

Geology (back to text)

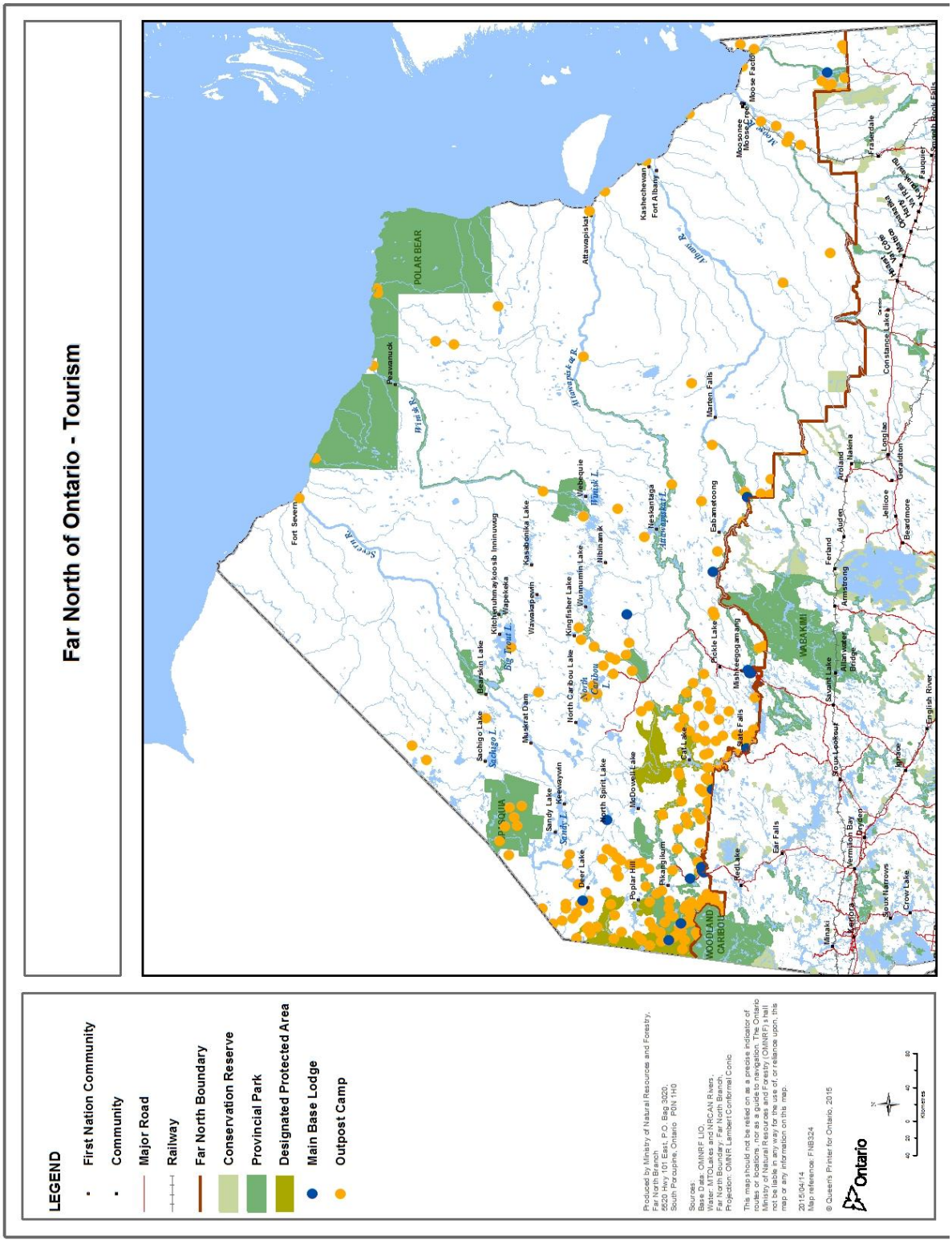
Map 2: This map shows the geology of Ontario. The geology of the Far North is identical to that of the south, which has produced billions of dollars of wealth.

Renewable Energy (back to text)



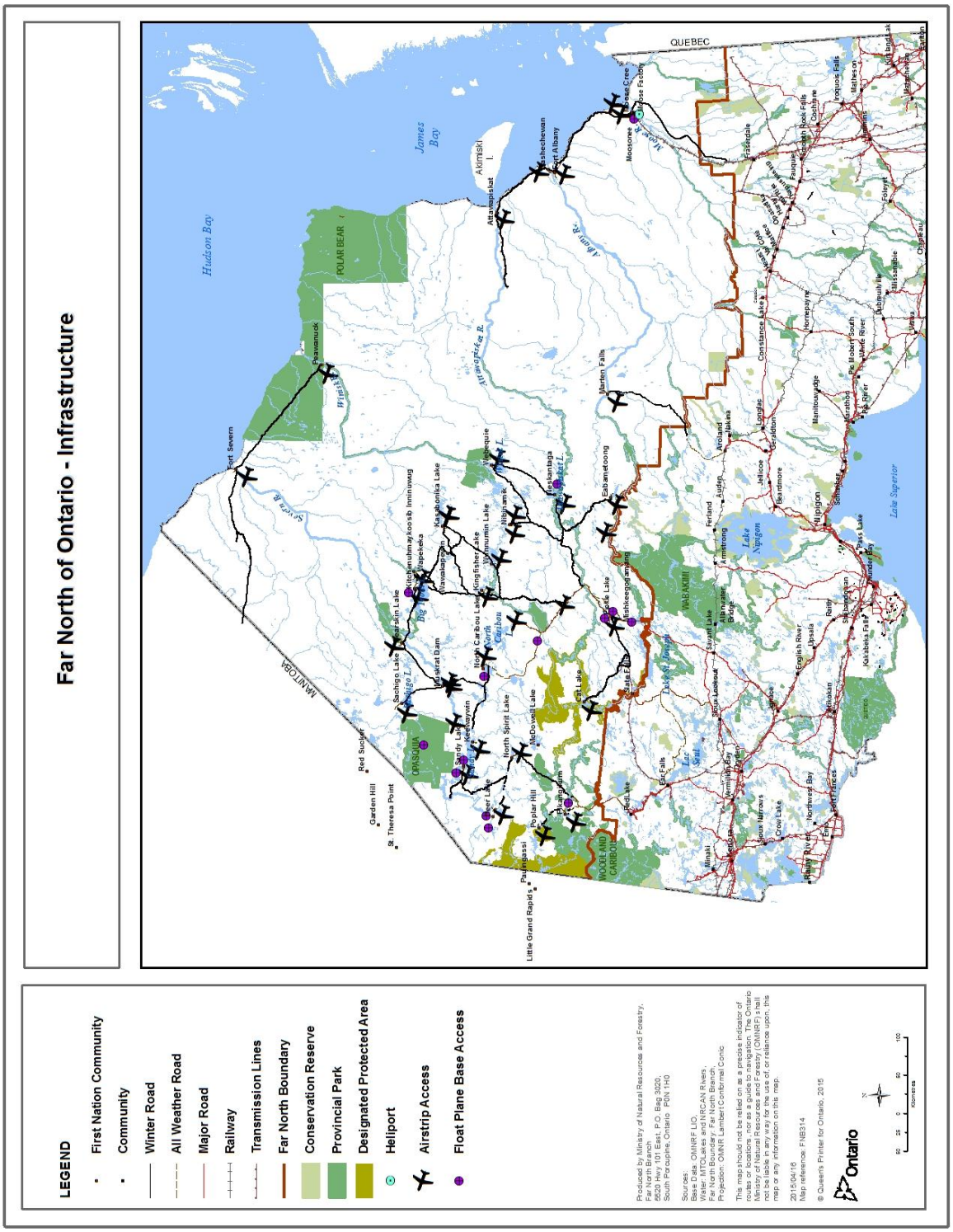
Map 3: Areas referenced in the Renewable Energy on Crown Land Policy, Moose River Basin (north of Highway 11) and Northern Rivers Watershed. Under this policy, further waterpower development in the Moose River Basin, north of Highway 11 must proceed by way of co-planning with certain First Nations. Within the Northern River watersheds, development is limited to 25 megawatts.

