

Peel Watershed Regional Land Use Plan



January 2014



Government

Box 2703, Whitehorse, Yukon Y1A 2C6

Letter of Approval for the Peel Watershed Regional Land Use Plan

I am pleased to present the approved Peel Watershed Regional Land Use Plan pursuant to Chapter 11 of the Umbrella Final Agreement (UFA). This plan provides the vision and direction for maintaining the region's unique wilderness character, key ecological integrity and traditional uses, while also allowing for limited responsible economic activity. It effectively achieves a balance between the need for sustainable development and the need for environmental protection.

The process that guided the development of the plan is set out in Chapter 11 of the Umbrella Final Agreement. As directed by the UFA, multiple consultations were conducted in Mayo, Dawson City, Old Crow, Aklavik, Inuvik, Tsiigehtchic, Fort McPherson and Whitehorse, and with the First Nation of the Na-cho Nyäk Dun, Tr'ondëk Hwëch'in, Vuntut Gwitchin First Nation and the Gwitch'in Tribal Council. I appreciate the thoughtful and constructive input that we received from many Yukoners throughout that process.

Following the approval process set out in section 11.6 of the UFA, the Yukon government modified the Final Recommended Plan presented by the Peel Watershed Regional Planning Commission. Much of the information collected and work done by the Planning Commission was of great value and remains prominent in this approved Land Use Plan for Non-Settlement Land in the Peel Watershed.

This plan represents an effective compromise that reflects the interests of all the stakeholders and traditional users of the land. It creates vast new protected areas in pristine sections of wilderness that are of high ecological and conservation value. For other areas, it establishes new land management tools that will limit the footprint of any potential economic development activities to ensure that the wilderness characteristics of those areas are preserved. It also fulfills the government's commitment to responsibly manage Yukon's land and resources, and provides guidance for sustainable economic development activities to occur in the region. Finally, this plan sets out a vision for land and resource management decisions in the Peel Watershed region that I believe is in Yukon's best interests.

A handwritten signature in blue ink, appearing to read "Darrell Pasloski".

Honourable Darrell Pasloski
Premier

Plan Summary

This Plan provides management direction for land and resources in the Peel Watershed Planning Region. An earlier version of this Plan was produced by a public planning commission through Chapter 11 of the Yukon First Nation Final Agreements (PWPC 2011). This Plan, approved by Yukon government in December 2013, reflects modifications completed by Yukon government and applies only to Non-Settlement Land within the Peel Watershed Planning Region.

At 67,430 km² in size, the remote, mountainous Peel Watershed Planning Region covers 14 percent of the territory. It is a special part of Yukon. There are no permanent settlements, it is largely unroaded, and in the past experienced only relatively low levels of mineral and oil and gas exploration. The intact ecosystems and healthy wildlife populations support First Nation traditional activities, wilderness tourism and recreation, and guide outfitting. There is an opportunity to ensure adequate planning and conservation areas are in place prior to increasing levels of land use.

This Plan is designed to maintain the wilderness characteristics and ecological integrity of this special region, while allowing for carefully managed economic activity. The cornerstone of the Plan is sustainable development. The Plan has eight main goals (Table S.1), and makes recommendations and provides guidance on three main topics – environmental protection, social considerations (heritage and cultural protection), and economic development.

Table S.1: Peel Watershed Regional Land Use Plan goals.

Environment Goals
<p>Goal 1 Maintain the wilderness character of much of the planning region.</p> <p>Goal 2 Maintain ecological integrity by ensuring terrestrial and aquatic habitats remain in a suitable condition to sustain healthy native wildlife and fish populations and communities within their natural ranges.</p> <p>Goal 3 Maintain the quantity, quality, and rate of flow of water within its natural range.</p> <p>Goal 4 Ensure that any lands disturbed by human activities are reclaimed or restored to their natural state.</p>
Social (Heritage and Culture) Goal
<p>Goal 5 Recognize, conserve, and promote the heritage and cultural resources and values, and traditional land use practices, of affected First Nations and the Yukon.</p>
Economic Goals
<p>Goal 6 Facilitate economic opportunities and activities that result in benefits to surrounding communities, affected First Nations, and Yukon as a whole, and that contribute to achieving the goals established by this Plan.</p> <p>Goal 7 Provide land use certainty and minimize land use conflicts throughout the region.</p> <p>Goal 8 Maintain future land use options by adopting a cautious but flexible approach to land and resource decision-making.</p>

Plan Highlights

- The Plan divides the Peel region into 16 landscape management units (LMUs). Some LMUs have been further divided into sub-units. Each unit has been assigned to one of three broad land use categories – Protected Area (PA), Restricted Use Wilderness Area (RUWA), or Integrated Management Area (IMA) (see Map 2, Appendix A). Table S.2 summarizes the area and percent of each land use category.
- Of the total region:
 - 29 percent is **Protected Area (PA)** – areas where the most important goal is protecting and conserving ecological and heritage resources and maintaining wilderness character. Allowable and prohibited land uses are identified. Existing rights and leases are respected but the issuance of new sub-surface rights is not allowed. The PA contains different categories of parks:
 - **Natural Environment Park or Wilderness Preserve** – these parks designate large, contiguous areas with high biological, cultural and wilderness values. They are intended to protect these values and provide opportunities for wilderness recreation and education.
 - **Wild River Park** – these parks designate protected corridors around the most significant wilderness tourism and recreation rivers in the region – the Wind, Bonnet Plume, Snake and Hart rivers. They are intended to protect important views and maintain wilderness character while allowing for carefully managed recreational opportunities. The corridors are approximately two to ten kilometers in width, as determined by the type of activity and values requiring protection. Wild River Park is a new PA designation under the *Parks and Land Certainty Act*; it was developed in recognition of the significance of the rivers of the Peel Watershed Planning Region.
 - 44 percent is **Restricted Use Wilderness Area (RUWA)** – areas with higher non-renewable resource potential where industrial land use activity may impact ecological or wilderness values, or creates conflicts with other land users. The conservation of ecological and cultural values and the long-term maintenance of wilderness character, while allowing for low levels of carefully managed land use activity, is the primary goal of the RUWA. To achieve this goal, multiple land uses must be actively managed in a more prescriptive manner than in the IMA. RUWA is a new land use category created for the Peel region, in recognition of its high wilderness values. Key aspects of the RUWA include the following:
 - Prescriptive land use direction for allowable and prohibited land uses is listed, and additional rules and management restrictions apply, including Air Access Coordination, timing windows and new surface access management restrictions.
 - While it is acknowledged that some level of land use impacts may occur, the amount and extent of acceptable land impacts is defined by conservative cumulative effects guidelines.
 - 27 percent is **Integrated Management Area (IMA)** – the working landscape, where most land uses and new surface access is anticipated to occur. In the IMA, allowable and prohibited land uses are not specified. Its management focus is ensuring the level of current and future land use activity respects the ecological carrying capacity and sensitivity of the landscape. Managing the amount and extent of cumulative surface disturbance is a key strategy. Different zones convey the intended level of conservation or development focus for different LMUs.

Table S.2: Land use designation summary.

Land Use Category	Area (km ²)	Area (% region)
Protected Area (PA)		
Natural Environment Park or Wilderness Preserve	14,190	21%
Wild River Park	5,610	8%
Total	19,800	29%
Restricted Use Wilderness Area (RUWA)		
Total	29,702	44%
Integrated Management Area (IMA)		
Zone I	0	0%
Zone II	3,214	5%
Zone III	13,155	20%
Zone IV	1,559	2%
Total	17,928	27%
Peel Watershed Planning Region		
Totals	67,430	100%

- First Nation subsistence harvesting activities and treaty rights as recognized by the Final Agreements are respected throughout the Peel Watershed Planning region.
- The Plan contains specific management direction for transportation and new surface access:
 - The Wind River Trail will be de-listed as an existing transportation route under the *Yukon Highways Act*.
 - Any new all-season road or trail is to be temporary. Once the development activity that required the road has concluded, all associated access development will be reclaimed. This will be achieved through the posting of adequate security. This Plan does not endorse any new roads being maintained in perpetuity.
 - Any new industrial access roads will require approved access management plans, and will be prohibited from public use.
 - In the PA and RUWA land use categories, a new Air Access Coordination process will be developed.
 - For all land users, the use of wheeled off-road vehicles is restricted to the Hart River Trail, existing trails in areas immediately adjacent to the Dempster Highway, licensed camps, and existing facilities. Where wheeled off-road vehicles are allowed, they cannot be operated in sensitive habitats (wetlands and alpine areas in the spring, summer and fall seasons).

- A sub-regional management plan for the Dempster Highway Corridor will be developed.
- Transportation considerations and access options for specific LMUs are discussed in Section 5.
- An Implementation Committee composed of senior Yukon government officials will be established to oversee and monitor Plan implementation activities (Plan implementation tasks are outlined in Section 6).
- The Plan and planning region will be assessed within ten years of Plan approval to determine if changes to the Plan may be required, and if a formal Plan Review should be conducted.

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List of Acronyms

BMP	Best Management Practices
GLUPB	Gwich'in Land Use Planning Board
IMA	Integrated Management Area
LMU	Landscape Management Unit
NND	First Nation of Na-Cho Nyak Dun
NYPC	North Yukon Planning Commission
PA	Protected Area
PCMB	Porcupine Caribou Management Board
PWPC	Peel Watershed Planning Commission
RRC	Renewable Resources Council
RUWA	Restricted Use Wilderness Area
SMA	Special Management Area
TG	Tetlit Gwich'in
TGFN	Tetlit Gwich'in First Nation
THFN	Tr'ondëk Hwëch'in First Nation
TH	Tr'ondëk Hwëch'in
UFA	Umbrella Final Agreement
VG	Vuntut Gwitchin
VGFN	Vuntut Gwitchin First Nation
VGG	Vuntut Gwitchin Government
YESAA	<i>Yukon Environmental and Socio-Economic Assessment Act</i>
YESAB	Yukon Environmental and Socio-Economic Assessment Board
YG	Yukon government
YLUPC	Yukon Land Use Planning Council

Using the Plan

A guide to using this land use plan is provided below.

STEP 1	Determine project location or area of interest
<p>Refer to Map 2, Appendix A.</p> <ul style="list-style-type: none"> • Is the project location or area of interest in the planning region? • If in region, what landscape management unit does it occur within? 	
STEP 2	Determine broad management intent for landscape management unit
<ul style="list-style-type: none"> • Refer to Map 2, Appendix A for land use categories and zones (land use designation). • Refer to Section 3 for description of land use categories and zones (land use designation). 	
STEP 3	Determine what values might be affected
<ul style="list-style-type: none"> • Refer to Maps 3-6, Appendix A for locations of identified values. • Refer to Section 5 for descriptions of identified values and special considerations in each landscape management unit. 	
STEP 4	Determine management direction for identified values or issues
<ul style="list-style-type: none"> • Refer to Section 4 for management direction regarding identified values or issues. • Refer to Section 5 for specific management issues and considerations within the area of interest (landscape management unit). 	
STEP 5	Determine other management direction, if required
<ul style="list-style-type: none"> • Refer to Appendix B for sources of best management practices. • Refer to Appendix E for other management plans. 	

How the Plan is Organized

This Plan is organized into six major sections:

Section 1: Provides context, scope, guiding statements and goals for the Plan.

Section 2: Describes the land uses and the environmental, cultural, and economic resources of the region.

Section 3: Discusses the Plan tools and concepts – the way the Plan employs different land management strategies and methods.

Section 4: Contains general management direction and recommendations, with each topic organized by a sustainable development topic – environment, society (heritage and culture), and economy. Each topic is linked to specific Plan goals.

Section 5: Provides a detailed description of each landscape management unit.

Section 6: Discusses implementation considerations.

A series of appendices contain maps, and background and summary information.

1. Introduction

1.1. Context

The Peel Watershed Planning Region (the Peel) is an area of 67,430 square kilometers in northern Yukon (Figure 1.1). The headwaters of the Peel River are in the Ogilvie Mountains in central Yukon. From here, the river flows north to empty into the Mackenzie River delta. Its watershed is drained by six major tributaries – the Snake, Wind, Bonnet Plume, Hart, Ogilvie, and Blackstone. These rivers flow through diverse landscapes from high rugged mountains to low, flat taiga forests. The region has no permanent residents, few roads, and only limited development, creating a wilderness character different from most watersheds of its size in North America.

Four First Nations – the Tetlit Gwich'in, Na-Cho Nyak Dun, Tr'ondëk Hwëch'in, and Vuntut Gwitchin – have traditional territories in the Peel. Its water, wildlife, fish, and plant resources have sustained them for thousands of years. Their cultures and traditional economies depend on a healthy environment and a continued connection to the land.

Today, the region attracts people because of its large unroaded watersheds, intact ecosystems, and healthy wildlife populations. Wilderness tourism, recreation, big game outfitting, and trapping depend on these qualities. Others come to the Peel in search of minerals or oil and gas resources. All of these land use activities have economic benefits, but they may also have impacts. Today the level of land use activity is relatively low. However, in the future, if the level of activity increases, these land uses may affect each other as well as the Peel's ecosystems and wilderness character.

The Peel Watershed Regional Land Use Plan (the Plan) is designed to maintain the region's long-term wilderness characteristics and cultural resources while providing opportunities for economic development. By using different management approaches, this Plan attempts to balance what are sometimes seen as competing land use interests. The Plan is guided by the principle of sustainable development and considers the location of resources, the compatibility of different activities, and the wishes of local communities and Yukoners.

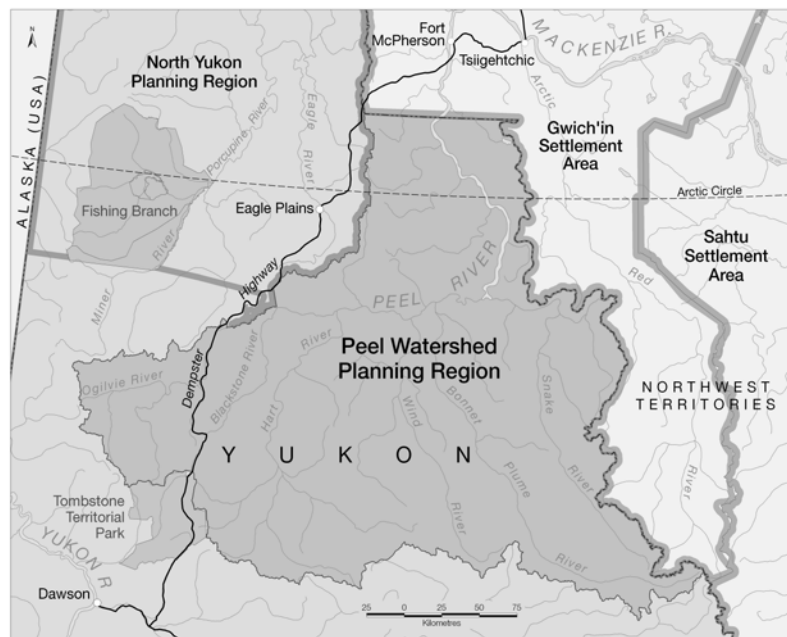


Figure 1.1: Peel Watershed Planning Region.

1.2. Scope of the Plan

This Plan is the second of a network of regional land use plans to be produced through Chapter 11 of the Yukon First Nation land claim agreements. The regional planning process is described in Chapter 11 of the Na-Cho Nyak Dun, Tr'ondëk Hwëch'in, and Vuntut Gwitchin Final Agreements (the Final Agreements) and Chapter 7 of Appendix C of the Gwich'in Comprehensive Land Claim Agreement.

The scope and force of the Plan is as follows:

- At this time, the affected Yukon First Nations – Na-Cho Nyak Dun, Tr'ondëk Hwëch'in, and Vuntut Gwitchin – have not approved this Plan. Therefore, the Plan applies only to Non-Settlement Land¹ in the Peel Watershed Planning Region; and
- This Plan provides guidance for land and resource decision-making within the Peel Watershed Planning Region. While providing guidance for decision-making, it is not a legal document. This Plan does not replace existing legislation. However, the Final Agreements do provide that Government must exercise any discretion it has when authorizing the use of resources, in conformity with the Plan it has approved.

1.3. History of the Plan

The *General Terms of Reference* for the Peel Watershed Planning Commission (the Commission) was jointly prepared by the First Nation of Na-Cho Nyak Dun, the Vuntut Gwitchin First Nation, the Tr'ondëk Hwëch'in, the Gwich'in Tribal Council, and the Yukon government (YLUPC 2004). These five bodies are called the Parties to the Plan. The six members of the Commission are jointly nominated by the Parties to the Plan, but are not representatives of the Parties.

The following points provide a timeline of major events in the development of the Plan:

- 2005 – the Commission is appointed;
- 2006-2009 – the Commission develops a *Statement of Intent* (PWPC 2005) and completes its issues identification, resource assessment (PWPC 2008a,b), and plan scenarios activities (PWPC 2009a);
- 2009 – the Commission releases the *Draft Peel Watershed Regional Land Use Plan* (PWPC 2009b). Later that year, after public consultation on the *Draft Plan*, the Commission prepares and releases the *Recommended Peel Watershed Regional Land Use Plan* (PWPC 2009c);
- 2011 – the Commission prepares and submits its *Final Recommended Peel Watershed Regional Land Use Plan* (PWPC 2011) for consideration by the Parties;
- 2012-2013 – Yukon government holds public, stakeholder and First Nation government to government consultations on the Commission's *Final Recommended Peel Watershed Regional Land Use Plan*; and

¹ In the Final Agreements, Non-Settlement Land is defined as “**all land and water in the Yukon other than Settlement Land and includes Mines and Minerals in Category B Settlement Land and Fee Simple Land, other than Specified Substances**” (UFA, Chapter 1).

- 2013 – Yukon government prepares a modified Plan for approval. The modified Plan is approved for Yukon public lands by Yukon government in December 2013.

1.4. Planning Issues

The Peel watershed has long been valued by people from many walks of life. First Nations people have lived and travelled through the region for millennia, following the seasonal cycle of their traditional culture and economy. Big-game outfitters, trappers, prospectors and miners, oil and gas developers, wilderness tourists, biologists, and recreationalists have also explored the region. While the current level of activity in the region is relatively low, potential for increasing levels of land use to conflict with one another, and to cause long-term impacts to the environment and wilderness character of the region, is high. An opportunity exists now to ensure adequate planning and conservation areas are in place prior to increasing levels of land use.

At the beginning of the planning process, the Parties to the Plan submitted planning issues and interests to the Commission. The Commission also held community and stakeholder consultations. These consultations identified eight broad planning issues of both short- and long-term importance to the Peel Watershed Planning Region.

Maintaining wilderness

The maintenance of wilderness character was an important theme in the Peel planning process. Wilderness is a cultural concept and can mean different things to different people. However, most people would agree that the wilderness character of the Peel watershed is integral to its identity. It is largely unroaded, with intact ecosystems, and few signs of human activity. The wilderness of this region embodies the imagination and spirit of Yukoners, Canadians, and people around the world. Its character is essential for traditional activities, wilderness tourism, big-game outfitting, and wilderness recreation. High levels of industrial land use activity can impact wilderness character.

Ecosystem integrity

A healthy ecosystem is necessary for the long-term conservation of caribou, whitefish, sheep, waterfowl, and other culturally and economically important species. Different species vary in the levels and kinds of impact they can tolerate.

Aquatic integrity

The planning region is defined by the watershed boundary of the upper Peel River basin. Water is therefore a central consideration of the Plan. Wetlands, lakes, rivers, and riparian environments are biologically productive areas with high heritage, cultural, tourism and ecological values. Future land use activities may affect these environments by altering the natural range of water quality and flows.

What is “Industrial Land Use Activity”?

The Plan considers *industrial land use activity* to include those human activities typically associated with heavy industry. In the Peel, this would generally include the activities of the mineral, oil and gas, and transportation sectors. These are sometimes referred to as *non-renewable* land uses. Activities of the tourism, big game outfitting and trapping land use sectors are not considered *industrial activities*.

Transportation

More than any other land-use activity, transportation has the greatest potential to change the region. Developing mineral and oil and gas resources generally require all-season access roads, so the absence of such roads may be a barrier to development. However, roads and aggregate quarries also create habitat impacts and affect the region's wilderness character. Increased access into previously inaccessible areas may also affect wildlife and fish populations through increased harvest pressures.

Currently, the region's only all-season road is the Dempster Highway. It creates a number of transportation-related opportunities and issues that require careful consideration.

Mining exploration and development

So far, in the Peel, mineral exploration has had only temporary or local impact on other land users. However, if exploration programs in the Peel region result in mineral development, the economic benefits may be offset by the cumulative impacts on other land uses. Ecosystems, wildlife, and First Nations cultural pursuits and wilderness tourism, in particular, would be negatively affected.

Oil and gas exploration and development

Areas with the highest oil and gas potential generally occur in flatter lands in Eagle Plain and Peel Plateau. These areas generally have limited tourism and outfitting value. However, parts of these areas have significant cultural values for First Nations and importance to the Porcupine Caribou Herd and waterfowl.

Traditional pursuits

Local First Nations are clear that hunting, fishing, gathering, and other traditional activities should continue in the region. These activities generally need functioning ecosystems, intact places of cultural importance, and wilderness. Other land uses will affect these activities if they bring infrastructure, road access, and more people.

Climate change

Climate change may affect land, water, wildlife, fish, and people's use of these resources. These changes, though uncertain, may also increase the effects of other future land uses. Climate change introduces uncertainty into the outcome of land use and resource management policies.