Tourism (back to text)



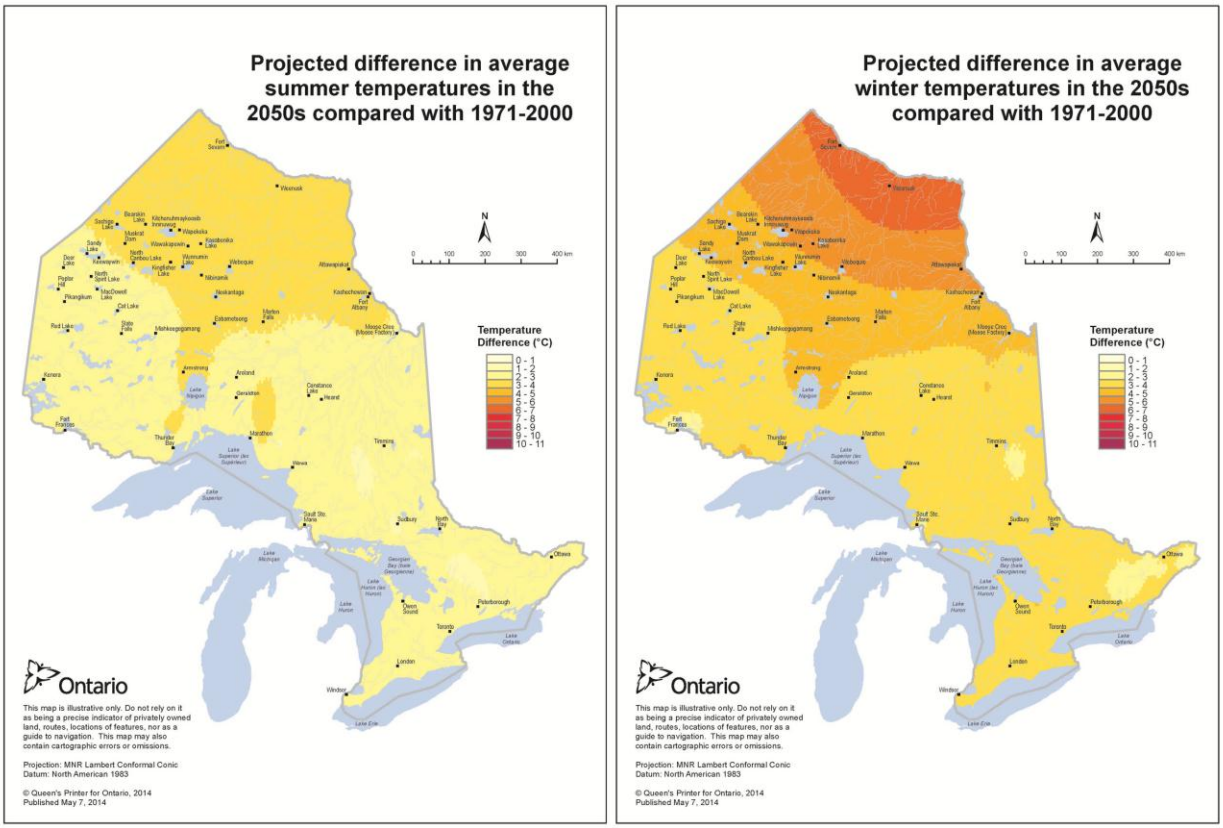
Map 4: A map of current tourism operations in the Far North of Ontario.

Infrastructure (back to text)



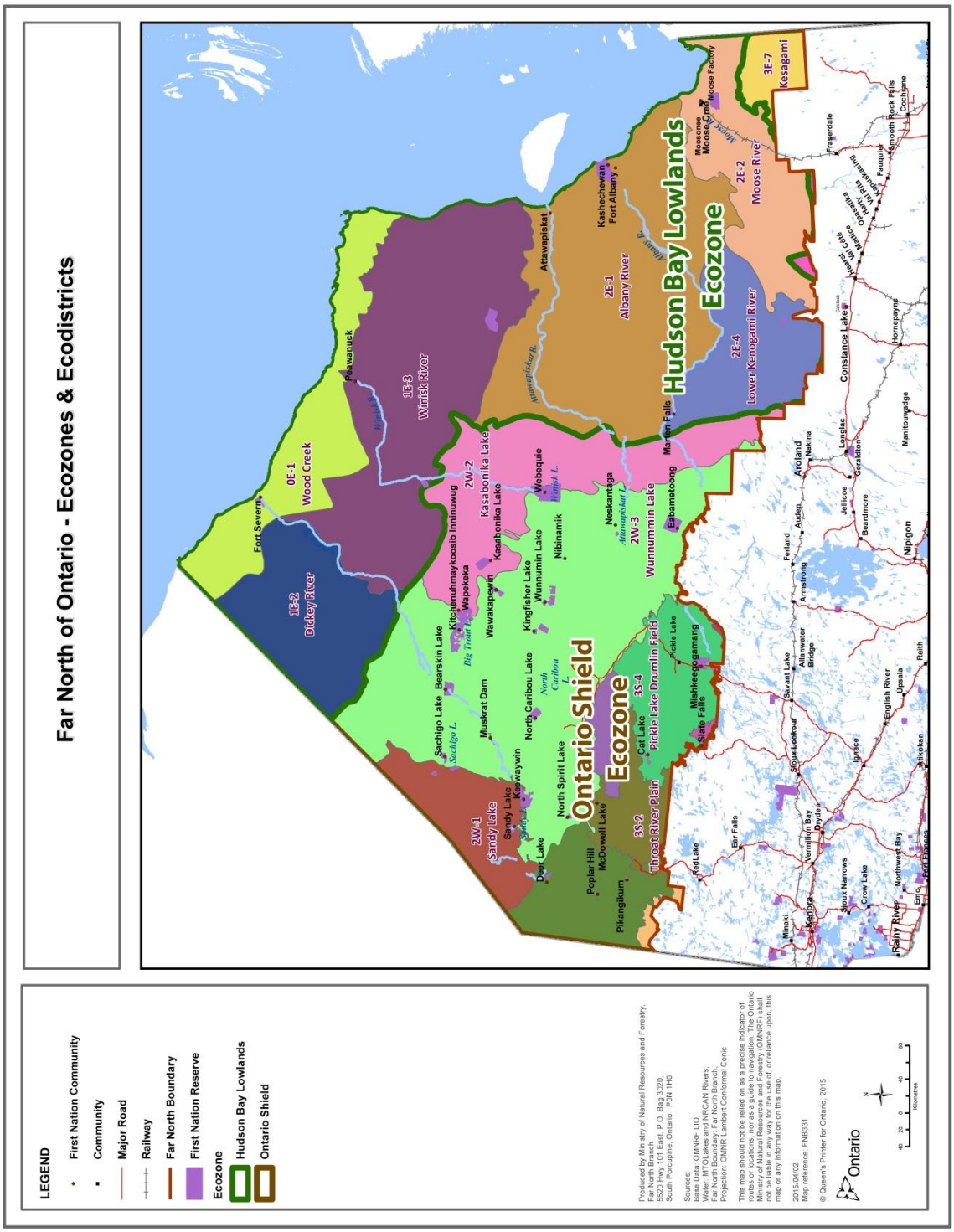
Map 5: A map of current infrastructure in the Far North of Ontario.