1.5. General Terms of Reference

The Commission's *General Terms of Reference*, its founding document, included nine "General Goals". Most of these directives are adapted from the Final Agreements. They state that the Plan is to:

- Promote the well-being of the affected First Nations, other residents of the planning region, the communities and the Yukon as a whole, while having regard to the interest of other Canadians (UFA reference 11.4.5.7);
- Recommend measures to minimize actual or potential land use conflicts throughout the planning region (UFA reference 11.4.5.4);
- Recognize and promote the cultural values of the affected First Nations and other affected Yukon Indian People (UFA reference 11.1.1.3);
- Ensure that social, cultural, economic and environmental policies are applied to the management, protection and use of land, water and resources in an integrated and co-ordinated manner so as to ensure sustainable development (UFA reference 11.1.1.6);
- **Promote sustainable development**² (UFA reference 11.4.5.9);
- Take into account that the management of land, water and resources, including fish, wildlife, and their habitats, is to be integrated (UFA reference 11.4.5.8);
- Recognize all economic potential of the planning region, including, but not limited to sub-surface resources;
- Provide for enhanced opportunities to have ongoing cooperative land use planning activities between the Peel Watershed Planning Commission and the Gwich'in Land Use Planning Board. (7.1.3, GCLCA). Any Regional Land Use Planning Commission, or other planning agency described in (7.1.1, GCLCA), shall consult with the Gwich'in Land Use Planning Board in order to make use of planning that has been done with respect to the Peel River watershed by the Mackenzie Delta Beaufort Sea Land Use Planning Commission, and to discuss ongoing co-operative land use planning activities.

² In the Final Agreements, sustainable development is defined as "**beneficial socio-economic change that does not undermine the ecological and social systems upon which communities and societies are dependent**" (UFA, Chapter 1). The Commission considered sustainable development to be the core principle of the Plan.

1.6. Guiding Principles

The **core principle** of the Plan is sustainable development. The Plan is also guided by its **statement of intent** and detailed Plan **goals** (see Section 1.7). Figure 1.2 shows how the Statement of Intent and Plan goals flow from the core principle of sustainable development. These guiding statements are described below.

The Commission drafted its statement of intent based on guidance from the General Terms of Reference, the core principle of sustainable development, and its study of issues, land uses, and resource values. The statement of intent explains the vision for the region. It was published in fall 2005 (PWPC 2005) and was accepted by all the Parties.

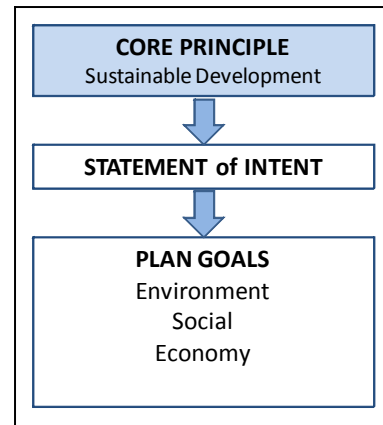


Figure 1.2: Linkage between the core principle, statement of intent, and Plan goals.

Statement of Intent for Peel Watershed Planning Region

The goal of the Peel Watershed Regional Land Use Plan is to ensure wilderness³ characteristics, wildlife and their habitats, cultural resources, and waters are maintained over time while managing resource use. These uses include, but are not limited to, traditional use, trapping, recreation, outfitting, wilderness tourism, subsistence harvesting, and the exploration and development of non-renewable resources. Achieving this goal requires managing development at a pace and scale that maintains ecological integrity⁴. The long-term objective is to return all lands to their natural state⁵.

³ **Wilderness** is defined as any area in a largely natural condition in which ecosystem processes are largely unaltered by human activity or in which human activity has been limited to developments or activities that do not significantly modify the environment, and includes an area restored to a largely natural condition (Yukon Environment Act).

⁴ **Ecological integrity** is defined as a concept that expresses the degree to which the physical, chemical, and biological components (including composition, structure, and process) of an ecosystem and their relationships are present, functioning, and capable of self-renewal. Ecological integrity implies the presence of appropriate species, populations, and communities, and the occurrence of ecological processes at appropriate rates and scales, as well as the environmental conditions that support these taxa and processes (U.S. National Park Service).

⁵ **Natural state** in this context refers to terrestrial conditions and is elaborated in the surface disturbance discussion in Section 4.1.1. For example, a human-caused surface disturbance is considered recovered, or returned to its natural state, when it no longer facilitates travel or access by wildlife and people, when increased run-off and sediment loading is no longer significant, and when its contours roughly match the original contours.

1.7. Plan Goals

Plan goals support the statement of intent. They are specific statements about what the Plan is trying to achieve. Goals express the desired results of the Plan, and can be thought of as statements against which to measure the Plan’s success or failure. Management direction in later parts of the Plan is organized around these goals.

The Plan identifies eight goals, with each goal supporting one of the three components of sustainable development: environment, society, and economy (Table 1.1).

Table 1.1: Plan goals.

Environment Goals
<p>Goal 1 Maintain the wilderness character of much of the planning region.</p>
<p>Goal 2 Maintain ecological integrity by ensuring terrestrial and aquatic habitats remain in a suitable condition to sustain healthy native wildlife and fish populations and communities within their natural ranges.</p>
<p>Goal 3 Maintain the quantity, quality, and rate of flow of water within its natural range.</p>
<p>Goal 4 Ensure that any lands disturbed by human activities are reclaimed or restored to their natural state.</p>
Social (Heritage and Culture) Goal
<p>Goal 5 Recognize, conserve, and promote the heritage and cultural resources and values, and traditional land use practices, of affected First Nations and the Yukon.</p>
Economic Goals
<p>Goal 6 Facilitate economic opportunities and activities that result in benefits to surrounding communities, affected First Nations, and Yukon as a whole, and that contribute to achieving the goals established by this Plan.</p>
<p>Goal 7 Provide land use certainty and minimize land use conflicts throughout the region.</p>
<p>Goal 8 Maintain future land use options by adopting a cautious but flexible approach to land and resource decision-making.</p>

2. Description of Planning Region

Unless otherwise noted, the source of information in this Section is the 2008 Peel Watershed Resource Assessment Report (PWPC, 2008b). The resource assessment contains more detailed maps showing the distribution of many of the values described below. See also Maps 1 and 3- 6 in Appendix A of this Plan.

2.1. Setting

The Peel Watershed Planning Region, shown in Appendix A, Map 1 is 67,430 square kilometers in size. The region is generally defined by the Yukon portion of the Peel River watershed. It is the only Yukon planning region without permanent settlements. Seasonal facilities and uses include First Nation cabins and camps, Dempster Highway maintenance operations, big game outfitting base-camps, trapping concessions, and temporary mineral exploration camps. There is one major all-season road, the Dempster Highway.

2.2. Land Ownership, Regulation and Management

2.2.1. Land Ownership and Governance

The Yukon government and four First Nation governments own and manage land in the region. These include three Yukon First Nations – the First Nation of Na-Cho Nyak Dun (Mayo), the Tr'ondëk Hwëch'in First Nation (Dawson), and the Vuntut Gwitchin First Nation (Old Crow), and the Tetlit Gwich'in Council of the Northwest Territories. The Yukon First Nation Final Agreements establish land ownership and management for the Yukon First Nations, while the Gwich'in Comprehensive Land Claim Agreement establishes land ownership and management for Tetlit Gwich'in Yukon Land (described below). There are no private Non-Settlement lands in the Peel Watershed Planning Region.

Non-Settlement Land

The Yukon government manages Non-Settlement Land totaling approximately 97% of the region. It does so under the terms of the Yukon First Nations Final Agreements, the Gwich'in Comprehensive Land Claim agreement, and the lands and resources acts of the Yukon and Canada.

All of the Non-Settlement Land in the region is overlapped by First Nation traditional territories. These traditional territories also overlap with one another. Under the Final Agreements, various trapping and hunting rights are given to Yukon First Nation citizens in their traditional territories (not only in their settlement lands). The jurisdictions of Renewable Resources Councils are limited to the non-overlapping portions of these territories.

Tetlit Gwich'in

As a result of the Yukon Transboundary Agreement within the Gwich'in Comprehensive Land Claim Agreement, the Tetlit Gwich'in Council of the NWT was granted ownership (surface rights only) of 11 large blocks and 12 smaller site specific parcels of fee simple land (Figure 2.1, see also Map 1 in Appendix A for more detail). As fee simple land, the Tetlit Gwich'in Council has absolute ownership of the land, but has no subsurface or other property rights. These lands, known as “Tetlit Gwich'in Yukon Land”, represent 2% of the planning region.

The Gwich'in Comprehensive Land Claim Agreement also set out primary and secondary use areas for the Tetlit Gwich'in. Various trapping and hunting rights are granted to the Tetlit Gwich'in people in these areas. They also have subsistence harvesting rights in those areas of the traditional territory of the Na-Cho Nyak Dun that do not overlap with the traditional territory of any other Yukon First Nation (12.3.1, Gwich'in Comprehensive Land Claim Agreement, Appendix C).

The primary and secondary use areas cover roughly that part of the region north and east of the Ogilvie, Wernecke, and Mackenzie mountains, including the Richardson Mountains, the Peel Plateau, and the Fort McPherson Plain.

Na-Cho Nyak Dun

The First Nation of Na-Cho Nyak Dun holds 25 site specific settlement lands (S-sites) and one block of Category-A rural settlement land (R-block) accounting for 0.4% of the region. The First Nation of Na-Cho Nyak Dun Land and Resources Act applies on these lands. The traditional territory of the Na-Cho Nyak Dun includes the entire region east of the Dempster Highway (Figure 2.2). The Na-Cho Nyak Dun and the Tr'ondëk Hwëch'in have agreed to a contiguous (i.e., non-overlapping) boundary that runs through the Hart and Blackstone River watersheds.

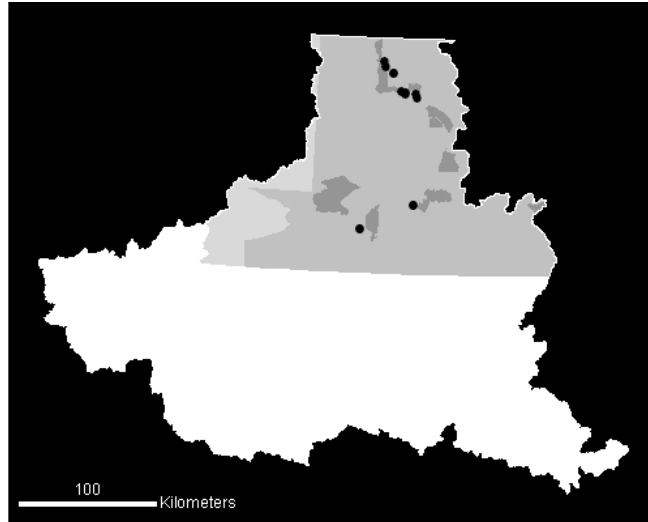


Figure 2.1: Tetlit Gwich'in site selections (black dots), blocks of Tetlit Gwich'in Yukon Land (dark gray), primary use area (mid-gray), and secondary use area (light gray).