Projected climate change (back to text)



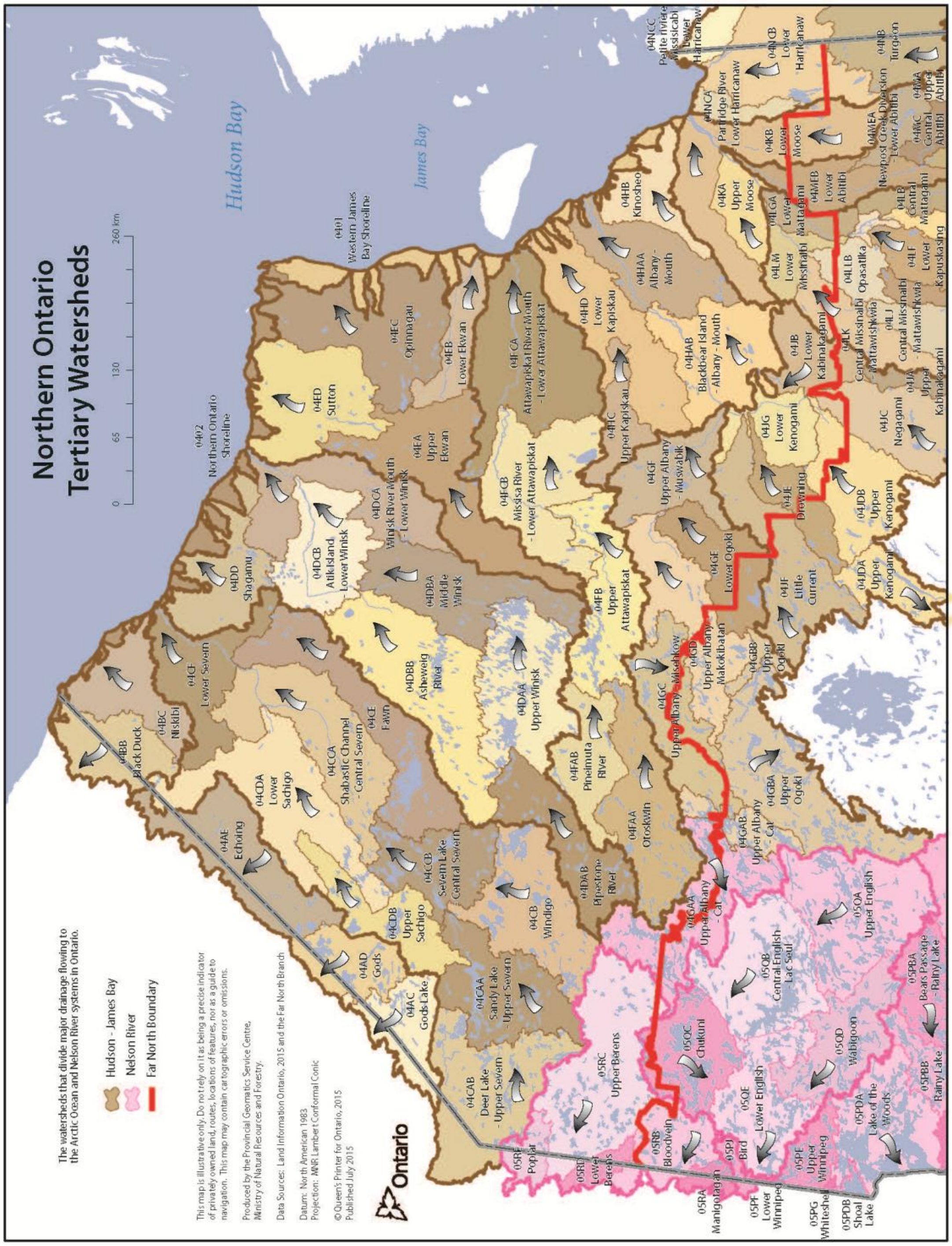
Map 6: Projected differences in average summer (June, July and August) temperatures and average winter (December, January, and February) temperatures between 1971–2000 and 2041–2070 using the A2 greenhouse gas modelling scenario. *Source: Ontario Ministry of Natural Resources and Forestry, 2014. Spatial climate data was provided by Natural Resources Canada/Canadian Forest Service, Sault St. Marie*.

Ecozones and Ecodistricts (back to text)



Map 7: Ecozones and Ecodistricts for the Far North.

Watersheds (back to text)

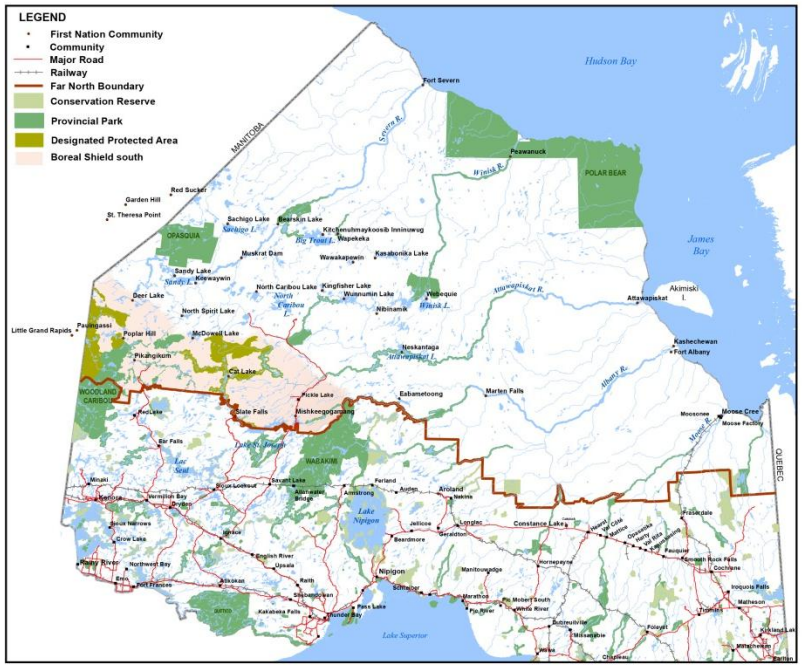


Map 8: Map showing watersheds in the Far North of Ontario.

APPENDIX 2: AREAS OF THE FAR NORTH

The descriptions of areas that follow correspond largely with ecoregions (areas with similar climatic conditions and bedrock geology), and much of the information used to describe these areas came from Crins et al.'s *The Ecosystems of Ontario, Part 1: Ecozones and Ecoregions*[8]. These descriptions are not intended to replace existing ecozones or other ecological classifications, nor are they intended to define planning areas of any kind. Please note that these descriptions are based current knowledge and are subject to change.

Boreal Shield South



The Boreal Shield south is located on the Shield and is relatively cold and dry. It is characterized as a boreal forest upland area with features from retreating glaciers such as eskers (snake like ridges of sand and gravel) and moraines (mounded ridges). Shield forest species such as jack pine and black spruce are present. Low-lying areas tend to be made up of wetland communities, including bogs and fens containing peat, as well as treed wetland and forest areas. There are many lakes and rivers and complex drainage patterns.

The headwaters of several major rivers and associated river systems are found in this area, requiring a heightened focus on protection in planning and decision making. The Berens River flows westward into Manitoba through the Nelson watershed. Most other rivers (e.g., the Severn, Pipestone, Otoskwin and Albany Rivers) flow northeastward to Hudson and James Bays.

The shallow soils and relatively dry climate make this area susceptible to intense and frequent fire disturbance. The fire-dominated landscape supports open jack pine lichen woodlands that are important habitat for woodland caribou. With climate change, the number of fires is expected to increase.

Given the forest cover, there is interest in the expansion of forest management activities in this area. Proximity of this area to communities that serve as airport hubs (e.g., Red Lake, Sioux Lookout) facilitates access to existing and new commercial tourism opportunities. The area has some all-season roads and transmission lines, and a plan is in place (the North of Dryden Integrated Regional Resource Plan) to expand transmission in this area to meet near-term electricity needs. This area is at a higher risk

to invasive species given its proximity to established road networks and watercourses that extend south of the Far North boundary.

The Boreal Shield south corresponds to the Berens and Kinloch caribou ranges where large waterbodies with islands serve as important refuge during the calving and nursing period.

The Boreal Shield south is underlain by volcanic and granitic rocks that are more than 2.5 billion years old. This area has six belts of volcanic rock that have high mineral potential.

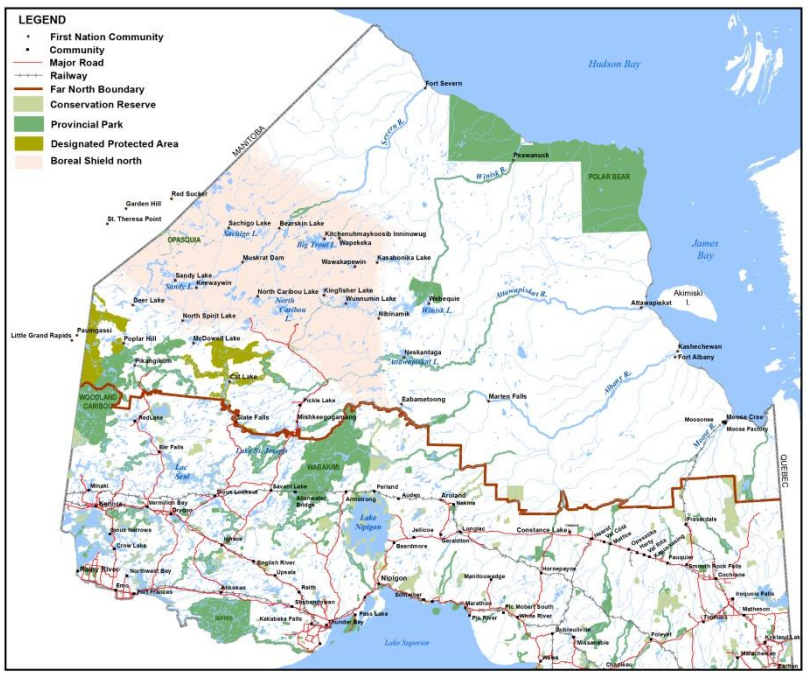
This area is relatively near to communities and forestry activities to the south; this easier access has allowed considerable exploration for gold, silver, nickel, copper, iron, and other metals over the years. Hundreds of sites with minerals that may have economic value have been found.

Although there are no operating mines today, the volcanic rocks in the Boreal Shield south have hosted seven past-producing gold mines and one nickel-copper mine. Total production from the mines is valued at $5 billion at 2015 metal prices.

Granitic rocks occur within, and between, the belts of volcanic rock, and dominate the northern part of this area. While the granitic rocks have low mineral potential for base metals and gold, they may have potential for a variety of other metals including: uranium, molybdenum, lithium, tantalum, rare earth elements and diamonds.

Five First Nation communities in the Boreal Shield south have completed community based land use plans.

Boreal Shield North



The Boreal Shield north is located on the Shield and is considered a relatively cold and dry area of the Far North. Major rivers flow through this area to the Hudson Bay coast. Several large lakes are also found in the area, which is varied with extensive areas of exposed bedrock and ground moraine. In low-lying sections, extensive wetland communities (fens and bogs containing peat) and isolated wetland communities are present. Part of the boreal forest of Ontario, this area is largely forested with black spruce, jack pine, and aspen forests. Sparse forest covers approximately 20% of the area, with wetlands covering approximately 30%.

The northern boundary of this geography is a transitional area between the Canadian Shield and Hudson Bay lowlands. This transitional area (also referred to as an ecotone) is likely an area of higher biodiversity importance. For example, the forest-dwelling and forest-tundra caribou ecotypes[9] overlap during winter in the northern portion of this geography[10,11]. This area is susceptible to fire and has been described as having an aggressive fire regime[12] with the area burned projected to increase greatly due to climate change[13].

The Boreal Shield north is underlain by rocks that are similar to those of the Boreal Shield south.

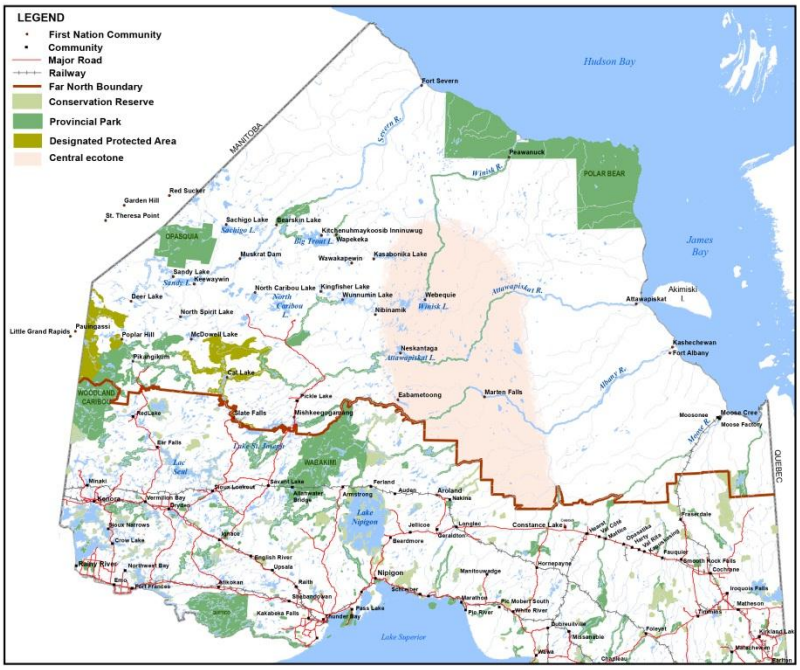
Volcanic rocks in this area host a past-producing gold mine, and the active Musselwhite gold mine. Operating since 1997, the Musselwhite mine has produced over 4 million ounces of gold worth more than $6.1 billion at the 2015 gold price.