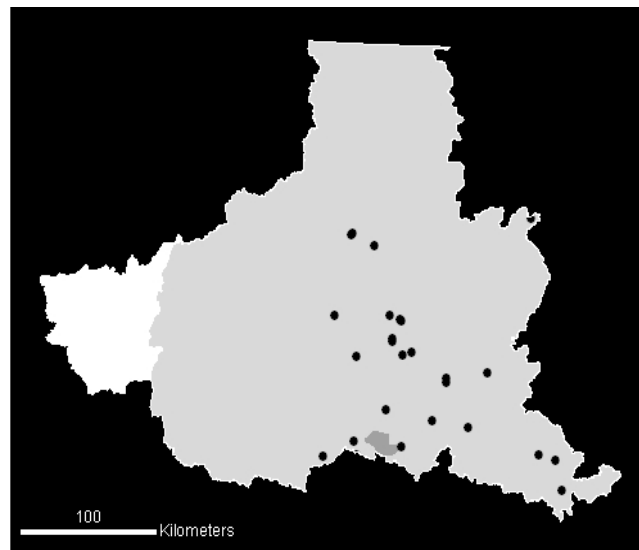


Figure 2.2: Na-Cho Nyak Dun site specific (black dots) and rural (dark gray) settlement lands and traditional territory (light gray).

Tr'ondëk Hwëch'in

The Tr'ondëk Hwëch'in have 21 site specific selections and two Category-B R-blocks (surface rights only) totaling less than 0.01% of the region. The Tr'ondëk Hwëch'in Land and Resources and Fish and Wildlife Acts apply to their lands. The traditional territory of the Tr'ondëk Hwëch'in includes all of the Ogilvie and Blackstone River drainages, and part of the Hart watershed (Figure 2.3). The Tr'ondëk Hwëch'in and the Na-Cho Nyak Dun have agreed to a contiguous boundary that runs through the Hart River watershed.

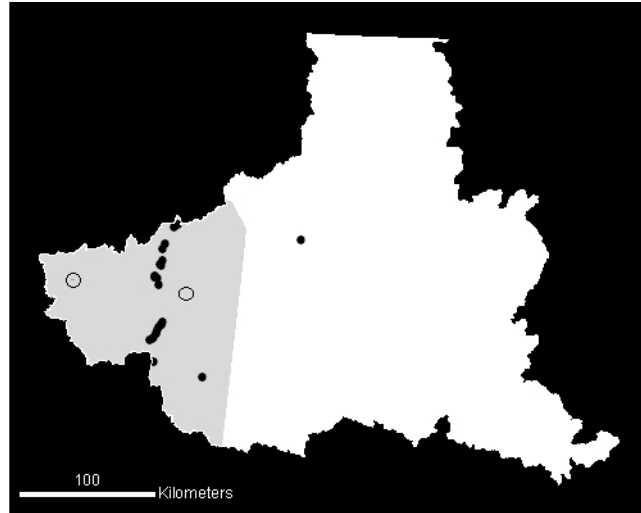


Figure 2.3: Tr'ondëk Hwëch'in site specific (black dots) and rural (dark gray & circled) settlement lands, and traditional territory (light gray).

Vuntut Gwitchin

The Vuntut Gwitchin have two site specific blocks along the Dempster Highway. Their traditional territory includes the lower reaches of the Ogilvie and Blackstone rivers, the Peel River above the Hart, and upper Canyon Creek (Figure 2.4).

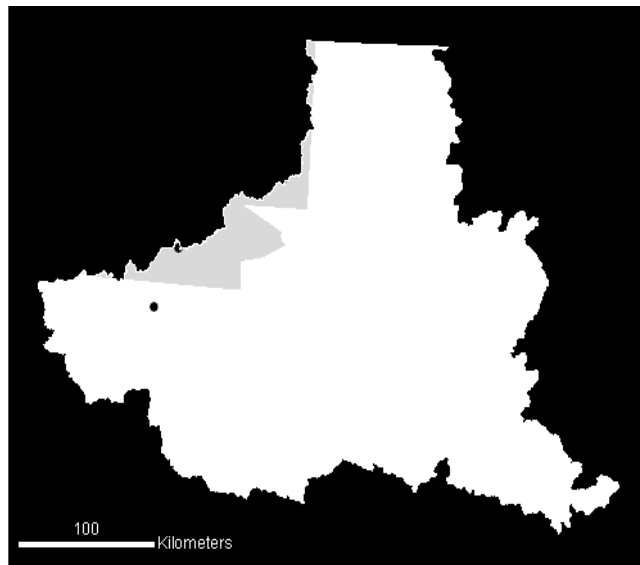


Figure 2.4: Vuntut Gwitchin site specific settlement lands (black dots), and traditional territory (light gray).

Kinds of Settlement Land

There are 2 categories of settlement land:
Category-A: Include surface and subsurface rights.

Category-B: Include surface rights only.

In addition there are two configurations of settlement land that are independent of their Category:

Site Specific: also known as **S-sites**, these are small parcels that typically surround cabins or other localized important places.

Rural: also known as **R-Blocks**, these larger parcels typically encompass important landscapes.

2.2.2. Designated Areas in the Peel Watershed Planning Region

Figure 2.5 shows the current or historical designated areas in the Peel Watershed Planning Region. These areas were given some management direction prior to the Peel Watershed Regional Land Use Plan.

Bonnet Plume Heritage River

The planning region includes the Bonnet Plume River, a Canadian Heritage River. This designation was negotiated under the Na-Cho Nyak Dun Final Agreement. The designation recommends a “higher duty of care” for this watershed but does not have any legislative power. In 1998, the Yukon government, the Government of Canada, and the Mayo District Renewable Resources Council prepared a management plan for the Bonnet Plume watershed.

Dempster Highway Development Area

The Dempster Highway Development Area includes all the lands within eight kilometres of the Dempster Highway’s centre line. It is regulated by the Area Development Act. New development and the use of vehicles other than snowmobiles are generally prohibited in this area (with some exceptions).

Peel River Preserve (historical)

The Peel River Preserve was established in 1923 to give exclusive hunting and trapping rights to the aboriginal people of the area. It included much of the land between the Peel and Arctic Red rivers above their confluences with the Mackenzie River and below the mountains. The Yukon portion of this preserve was rescinded in the 1980s and so has no consequences for regional planning.

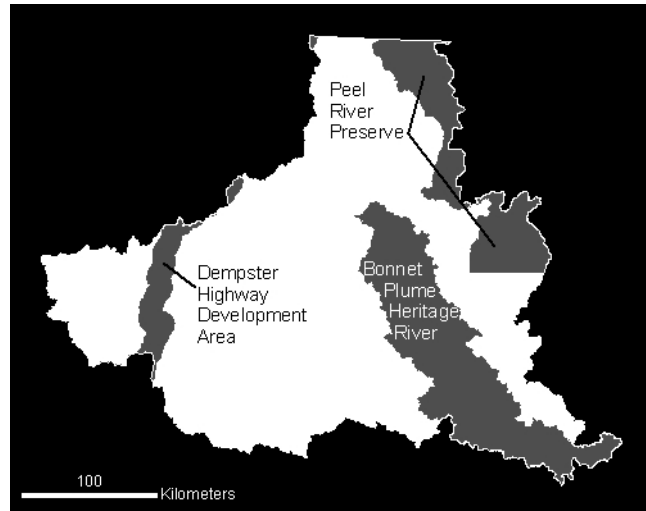


Figure 2.5: Designated Areas in the region.

2.2.3. Surrounding Designations in the Yukon

Tombstone Territorial Park adjoins the southwest of the planning region. The South Richardson Mountains and Foothills Integrated Management Zones of the North Yukon Regional Land Use Plan (Yukon government and Vuntut Gwitchin Government 2009), which adjoin the region along the Richardson Mountains, are to be managed with a high focus on conservation. The Eagle Plains landscape management unit of North Yukon Regional Land Use Plan allows for higher levels of land use activity (Integrated Management Area Zone IV). Figure 2.6 shows these designated areas.

The laws of general application apply for most lands to the immediate south of the region.

2.2.4. Surrounding Designations in the NWT

The Rat River and James Creek-Vittrekwa River Gwich'in Conservation Zone and the Porcupine Caribou Special Management Zone, both in the NWT, are to the north of the planning region. The Arctic Red River Headwaters Gwich'in Special Management Zone is to the southeast of the region. These zones are described in the Gwich'in Land Use Plan (GLUPB, 2003). Figure 2.6 shows these designated areas.

Outside these areas is the Gwich'in General Management Area, which allows for a range of resource development activities (e.g., oil and gas, mining).

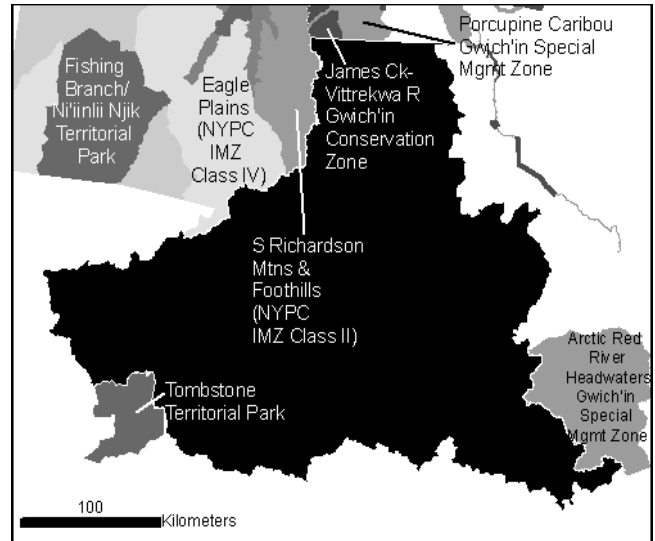


Figure 2.6: Designated Areas surrounding the region.

2.3. Environment

The Peel Watershed Planning Region lies at the easternmost edge of Beringia, an area extending from the Yukon to Siberia. For almost two million years, Beringia remained free of glaciers, providing a refuge for plants, animals, and some of the first people of North America. These ice-free conditions left a legacy of unaltered landscapes and unusual plant populations in the western half of the planning region.

The region has a very cold and dry climate because of its northerly latitude and the rain-shadow effect of the Ogilvie, Wernecke, and Selwyn mountains on its southern limit. Low-lying areas feature low spruce forests, shrub and tundra vegetation underlain with permafrost, and scattered wetlands. High-elevation mountain ranges contain extensive areas of rock and sparse vegetation. Large tributaries of the Peel River are often flanked by gravel bars, shrubs, and older stands of large white spruce. Rivers experience very low winter flows and dramatic variations in the summer.

The region contains portions of six distinct ecoregions including the Fort McPherson Plain, Peel River Plateau, Eagle Plains, North Ogilvie Mountains, British-Richardson Mountains, and Mackenzie Mountains (Figure 2.7). Elevation ranges from almost 0 to more than 2,700 metres above sea level.