In the northeastern part of Boreal Shield north, there is an area of gabbroic rocks that is 80-km long and up to 5-km thick. It has known base metal, platinum group element and chromite mineralization and is the western extension of the volcanic rocks that host the “Ring of Fire.” It may host chromite deposits of global significance, like those found in the Ring of Fire, as well as deposits of other metals.

Resource development is currently limited to the Musselwhite gold mine. The Boreal Shield north contains the largest number of First Nation communities. Currently infrastructure is limited, but there is interest in expanding infrastructure including transmission and distribution corridors. There is an extensive network of winter roads and work is underway to realign many of these winter roads to higher ground.

Caribou ranges in this area include the Spirit, Swan and portions of Ozhiski and Missisa ranges.

Central Ecotone



The central ecotone is a transition area (an ecotone) between the Hudson Bay lowland and the Ontario Shield. The fire-dominated, variable topography, and diverse substrates of the Shield transitions to extremely flat topography of the lowlands where fire occurrence is much less.

The very flat topography and poor drainage of the lowlands has resulted in the development of vast wetlands with associated peat accumulation—often many metres in depth.[14] Wetland communities, including peatlands and open water areas, dominate the eastern portion of this area and store a globally significant amount of carbon. Large rivers including the Winisk, Ekwan, Attawapiskat and Albany have cut channels and gorges across the broad landscape. The central ecotone spans several watersheds, including the headwater areas for the Ekwan.

Because this is a transitional area between Hudson Bay lowlands and the Ontario Shield, many different forms of life live together and compete for space, creating a diverse ecosystem. The ecotone contains not only species common to the communities on both sides of the ecotone, it may also include a number of highly adaptable species that tend to colonize such transitional areas. This ecotone is particularly significant for wide-ranging mammals such as wolverine and caribou that travel along, across, or meet their seasonal life requirements here.

The central ecotone is underlain by volcanic and granitic rocks that are more than 2.5 million years old. Some are similar to the rocks in the southern part of Boreal Shield north and south.

East of the community of Webequie, there is a 300-km long, 60-km wide geological feature made up of volcanic and gabbroic rocks. Known as the “Ring of Fire”, it has attracted world-wide attention. Chromite, copper-nickel and platinum deposits have been found in the gabbroic rocks. Four chromite deposits of global significance have been identified to date (Blackbird, Black Creek, Big Daddy Deposit, and Black Thor deposits).

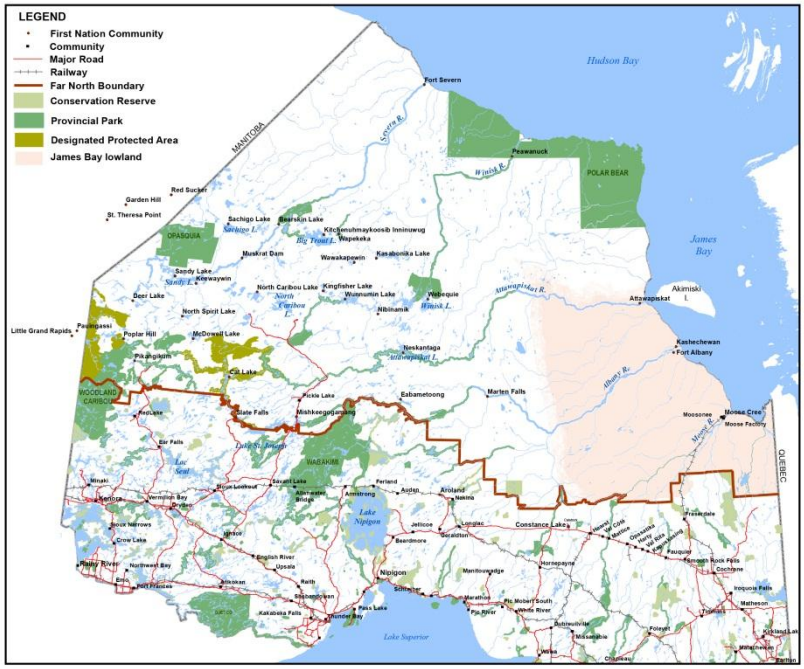
The volcanic rocks the central ecotone may contain base and precious metal deposits like the ones found in the Boreal Shield south and north.

Granitic rocks occur within and between the areas of volcanic rocks, and dominate the northern part of the area. While the granitic rocks have low mineral potential for base metals and gold, they may have potential for a variety of other metals including: uranium, molybdenum, lithium, tantalum, rare earth elements, and diamonds.

This ecotone appears to have ecological significance for caribou as both winter and summer habitat supports calving and nursery functions and may be an important channel for north-south travel. Caribou within the ecotone also have a more diverse genetic makeup as compared to animals further east and south[15]. Therefore this transition area has been identified as one of the key features for caribou in the Far North.

Three caribou ranges overlap within central ecotone: portions of Ozhiski, Missisa and a small portion of the Pawachuan ranges.

James Bay lowland



The James Bay lowlands are a flat landscape, dominated by vast wetlands (bogs and fens), coastal areas, and large river systems including the Moose, Albany and Attawapiskat.

Poor drainage across vast wetlands combined with short, cool summers and long, cold winters have contributed to the development of deep organic material in the form of wetlands which contain peat. The abundant peatlands in this geography are recognized internationally for their global role in the storage of carbon. Peatlands also provide important habitat for species at risk such as caribou where most calving and nursery activities tend to be associated with island-like features within large bogs and fens[16]. Peat deposits in inland areas are deeper than in coastal areas[17]. Peatlands are often underlain by permafrost (ground that remains frozen for two or more years), with this area considered a discontinuous zone of permafrost. Coniferous forests occur in better drained areas such as along beach ridges and river banks.

The coastal areas of the James Bay lowlands are biologically diverse—waterfowl and breeding bird areas on the coast are considered to be of provincial and international importance. Along the coast, estuaries are formed where large rivers empty into James Bay. These estuaries and the lands surrounding them

are places of transition from freshwater to saltwater and are considered areas of particularly high biological diversity.

The James Bay lowlands also support a number of unique assemblages of plants including subarctic species. A diverse array of lichen, which is of particular importance to caribou, is typically found on drier ridges in this geography[18]. Large fires are less frequent in this area and are of smaller maximum size than in the neighbouring Shield areas[19].

The James Bay lowlands are underlain by the young sedimentary rocks of the Moose River Basin. The rocks are between 410 and 140 million years old, and are nearly flat-lying to gently sloping. They are estimated to be up to 1,100 m thick, and include layers of sandstone, limestone and dolostone, gypsum, salt, and oil shale.

There is one operating mine called the Victor Diamond Mine. It has been in production since 2008. The mine is in a kimberlite body that cuts through the sedimentary rocks. Each year it produces approximately 600,000 carats of diamonds, valued at more than $300 million. Other kimberlite bodies in the area are currently being explored for their diamond potential.

The sedimentary rocks of the James Bay lowlands may host industrial mineral deposits such as gypsum. Some may also be used as aggregate. Old granitic and volcanic rocks, including the eastern extension of the “Ring of Fire”, are covered by the sedimentary rocks in this area. They may contain deposits of base and precious metals. Other rocks, called carbonatite, southeast of Martin Falls may host columbium, niobium, iron and phosphate deposits.

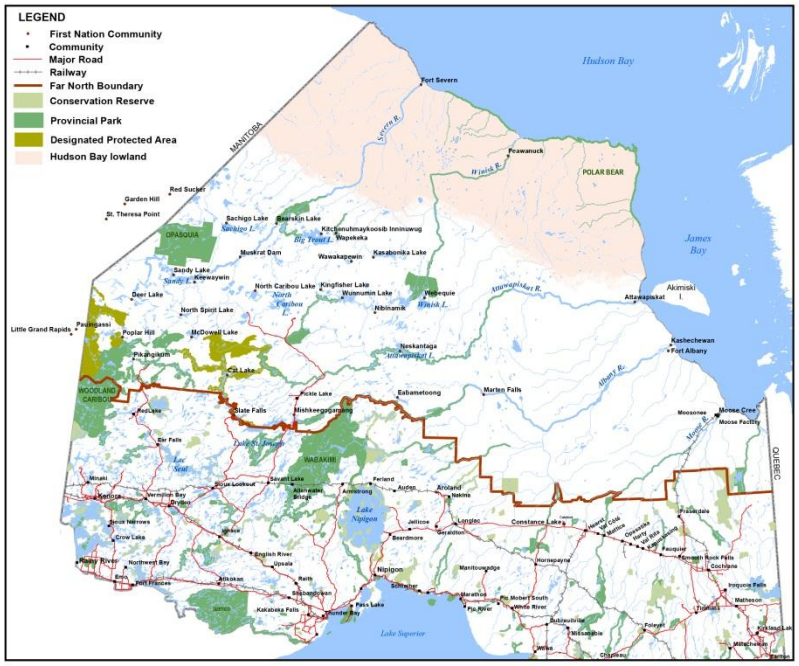
All of the communities in this area are located along the James Bay coast, and are all connected to the electricity grid and by winter road to Moosonee. There is interest in developing all-weather roads, ports and rail. Resource development is limited to the Victor diamond mine. Development beyond this geography may have planning implications for this area, e.g., forestry to the south, and potential downstream impacts from the Ring of Fire.

The James Bay and Hudson Bay lowlands are projected to experience the most pronounced effects of climate change. Vulnerability assessments and adaptation planning are encouraged to help identify management strategies.

Compared to the rest of the province, there is comparatively little inventory, monitoring, and research owing to the areas’ remoteness, limited access, cold climate, wet conditions, and associated low amount of resource development to date[20].

Four caribou ranges overlap this area: James Bay and portions of Missisa, Pagawachuan and Kesagami ranges.

Hudson Bay lowland



The Hudson Bay lowland is dominated by water, with globally significant wetlands comprised of fens, bogs and palsas[21] and extensive shallow lake and pond systems. Large rivers (e.g., Severn and Winisk) cross the area. The flat landscape has a prominent exception—the Sutton Ridges rising approximately 150 meters above sea level, which are recognized as an area of cultural and ecological importance. Several lakes associated with the Sutton Ridges are also present. This area also contains the only tundra conditions in Ontario, which may also experience changes to ecological functions in response to climate change and development.

Like the James Bay lowland to the south, this area is characterized by deep organic material in the form of peatlands, which play an important global role in the storage of soil carbon. Peat deposits in inland areas are deeper than in coastal areas[22]. In the Hudson Bay lowland, permafrost is continuous within the northern portion and discontinuous within the more southerly portion.

Very diverse ecosystems are found here, including sub-arctic assemblages, coastal and wetland-dominated communities. Coastal ecosystems support waterfowl and breeding birds of provincial and international importance.

The landscape of the Hudson Bay coast continues to emerge from the sea. Exposed mineral material has been reshaped by wind, waves, and storms, creating parallel beach ridges and succession of saltwater to freshwater wetlands moving inward from the coast. The beach ridges and wetland areas are important habitat for a variety of species[23].

The geology of the Hudson Bay lowland is similar to that of James Bay lowland, but it is part of a separate sedimentary rock basin called the Hudson Bay Basin. The sedimentary rocks are more than 2,000-m thick under Hudson Bay, but may be much thinner in the Hudson Bay lowland.

There are no operating or past-producing mines in this area. The sedimentary rocks of the Hudson Bay Basin have some potential to host deposits of industrial minerals. Some may also be used as aggregate, or possibly as a source of oil shale. In addition, there may be base and precious metal deposits in the old volcanic rocks that are covered by the sedimentary rocks.

There are only two communities in Hudson Bay and both are on the coast of Hudson Bay; they are connected by winter road to Northern Manitoba with no other land-based connections to the rest of Ontario. Development is limited, but there is increasing interest in constructing all-season roads and ports. Development upstream and in adjacent areas in Manitoba may have impacts in this area.

Few large fires have been recorded in this area—likely due to the cool humid climate and wet landscape. This area and the James Bay lowland are projected to experience the most pronounced effects of climate change. Vulnerability assessments and adaptation planning are encouraged to help identify management strategies.

As with the James Bay lowland, this area has had little monitoring, research, or inventories developed[24].

The Hudson Bay lowland is home to the forest tundra caribou population that is considered “not at risk” (unlike the other areas where the forest dwelling caribou is classified as “threatened”). The southern extent of the Hudson Bay lowland is a transitional area (an ecotone) between the James Bay lowland and the Shield where both caribou ecotypes are found especially in winter[25].

APPENDIX 3: THE COMMUNITY BASED LAND USE PLANNING PROCESS

Early dialogue and preparation for planning:

- Interested First Nation initiates the planning process with MNRF.
- A joint planning team is established (First Nation and MNRF[26]).
- First Nation community Elders and members that know the land guide planning and contribute their understandings and perspectives. This includes documenting and interpreting Aboriginal traditional knowledge (e.g. on cultural values and ecological information such as plant, fish and animal biodiversity and changes over time).
- The best available information from all sources, including Aboriginal traditional knowledge (ATK), scientific information, and information in provincial requirements and policies is assembled early in the planning process. Additional information may be contributed during the planning process to support decision-making.
- All values significant to the First Nation and/or Ontario are considered.