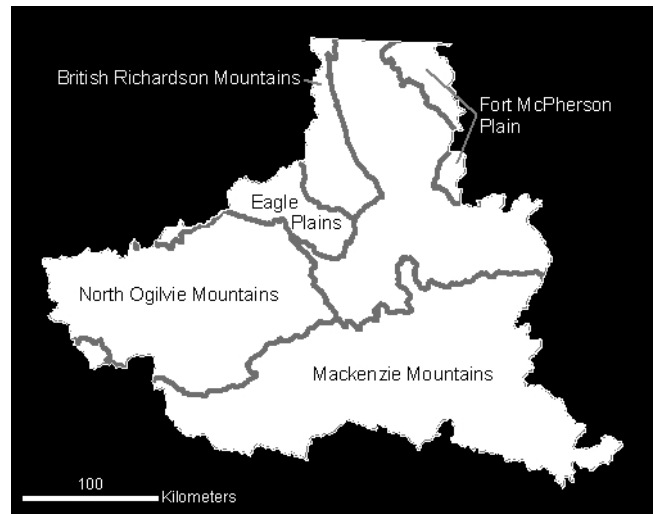


Figure 2.7: Ecoregions of the Peel watershed.

2.4. People

Parts of the traditional territories of the four participating First Nations are within the planning region. Historically, the people of these First Nations lived in and traveled throughout these traditional territories, which they regarded as home. Today the planning region is the seasonal home of subsistence hunters and fishers, trappers, highway maintenance personnel, and big game outfitters. Wilderness tourists, Dempster Highway tourists, geologists, prospectors, and drillers also spend time in the region. The nearest settlements are Keno, Mayo, Dawson City, and Fort McPherson.

2.5. Heritage Resources

The Tr'ondëk Hwëch'in, Na-Cho Nyak Dun, and Vuntut Gwitchin of the Yukon, and the Tetl'it Gwich'in of the Northwest Territories, have traditionally occupied, traveled, or harvested in virtually every corner of the planning region. Their presence is reflected in the many trails and named places, which provide a window into the culture and history of the region. Archaeological evidence indicates the region has been occupied for millennia.

Archeologists or paleontologists have not yet systematically surveyed much of the region. Nonetheless, fossils and other remains of plants, dinosaurs, ancient fish, insects, and Ice Age mammals (including mammoth, sheep, bison, and Yukon horse) have all been found at different locations. Archeological sites and artifacts within the watershed include gravesites, tent rings, caribou fences, caches, adze-cut stumps, abandoned settlements, and trading posts. These local features are generally protected from disturbance under the *Yukon Historic Resources Act* and/or the Umbrella Final Agreement, Chapter 13 (Heritage).

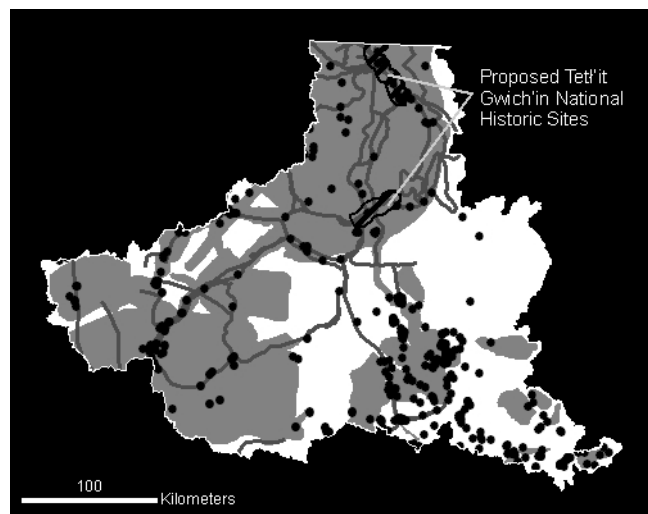


Figure 2.8: Selected landscapes, routes, and sites with cultural and subsistence importance.

Traditional use of medicinal plants, edible plants, fish, furbearers, and big game continue to have cultural importance. These resources are conserved or managed to varying degrees by the Yukon Fish and Wildlife Management Board, a number of Renewable Resources Councils, and federal and territorial legislation. People still use some heritage trails and routes to travel between communities and to reach hunting, trapping, and fishing areas. Spring water and sulfur sources also remain culturally important.

At a much broader scale, large natural features – such as mountains, mountain ranges, lakes, and rivers, as well as the stories embedded in these places – are also an integral part of First Nations heritage and culture (Figure 2.8). The values within many of these cultural landscapes have rarely been adequately considered in earlier land use decisions. However, in 2003 the Tetl'it Gwich'in applied for National Historic Site designation of two large blocks of land along the Peel River (GSCI, 2003).

2.6. Economy

Historically, the Peel region has been key for the traditional subsistence economy of its First Nations people. Although people rely less today on the harvest of wild game, plants, and medicines, many Elders have told the Commission they regard this region as a refuge that will provide for their subsistence and perhaps even survival needs in the future. Other activities that have long contributed to both the local and Yukon economy include both renewable surface uses (subsistence harvesting, trapping, guide outfitting, wilderness eco-tourism, outdoor recreation, forestry) and non-renewable subsurface uses (mineral and gas exploration).

The regional economy today is a mixed one in which traditional subsistence harvesting and wage-based activities co-exist. Subsistence hunting, gathering, and trapping are still very important economic and cultural activities to residents of Mayo, Keno City, Dawson City, Fort McPherson, and Old Crow. However, these communities also want to keep a workable degree of participation in the wage economy.

There are no concrete figures on total economic benefits in the Peel region (direct, indirect, and induced), including those from employment, government revenues, and business spin-off. Direct comparisons of different economic sectors are difficult without such an analysis. Several sectors have significant economic interests in the planning region. These sectors include tourism (“rubber tire tourism” on the Dempster Highway, and back-country “wilderness tourism” elsewhere), mineral exploration, oil and gas exploration, trapping, and big game outfitting. No agriculture or commercial forestry takes place, although there is some limited, community-based forestry in the north end of the planning region and along the Dempster Highway.

Major economic sectors are discussed briefly below.

2.6.1. Renewable Resource Use

Several economic activities in the region are based on renewable resources. They provide seasonal employment to local people.

Subsistence Harvesting

Some limited economic activity is based on subsistence harvesting. Residents from all four neighbouring First Nation communities spend varying amounts of time on the land, hunting, fishing, and berry picking. These traditional economic activities are strongly linked to the maintenance of First Nations culture and community well-being. Important subsistence harvesting areas are shown on Map 4, Appendix A.

Non-aboriginal residents of Dawson City, Mayo, Keno City, and elsewhere in the Yukon also value the Peel region for hunting and fishing. Hunting by people who are not members of a Yukon First Nation, or who do not have subsistence harvest rights under the Gwich’in Comprehensive Land Claim Agreement, is regulated under the *Yukon Wildlife Act*.

Trapping

Trapping provides self-employment opportunities for area residents and is a First Nations cultural tradition. Trapping concessions occur throughout the entire Peel Watershed Planning Region (Figure 2.9). There are 28 individual concessions permitting the exclusive rights to commercially harvest furbearing animals. Not all these concessions may be active. The Tetfit Gwich'in and Vuntut Gwitchin also each have their own larger group area concessions, which permit exclusive commercial harvesting rights to their members. Trapping is typically a winter activity.

Big Game Outfitting

Big game outfitting has been an economic generator in the Peel watershed for decades. The industry relies upon large intact wilderness areas and healthy wildlife populations to be economically viable and ecologically sustainable. The Peel watershed offers some of the highest quality big game hunting in North America. There are six outfitting concessions in the region (Figure 2.10). Sport hunting species are mainly Dall's sheep, grizzly bear, caribou, and moose. Other activities offered by guide outfitters include horseback riding, bird watching, and wildlife viewing. Most trips are undertaken by float plane, with overland transportation by horseback or on foot. Big game outfitting activities and their associated concessions are mostly in the southern half of the region. An estimated \$12-\$18 million in direct revenues was generated in the period 2001-06, based upon information provided by Peel region outfitters. The outfitting season is the summer and fall.

Tourism

The Peel watershed is a valuable region for Yukon tourism (Figure 2.11), largely because of its wilderness character. Most tourism in the region occurs in the summer. The Dempster Highway, considered by many to be one of the few remaining “wilderness highways” in the north, attracts increasing numbers of tourists. These visitors are drawn to the unique landscapes, wildlife viewing, photography, hiking, bird watching, and wilderness rivers reachable by road (e.g., the Blackstone and Ogilvie rivers). These more reachable areas receive more visits, so they are important to the overall tourism economy of the region. However, this density of tourists can also affect wildlife populations with sensitive habitats near the highway.

The portion of the region outside the highway corridor is of territorial and international significance to the wilderness tourism sector. It supports approximately 20 operations (guides, transportation companies, and expeditors) that are mostly Yukon-based. According to both government and industry sources, the Snake,

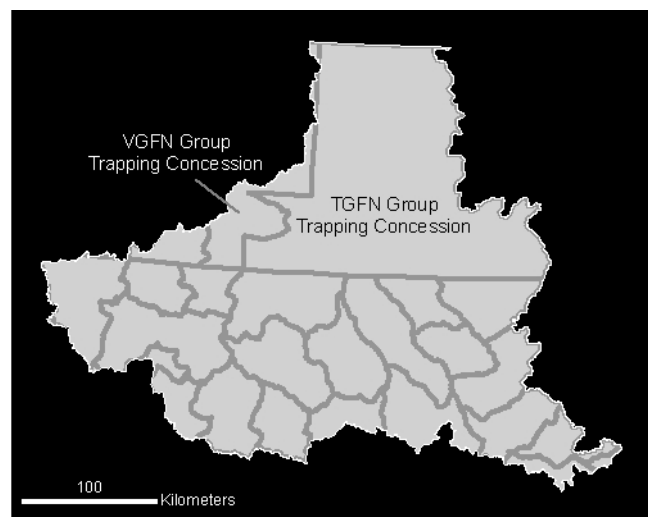


Figure 2.9: Trapping concessions in the region.

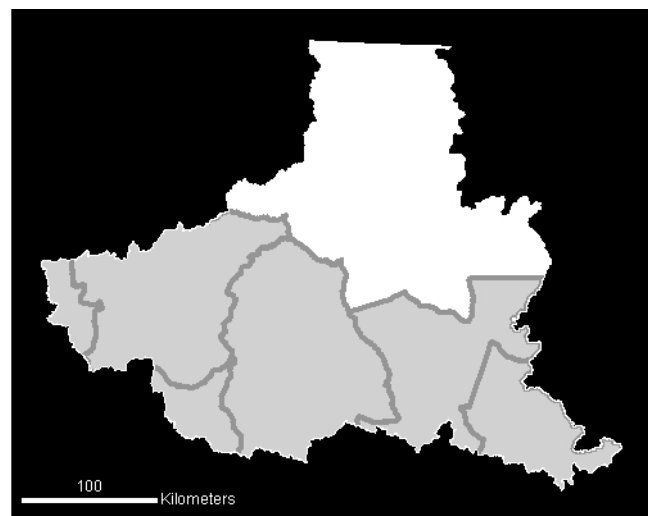


Figure 2.10: Outfitting concessions occupy the southern half of the region.