Terms of Reference:

- The joint planning team prepares a Terms of Reference which is jointly approved by the First Nation and Ontario. Terms of Reference set out the process to complete a plan and provide guidance for establishing a planning area.
- The First Nation leading a planning process extends invitations to neighbouring First Nations to discuss areas where they share interests and to ultimately confirm a planning area for the land use plan. This may include discussions with communities outside Ontario that have indicated they have an interest in planning activities underway in Ontario.
- The approved Terms of Reference is posted on the Environmental Registry, and open houses are held to invite early input to the planning process from community members, stakeholders and the public.

Preparing a Draft and Final Plan:

- Community and provincial objectives are described, leading to a description of shared objectives for the plan.
- The planning team draws upon the community and provincial subject matter experts to support wise decision making. For example, provincial advisors from the Ministry of Northern Development and Mines (MNDM) work with the planning team and community to build an understanding of geology, and natural heritage advisors from MNRF advise on landscape-level protected area considerations. Advisors from the Ministry of Culture, Tourism and Sport are invited to provide provincial information on cultural heritage resources.

- A draft plan is prepared setting out land use areas and permitted activities. Plans also may offer broad direction for permitted land uses. This broad direction does not conflict with or over-ride provincial legislation, regulations and policies.
- Plans are prepared with an understanding that existing uses and tenure must be respected. Information on current mining claims from MNDM's CLAIMaps internet site is an important part of the planning process.
- Plans address land uses and features in areas adjacent to the planning area that the joint planning team has identified. This requires conversations with neighbouring communities, whether inside or outside Ontario, that may have an interest in the planning area or whose activities may affect the planning area.
- When a new protected area is being recommended in a draft plan, MNRF typically requests that MNDM withdraw the area from mineral claim staking. This provides ongoing protection until a final decision is made about the area, and the land use plan takes effect.
- Opportunities for input are provided during the preparation of the plan. Draft plans are posted on the Environmental Registry and open houses are held to invite comment. All input received is considered as the community based land use plan is prepared and finalized.
- The community based land use plan must be approved by the First Nation and by the Minister of Natural Resources and Forestry.
- Once approved, activities on the land must be consistent with the plan. Plans include direction to keep them current, including an implementation approach and a timeframe for review.

APPENDIX 4: OTHER PROVINCIAL LEGISLATION

The following is a list of other provincial legislation that may apply to resource and development projects in the Far North. This is not an exhaustive list. Proponents of projects must comply with all relevant federal and provincial legislation when planning and implementing projects.

Aggregate Resources Act

Clean Water Act

Crown Forest Sustainability Act

Environmental Assessment Act

Environmental Protection Act

Green Energy Act

Mining Act

Nutrient Management Act

Oil, Gas and Salt Resources Act

Ontario Heritage Act

Ontario Water Resources Act

Pesticides Act

Public Lands Act

Safe Drinking Water Act

APPENDIX 5: GLOSSARY

Aggregate – Material removed from a pit or quarry to be used in construction, including sand, gravel, and crushed stone. Aggregates are widely used to construct roads, buildings and community infrastructure. Aggregates are a key component of concrete and asphalt.

Adaptive management – A systematic approach to adjusting and improving the way something is managed based on the constant study and analysis of how current management methods are achieving desired outcomes.

Biodiversity – Biodiversity includes all living things and the ways in which they interact with one another and their environment. Simply put, biodiversity is life. There are three levels of biodiversity:

- Genetic diversity – the variety of genetic information contained in individual plants, animals and micro-organisms.
- Species diversity – the variety of species.
- Ecosystem diversity – the variety of habitats, ecological communities and ecological processes. (source: *Ontario's Biodiversity Strategy 2011*)

Carbon Sink – A natural environment, such as a peatland, that absorbs more carbon from the atmosphere than it releases back.

Carbon Sequestration – The removal of carbon from the atmosphere and its storage on Earth, for example, in trees, soil, and water.

Carbonatite – An uncommon variety of intrusive igneous rock that has high contents of sodium and calcium.

Cultural and Heritage Values – Areas, places, landscapes, structures, or objects on the land or in the water that are important to the culture and traditions of a group, or that help us understand the history of an area or a people.

Cumulative Effects – Changes to the environment over time as the result of combined effects from multiple activities and events. (e.g., building roads, forestry activities, wildfires).

Ecozone - A very large area of land and water characterized by a distinctive bedrock domain that differs in origin and chemistry from the bedrock domain immediately adjacent to it.

Ecoregion – A unique area of land and water nested within an ecozone that is defined by a characteristic range and pattern in climatic variables, including temperature, precipitation, and humidity. The climate within an ecoregion has a profound influence on the vegetation types, substrate formation, and other ecosystem processes, and associated biota that live there.

Ecosystem – A dynamic complex of plant, animal and micro-organism communities and their physical environment functioning as an ecological unit.

Environmental Assessment – A study which assesses the potential environmental effects (positive and negative) of a proposal. Conducting an environmental assessment promotes good environmental planning before decisions are made about proceeding with a proposal.

Environmental Registry – An electronic registry which contains "public notices" about environmental matters being proposed by all government ministries covered by the Environmental Bill of Rights. The public notices may contain information about proposed new laws, regulations, policies and programs or about proposals to change or eliminate existing ones.

Esker – A long, narrow, winding ridge composed of stratified sand and gravel deposited by a glacial meltwater stream.

Gabbroic rock – A general term for dark-coloured igneous intrusive rocks that include gabbro and other rocks with similar composition and texture.

Granitic rock – A general term for light-coloured igneous intrusive rocks that include granite and other rocks with similar composition and texture.

Greenhouse gases – A group of compounds that are able to trap heat (infrared radiation) in the atmosphere, keeping the Earth's surface warmer than it would be if they were not present. Increases in the amount of greenhouse gases in the atmosphere enhance the warming of the Earth's surface and consequently leads to climate change.

Headwater area – The area(s) that contains the source of a water body such as a river, creek or stream.

Hydrology – The study of water and water systems.

Igneous rock – Rock that forms when melted rock cools and solidifies.

Intrusive rock – Igneous rock that cools and solidifies beneath the Earth's surface.

Invasive Species – Species that are not native to an area and whose introduction or spread threatens the environment, the economy, and or society including human health.

Joint Planning Team – The First Nations that work with the Minister under subsection 9 (1) or (2) and the Minister shall create a joint planning team that the parties shall use when preparing terms of reference, the land use plan and any amendments to the terms of reference, the planning area or the plan (see section 9(3) Far North Act, 2010).

Kimberlite – An igneous rock that may contain diamonds. Kimberlite commonly forms in vertical structures known as kimberlite pipes. Kimberlite pipes are the most important source of mined diamonds.

Land use designations – Are used to set out the broad objectives and priorities for an area, and the land uses that are permitted and not permitted, consistent with those objectives.

Landscape-level – A term that is used to describe a perspective that is above individual sites, stands or other local ecological units. It usually refers to a scale that considers a mosaic of interconnected ecological units.

Metallic Mineral Potential Estimation Tool (MMPET) - MMPET is a Government of Ontario, electronic geospatial tool that estimates the mineral potential of an area using a coarse geographic scale.