Wind, Bonnet Plume and Hart river watersheds within the southern Mackenzie Range represent the largest intact, remote, mountain wilderness area in the Yukon and North America. A map of Yukon recreational features shows high tourist potential concentrated in the region (Earle, 2008). Its challenging but navigable rivers have an international reputation for world-class wilderness river travel. They are mainly reached by float planes that typically land on headwater lakes. Other popular wilderness activities are hiking, horseback riding, wildlife viewing, bird watching, fishing, photography, and nature study.

Remote river-based tourism in this region has generated about \$3.67 million in direct expenditures from 2001-2006 (Earle, 2008). The region has excellent potential for managed growth of wilderness adventure and eco-tourism, as well as development of First Nations cultural tourism. According to industry and government, high quality and sustainable tourism, both now and in the future, depends on maintaining wilderness and wildlife values. Because it focuses on wilderness experience and wildlife, tourism in this region is sensitive to most land use activities. For example, roads, industrial activities, and even too many tourists may lessen its appeal. Tourism is also sensitive to the general state of the economy and the cost of travel.

Forest Resources

Most forest growth is found in the Peel River Plateau. However, the most productive sites are on alluvial soils in the major river valleys or have southerly exposures. The forests of this region are not considered valuable for timber because they are remote and have low productivity.

The southwestern part of the planning region is in the Dawson Forest Resources Management Area (as set out in the Tr'ondëk Hwëch'in Final Agreement, Chapter 17). This area is a Hinterland Forest Zone under the Dawson Forest Resources Management Plan. It is not included in a timber supply analysis, and commercial forest operations would be limited to local resource developments. This forest management plan must be consistent with the Peel Watershed Regional Land Use Plan. Further planning could be done with the Na-Cho Nyak Dun or the Vuntut Gwitchin as per chapter 17 of their Final Agreements and the Forest Resources Act.

Most forest harvesting is for First Nations' traditional use as well as back-country activities (i.e., outfitting, trapping, recreation). The main forest products are domestic fuelwood, cabin logs, and wood used for other traditional or cultural purposes. However, the industrial potential includes bridge timbers, tourism lodge construction, or the needs of the oil and gas or mining sectors. Only a small number of commercial fuelwood permits have been issued in the region, concentrated around Km 286 of the Dempster Highway. These harvest sites, which are unrecorded, are adjacent to major rivers, popular camping spots, and travel corridors.

Management of forest resources for fuelwood and building materials is a local issue for the residents of Fort McPherson, especially those with cabins or camps upstream. Forest harvesting generally occurs along the Peel and Satah river corridors. Forest management planning in these parts of the region may also be needed in the future.

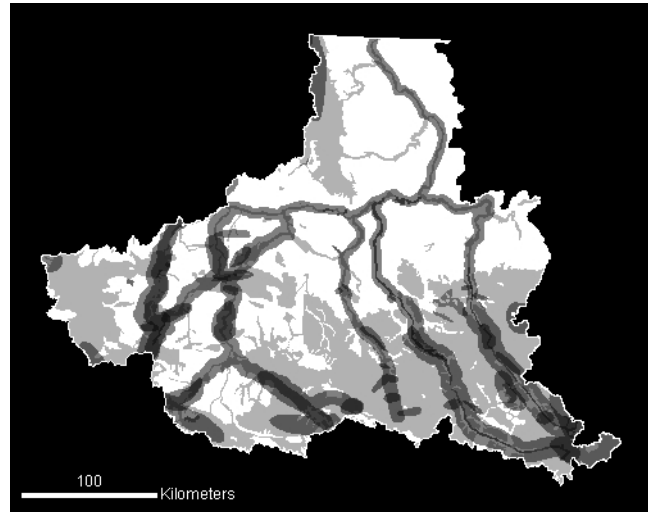


Figure 2.11: Overlapping tourism values (darker shades indicate higher value and/or number of overlaps).

2.6.2. Non-Renewable Resource Use

Other economic activities in the region are based on non-renewable resources. Exploration has provided important seasonal employment for local people. Compared to development, it usually has less intense, but more dispersed, effects on other regional values. If exploration is successful, resource development or extraction may follow if market and regulatory conditions are favourable.

Apart from aggregates (gravel), there has been no non-renewable resource extraction in the Peel watershed. The development of non-renewable resources will almost certainly require all-season surface access (e.g., roads and railways). The effects of development are higher than exploration, but are generally focused on the worksite and along access routes.

All modern development proposals include a decommissioning process. Infrastructure may either remain in place (if re-opening or re-use is expected) or be dismantled. Affected lands may then recover through natural revegetation and/or active reclamation.

Oil and Gas Resources

Oil and gas exploration activity has been low since its initial surge in the early 1960s. The region contains a large portion of Yukon's total estimated natural gas and oil in four petroleum basins (Figure 2.12). The Eagle Plains basin (Figure 2.13), which contains proven reserves, lies north of the Ogilvie River and west of the Richardson Mountains. It is the most likely to be developed first because it is near the Dempster Highway and the proposed Dempster Highway Lateral



Figure 2.13: Winter exploration in Eagle Plains: setting up a portable drilling rig. (Photo: Yukon Energy, Mines, and Resources)

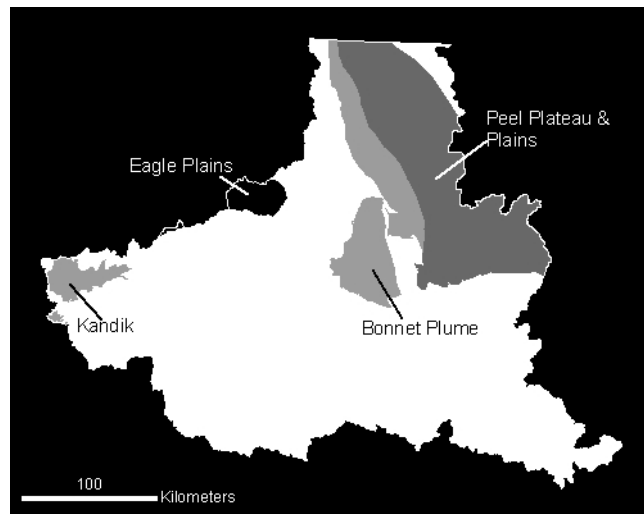


Figure 2.12: Oil and gas basins of the region, with darker tones indicating higher development potential. (Note: Such development potential considers geological potential together with infrastructure needs.)

pipeline, and because of its geologic potential. In the small part of this basin inside the planning region, there are two exploration permits and two significant discovery licenses. Industry believes Eagle Plain basin has substantial natural gas potential and moderate oil potential.

The Peel Plateau and Plain Basin, lying east of the Richardson Mountains and north of the Mackenzie Mountains, has natural gas potential. Any development would probably begin well after Eagle Plains. There is one exploration permit on Peel Plateau.

It is unlikely the remaining two basins, the Kandik and the Bonnet Plume, would be developed in the near future because of their limited exploration history and remoteness. The Kandik is at the headwaters of the Ogilvie River, while the Bonnet Plume basin is between the lower reaches of the Wind and Bonnet Plume rivers. Lack of pipeline infrastructure is a major barrier to developing natural gas in this region.

Oil and gas exploration generally takes place in winter. It may coincide with caribou movements and habitat use, but not usually with back-country travelers. However, any development would involve year-round activity and all-season roads. New approaches and techniques, such as low-impact (or meandering) seismic lines and multi-well drill pads, are reducing the ecological footprint of oil and gas activities.

Mineral Resources

Though mineral development has not yet occurred, interest in mineral exploration is increasing. Much of the planning region remains little explored. There are approximately 219 known mineral occurrences and 13 known deposits in the Peel watershed. Two known mineral deposits are of significant economic size: the Crest iron deposit and the Bonnet Plume coal deposits (Figures 2.14 and 2.15). Both would need major transportation infrastructure (e.g., railway and/or slurry pipeline) to be developed.

Mineral development in the planning region faces many challenges. These include lack of existing infrastructure, cost of construction, remote location, rugged terrain, and lack of water at upper elevations and during the winter period. However, these challenges may be overcome if the mineral has a sufficiently high market price. The mineral sector (industry representatives and individual firms) has strong concerns about the need to maintain access to existing claims and allow continued exploration of the region through the free-entry system.

Two types of mineralization other than coal and iron are also of interest. Wernecke Breccias (also known as Iron Oxide Copper Gold, or IOCG) deposits are typically targeted for their copper, gold, and uranium potential (Figure 2.16). Carbonate hosted lead-zinc deposits, including the Mississippi Valley Type (MVT) and the “Blende” type, are targeted for their lead and zinc potential (Figure 2.17). These deposits are often smaller and occur in clusters. They do not have the significant acid-rock drainage problems

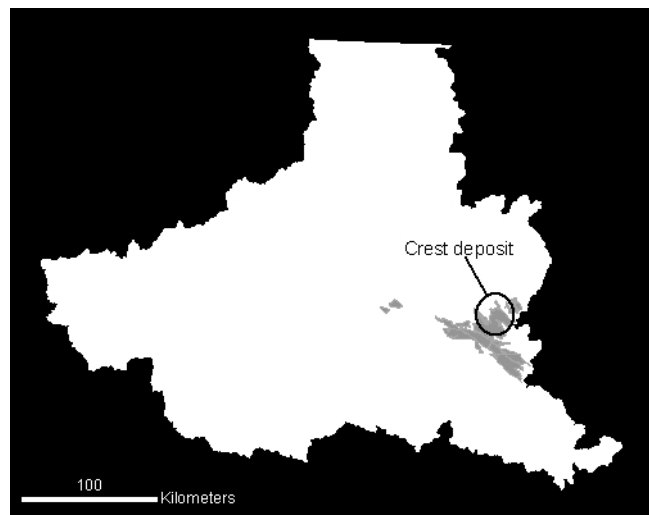


Figure 2.14: Higher iron potential and the Crest iron deposit.

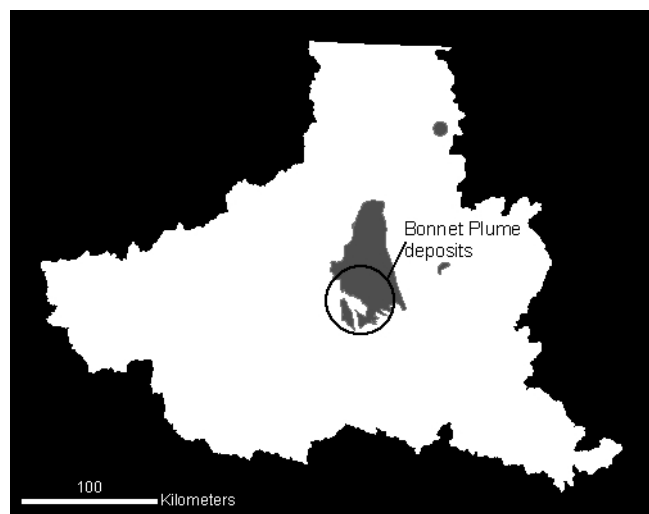


Figure 2.15: Coal potential and the Bonnet Plume deposit.

that Faro has experienced¹ because they occur in carbonate rocks. To date, there has been no interest in placer mining in the region.

A total of 8,428 active quartz claims and 525 active iron-mica claims exist in the region as of July 11, 2011. This is a four-fold increase since the Commission first noted claims in the region in spring 2005 (PWPC 2005). Before the Commission was established in 2005², there were 1,658 active claims in the region. There are seven active coal licenses. Based on Yukon government figures, the mineral exploration industry spent an average of \$6 million per year in mineral exploration from 2000-08³.

Exploration generally happens in the summer months. Its activities and air traffic can affect summer animal behavior as well as traditional wilderness activities and back-country tourism. Development, if it occurs, would involve year-round activity. Surface transportation of equipment and fuel can also occur in the winter.

Aggregate

Aggregate (gravel) is an important resource for the maintenance of the Dempster Highway. Future industrial activity and related road development may need large amounts of gravel. Unlike other non-renewable resources, aggregate use generally happens because of other industrial development in the area.

Geologists believe there are relatively few gravel deposits in Beringian portions of the planning region compared to other areas of western Canada because of the lack of glaciation. An early analysis of much of the region's aggregate potential is complete (Kennedy, 2009). The central and lower Peel region seems to have enough aggregate-bearing formations, though detailed field-based mapping is needed before further development. Roads passing through areas with inadequate gravel resources can also use crushed rock, though it costs more.

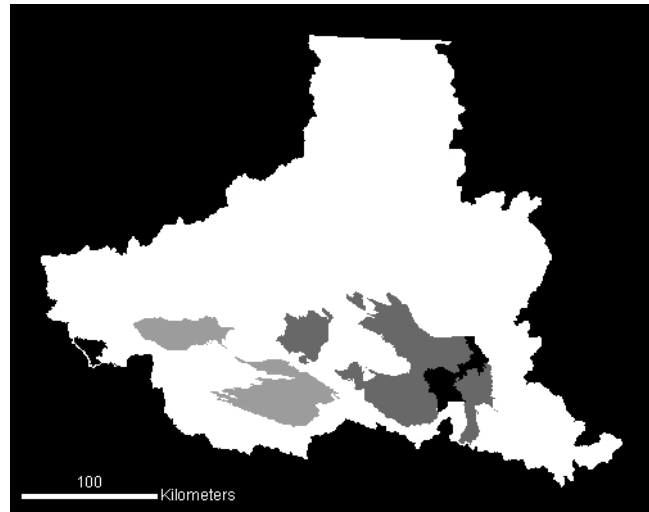


Figure 2.16: Wernecke Breccia potential in the region (darker shades indicate higher potential).

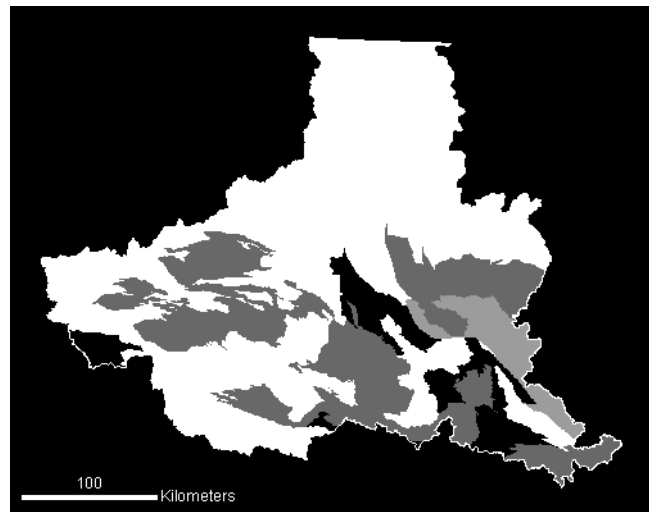


Figure 2.17: Mississippi Valley Type potential in the region (darker shades indicate higher potential).

¹ Faro mine, at one time Canada's largest open-pit lead-zinc mine, is located in central Yukon. Since the mine closed in 1998, it has had significant problems with control and treatment of acid-rock drainage.

² Based on the public quartz claims data base (as of July 11, 2011) using October 15, 2004 as the PWPC start date.

³ Figures provided by the Yukon Department of Energy, Mines and Resources by way of the Yukon Chamber of Mines.

2.7. Transportation

Transportation is a necessary part of all human activities in the region, so it is very important for the area's economy. It can also have major consequences for other values, which is why it has received plenty of attention from the Commission.

Rivers, trails, winter roads, highways, and airplanes are the main means of travel in this region. Major rivers provide summer and winter travel routes for local residents and back-country tourists. On the Peel River, barges were used to haul equipment and supplies to support petroleum exploration at least as far as the Trail River. No barging has happened in recent years because of lack of demand or insufficient water flow. Local residents use trails and routes for subsistence harvest, travel between communities, and other cultural activities. Long-distance overland travel traditionally took place in winter with dog teams. Travel skills in this region are kept alive by a winter overland journey on snowmobile between Fort McPherson and Mayo. Big game outfitters usually fly to their base-camps and then travel on foot or by horseback along trail networks.

Other historical transportation routes include the Wind River Trail (Figures 2.18 and 2.19) and the Hart River Winter Road (Figure 2.18). These routes provided entry to early petroleum exploration projects in Eagle Plains and mineral exploration properties in the Mackenzie Mountains. Another winter road went to the historic J-21 gas well in the Peel Plateau. Advanced exploration projects often use winter roads.

Many other exploration trails and seismic lines are scattered around the region but are especially concentrated in the northeast (Peel Plateau). Most of this trail network was used in the winter while soils were frozen, allowing the trails to re-vegetate more quickly. Because exploration occurs only in one season, surrounding wildlife is often less directly disturbed than with all-season roads. Nonetheless, the clearing of woody vegetation (e.g., trees and large shrubs), often associated with damaged topsoil, is visible for decades.

The Dempster Highway (Figure 2.18) connects southern Yukon and Canada to the Mackenzie Delta communities of the Northwest Territories (NWT). It also passes through the western portion of the planning region. The highway corridor is the potential route for future pipeline, telecommunications, or other linear infrastructure. Related uses such as gravel pits or highway maintenance stations are situated along the highway right-of-way. There are no other all-season roads in the region.

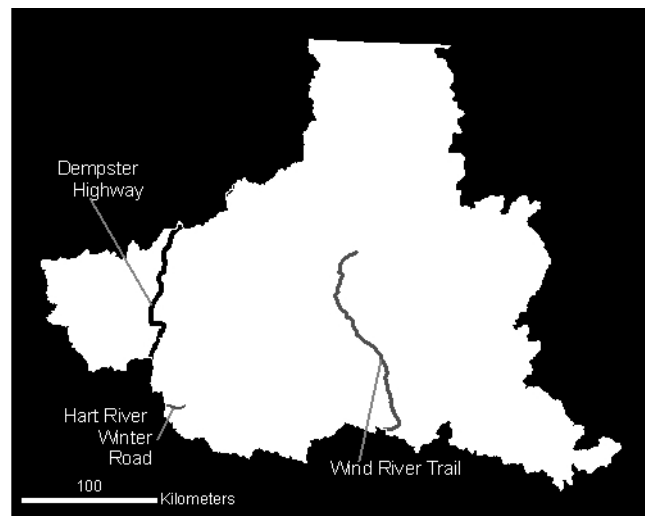


Figure 2.18: Existing and historic major roads or trails.



Figure 2.19 Wind River Trail from the air, March 2007. (Photo: M. Waterreus, Yukon Environment)

Before oil and gas development happens, new all-season roads will be needed. Roads are also typically needed for mining. Such roads can harm wilderness tourism and big game outfitting in significant ways, both directly and indirectly. These new routes can also change the local ecology because of their effects on fish, permafrost/terrain stability, and wildlife movements, as well as increased hunting.

There has been little access planning for the region, mainly because route development is driven by resource development, which is difficult to predict. The Yukon government produced a “Roads to Resources” map that shows the hypothetical routing of eleven roads through the region, based largely on topography and resource potential. A railway feasibility study included a rail link between the Crest iron deposit and Carmacks. Feasibility studies of the Crest deposit itself looked at the use of a slurry pipeline and a rail link to transport the ore.

Air travel in the region includes frequent chartered flights to various airstrips. It also includes float-plane charters to lakes or the larger river landing sites. Mineral and oil and gas exploration often makes use of helicopters. Fuel caches for both helicopters and fixed-wing aircraft are set up next to airstrips and water landing sites. Regular scheduled air service, transporting goods and people, links the communities of Old Crow, Dawson, Inuvik, and Whitehorse. However, unlike surface transportation, air travel does not need infrastructure between point-of-departure and point-of-arrival, so its surface disturbance is limited to airstrips and fuel caches. Nevertheless, its noise and visual disturbance can be harmful to wildlife populations, and can affect the wilderness experience that back-country tourists and big game hunters want.

2.8. Significant Ecological Values

The region contains a number of features and values that have territorial, national, and global ecological significance. *The information sources for this section are the Peel Watershed Conservation Priorities Assessment Report (PWPC 2008a) and Peel Watershed Resource Assessment Report (PWPC 2008b).*

2.8.1. Fish, Wildlife, and Plants

The range of wildlife and plants in the Peel watershed is remarkable for a taiga region at these latitudes. This diversity comes partly from a lack of glaciation over some areas, and partly from the wide range of elevations and resulting habitat types. The western part of the region has the most endemic plant species (i.e., plant species found nowhere else) in Canada. The region also has a number of animal species listed as national or international conservation concerns. These include the wolverine, grizzly bear, Northern Mountain populations of caribou (e.g., Hart River, Bonnet Plume, and Redstone herds), Short-eared Owl, Rusty Blackbird, Peregrine Falcon, Olive-sided Flycatcher, American Golden-Plover, Harlequin Duck, Smith's Longspur, Solitary Sandpiper, Surf-bird, Swainson's Hawk, Upland Sandpiper, and Wandering Tattler. The region has an unusual clustering of three ecotypes of caribou: Barren-ground (the Porcupine Caribou Herd – Figure 2.20), Boreal (the “Boreal caribou herd” – Figure 2.21), and Northern Mountain (the Bonnet Plume, Hart River, and Redstone caribou herds – Figures 2.21 and 2.22). The Peel River and its tributaries also support a unique collection of fish species. The region's unique glacial history, along with the impassable Aberdeen Canyon, has produced genetically distinct populations of several fish species.

Several wildlife resources in the region have great cultural or economic importance. The Porcupine Caribou Herd has been very important to several First Nations for generations. The winter range of the herd in this planning region extends mainly down the Richardson Mountains into the Hart, Blackstone, and Ogilvie drainages. Over the years, the herd has wintered throughout the planning region except in the headwaters of the Wind, Bonnet Plume, and Snake rivers and east of the Peel River below the Snake. Tetlit Gwich'in traditional knowledge tells of calving by some of the herd on Edigii Hill between the Peel River and the Richardson Mountains. The importance of this herd is underscored by the establishment of the Porcupine Caribou Management Board.