Metamorphic rock – Rock that has been changed by intense heat or pressure, or by the addition of fluids or other materials.

Mining Claim – A mining claim grants its owner the exclusive rights to explore for minerals on a designated piece of land. The owner of a mining claim is not granted title or ownership to the land and cannot extract or sell any resources removed from the land. The owner of a claim must also perform yearly assessment work. A mining claim can be converted into a lease.

Mining Lands – Mining lands include unpatented, leased and patented mining claims and (exploratory) licences of occupation.

Mining Lease – A mining lease grants its owner title and ownership to the land, permits the extracting and sale of extracted resources and removes the requirement to perform yearly assessment work. To maintain a lease, rent must be paid annually. Although most leases expire after 21 years, they may be renewed.

Peatlands – Areas with peat soil more than 40 centimetres deep. Peat is formed where dead plant material is conserved for thousands of years due to a combination of permanent water saturation, low oxygen levels, and low temperatures

Provincially Significant Mineral Potential (PSMP) – An index, based on current geo-science knowledge and understanding, of the likelihood of an economic mineral resource occurring within a defined geographic area that may make a significant contribution to Ontario's economic base. The methodology for determining PSMP has been developed by MNDM, in conjunction with expert geoscientists from the minerals industry. Because it is based on current knowledge, PSMP mapping will change over time.

Remote Community – A community that does not have all-season road access and may rely on seasonal/winter-road and or rail, with air transport being a constant means of access for goods, services and people in and out of the community.

Sedimentary rock – Rock formed from pieces of pre-existing rocks or once-living organisms that were deposited on the Earth's surface. Sedimentary rocks often have distinctive layering, and may contain fossils. Common sedimentary rocks are sandstone, limestone and dolostone (magnesium-rich limestone) and salt.

Significant – means, in regard to mineral potential, an area identified as provincially significant through evaluation procedures developed by the Province, as amended from time to time, such as the Metallic

Mineral Potential Estimation Tool (MMPET) or the Provincially Significant Mineral Potential methodology (PSMP).

Sites of Aboriginal Cultural Significance – Fixed areas up to 25 hectares in size that have been protected under the Mining Act in that they have been withdrawn from prospecting, staking, sale or lease.

Volcanic rock – Igneous rock, formed from lava that cools and solidifies at or very near the Earth's surface.

Vulnerability assessments – An assessment that measures the degree to which a system is susceptible to, and unable to cope with, adverse effects of climate change, including climate variability and extremes.

Watershed – The area of land that drains into a river, lake or other water body.

Wetland – Lands that are saturated with water long enough to cause the formation of waterlogged soils and the growth of water-loving or water tolerant plants.

Endnotes

[1] Van Sleeuwen, M. 2006. Natural fire regimes in Ontario. Ontario Ministry of Natural Resources, Queen's Printer for Ontario, Toronto. 143p.

[2]Berglund, N. Racey G., Abraham, K., Brown, G., Pond, B., and L. Walton. 2014. Woodland Caribou (*Rangifer tarandus caribou*) in the Far North of Ontario: Background information in support of land use planning (*Draft*). Technical Report TR-147, Ministry of Natural Resources, Thunder Bay, Ontario. 160pp.

3 MNRF. 2014. State of the Woodland Caribou Resource Report: Part 2. Species at Risk Branch, Thunder Bay, Ontario. + 156 pp.

[4] Terry, M.R. and N.E. Jones. 2011. Aquatic Ecosystems of the Far North of Ontario. Ministry of Natural Resources, Queen's Printer for Ontario, South Porcupine, Ontario. 43pp.

5 Sustainability in a Changing Climate: A Strategy for the Ontario Ministry of Natural Resources and Forestry, pg.9

[6] Provincial parks and conservation reserves are also primary land use designation in the Far North.

[7] Windigo First Nations Council Comments on the MNRF's Far North Land Use Strategy: A Discussion Paper March 26, 2015. EBR REGISTRY: 012-0598

[8] Crins, W., P. Gray, P. Uhlig and M. Wester. 2009. The Ecosystems of Ontario, Part I: Ecozones and Ecoregions. Inventory, Monitoring and Assessment, SIB TER IMA TR- 01. 71pp. OMNR: Peterborough, ON.

[9] "Ecotype" is a term to describe genetically distinct populations. The Far North supports two types of caribou, the largely sedentary boreal forest ecotype and the migratory forest-tundra ecotype in the Hudson Bay-James Bay area.

[10] Berglund, N.E. et. al., 2014.

[11] MNRF. 2014. Integrated Range Assessment for Woodland Caribou and their Habitat in the Far North of Ontario: 2013. Species at Risk Branch, Thunder Bay, Ontario, xviii + 124pp.

[12] MNRF. 2014. Integrated Range Assessment for Woodland Caribou and their Habitat in the Far North of Ontario: 2013. Species at Risk Branch, Thunder Bay, Ontario, xviii + 124pp.

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[14] Crins, W. et al., 2009.

[15] Berglund, N.E. et. al., 2014.

[16] Packalen, M.S., S.A. Finkelstein, and J.W. McLaughlin. 2014. Carbon storage and potential methane production in the Hudson Bay Lowlands since mid-Holocene peat initiation. Nature Communications 5:4078, DIO: 10.1038ncomms5078.

[17] Packalen, M.S., S.A. Finkelstein, and J.W. McLaughlin. 2014. Carbon storage and potential methane production in the Hudson Bay Lowlands since mid-Holocene peat initiation. Nature Communications 5:4078, DIO: 10.1038ncomms5078.

[18] Riley, J.L. 2011. *Wetlands of the Ontario Hudson Bay Lowland: A Regional Overview.* Nature Conservancy of Canada. 156 pp.

[19] Ontario Ministry of Natural Resources 2012. Portfolio of climate change adaptation recommendations - Northern Ontario Boreal. Source: Adaptation Recommendations Boreal link.

Endnotes continue on next page

[20] Abraham, K.F., McKinnon, L.M., Jumean, Z., Tully, S.M., Walton, L.R. and Stewart, H.M. (lead coordinating authors and compilers). 2011. Hudson Plains Ecozone+ Status and Trends Assessment.

[21] Palsas are low, often oval peat structures containing an ice core or lens. Palsas need large quantities of water for the formation of their ice lenses, and for this reason they occur particularly in bogs and often in groups.

[22] Packalen, M.S., S.A. Finkelstein, and J.W. McLaughlin. 2014. Carbon storage and potential methane production in the Hudson Bay Lowlands since mid-Holocene peat initiation. Nature Communications 5:4078, DIO: 10.1038ncomms5078.

[23] Wester, M. and Uhlig, P. 2015 (in prep.) The Ecosystems of Ontario, Part 2: Ecodistricts. Draft

[24] Ontario Ministry of Natural Resources 2012. Portfolio of climate change adaptation recommendations - Northern Ontario Boreal. Source: Adaptation Recommendations Boreal link.

[25] MNRF. 2014. Integrated Range Assessment for Woodland Caribou and their Habitat in the Far North of Ontario: 2013. Species at Risk Branch, Thunder Bay, Ontario, xviii + 124pp.

[26] MNRF represents Ontario's interests on joint planning teams.