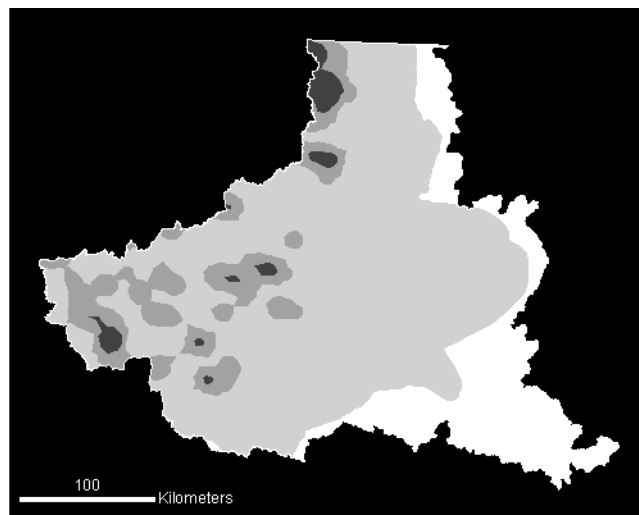


Figure 2.20: Porcupine Caribou winter range (light gray) with moderate (mid-gray) and concentrated (dark gray) use areas.

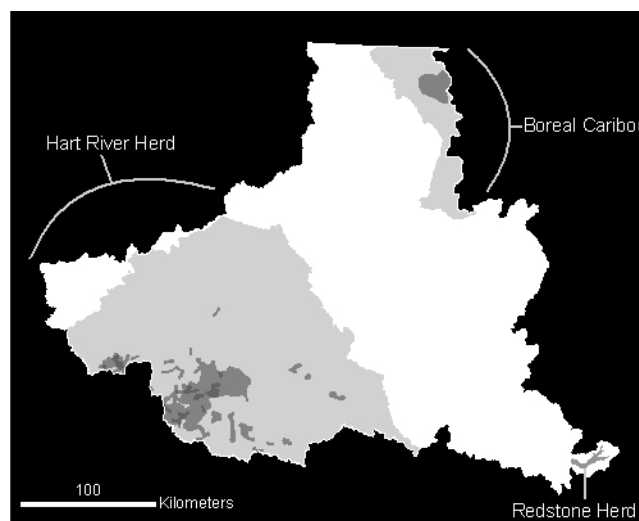


Figure 2.21: General ranges and key areas of the Hart River, Redstone, and Boreal caribou.

Several sea-run fish species (whitefish, herrings/ciscos, inconnu, and Dolly Varden char) are immensely important as subsistence food to communities in the Mackenzie Delta, both historically and at present. Despite the importance of these species, little is known about numbers or key spawning habitat. While spawning habitat is crucial to their survival, overwintering habitat is the most limiting for non-sea-run fish (e.g., grayling, arctic char). Dall's sheep (Figure 2.23) is the most important game species for the guide outfitting industry in the Peel. Other species with major cultural or economic importance are marten, moose, waterfowl, grizzly, and caribou (the Hart River, Bonnet Plume, Redstone, and Boreal herds).

Except for the Porcupine Caribou Herd, these populations have not been successfully surveyed in recent years. The Porcupine Caribou Herd is estimated (2010) at 169,000 animals, an increase of 46,000 from the last successful survey of 2001. The Boreal and Northern Mountain ecotypes have been listed by COSEWIC as 'threatened' and of 'special concern,' respectively. Most of the herds of these two ecotypes are believed to be reasonably strong, mainly because of the region's generally pristine nature. However, there are concerns that caribou and other wide-ranging species could be affected by human activities, particularly if new surface access is built into the area.

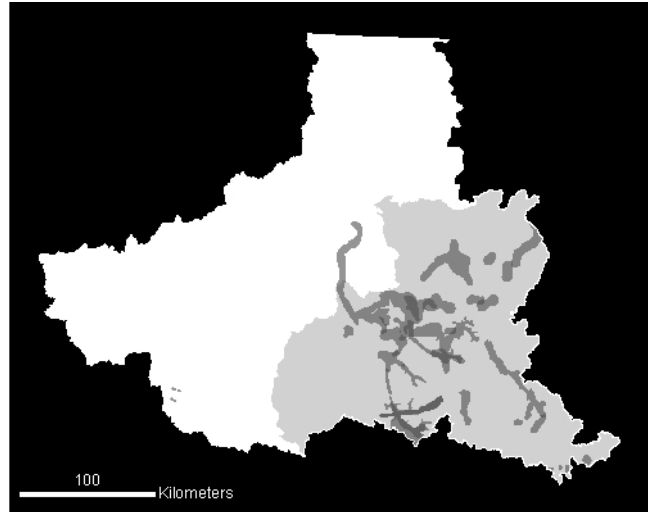


Figure 2.22: General range and key areas of the Bonnet Plume Caribou Herd.

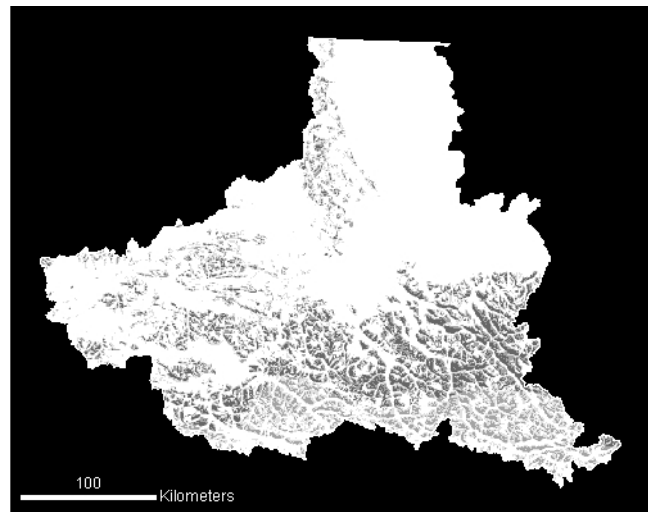


Figure 2.23: Winter habitat suitability for Dall's sheep (dark=high, white=nil).

2.8.2. Wetlands

Wetland ecosystems contribute enormously to the total biodiversity of the region. Their productivity and unique growing conditions are unusual in this generally mountainous area. Wetlands are ideal habitats for culturally important waterfowl, furbearers, and moose. They also serve as hydrological reservoirs in a region with relatively few lakes.

The Peel River drainage breaks the long spine of the northern cordillera, creating a migratory pathway for birds traveling east or west between the Yukon and Mackenzie river basins. Many of the region's wetlands sit in this break on the Peel Plateau, providing valuable staging and stop-over sites for waterfowl (Figure 2.24). Some of these wetlands, including Turner Lakes, Jackfish Creek, Tabour Lakes, and Chappie Lakes, are territorially important.

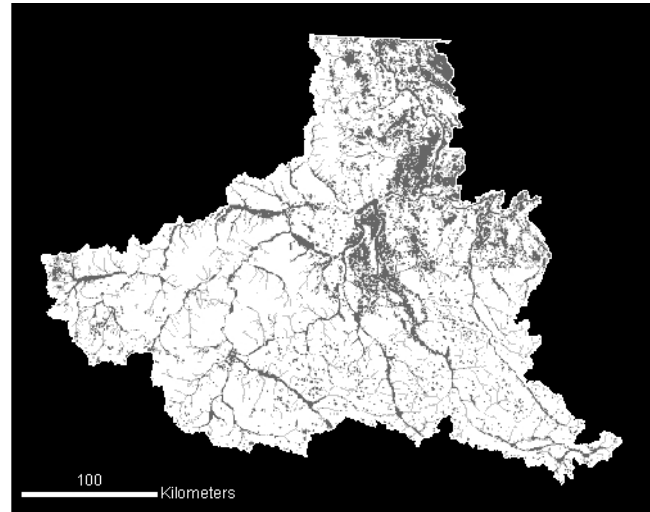


Figure 2.24: Likely waterbird habitat in the region corresponds to wetlands and riparian areas.

Many wetlands on the Peel Plateau are “perched” near rivers carved in the plateau. The terrain between these wetlands and neighbouring escarpments (cliff-like banks) is underlain with permafrost. These perched wetlands may thus be sensitive to the connected changes in precipitation, hydrology, and permafrost brought about by climate change or surface disturbance.

2.8.3. Water

The planning region is defined by its watershed. That fact highlights the critical role of water – ecologically, socially, culturally, and economically – in the land use plan. The waters sustain all plant and animal life, across many ecosystems, that provide an important source of food for the First Nations. Waterways and waterbodies offer a gateway to renewable and non-renewable resources, and are needed by a number of industrial activities. They are also critical to the health of the downstream communities of Fort McPherson and Aklavik.

The headwaters of the six tributaries flow northward through the planning region, converging with the Peel River. The river then flows east and north before crossing into the Northwest Territories and passing by the communities of Fort McPherson and Aklavik. What happens upstream – from the headwaters to the main stem – has a major impact on much of the wildlife of the planning region, as well as on the people of the Mackenzie Delta. The Yukon – Northwest Territories Transboundary Water Management Agreement (2002) sets out a series of water management and monitoring principles for the Peel.

The water flow in the Peel Basin is controlled by bedrock and permafrost. Water flow peaks sharply in the early summer because there are few large lakes or much thawed ground to absorb spring snow melt. By contrast, winter groundwater contributions are small, so larger streams have lower late winter flows compared to southern streams, and smaller streams do not flow at all. Water quality varies with water flow. Water in large streams is typically clear in winter and high in dissolved minerals, and very high in sediment in summer. Wetlands help to store and filter water, but their help is generally limited to the flatter northeast portion of the region.

Our knowledge of water quantity and quality comes from various sources, some dating back decades. Monitoring of human effects on water will be difficult in this region because both water and water systems are changing with climate change. Only two water flow monitoring stations are currently maintained.

The variability of water flow in the Peel could pose challenges to industrial users. Low winter flows could limit industrial-level use to the summer months, or might involve water storage and recycling. High summer sediment loads could also be challenging. The lack of information on key fish habitats, particularly overwintering grounds, might also limit industrial use of water. Government policy prohibits bulk water transfer, including diversions, between basins, so large water-related industries such as hydroelectric development are not on the horizon. However, both mining and oil and gas typically need water sources for exploration and development.



Figure 2.25: Culverts at the Davies Creek crossing of the Dempster Highway. (Photo: A. von Finster, DFO)

Industrial activities, in turn, may affect water. Exploration and development often need large stores of fuel and other chemicals, and can produce major volumes of waste. Storage and disposal of these substances can lead to soil and water contamination. Industrial exploration also sometimes leads to the development of winter, or ice, roads. These roads often need large volumes of water in a season when water can be scarce. The possibility of vehicles breaking through frozen stream crossings leads to more contamination concerns. Industrial development typically requires all-season roads, which bring more potential water-related issues such as hung culverts, soil erosion, and siltation (Figure 2.25). However, with the right techniques and planning, the effects of industrial activities on water can be reduced.

2.8.4. Other Ecological Goods and Services

Wetlands and forests contain important carbon stores and act as a sink for atmospheric carbon. These plant communities are also part of the global oxygen cycle by regenerating oxygen from carbon dioxide.

2.9. Climate Change

Existing historic climate trends, as well as climate models, show extensive climate change in the planning region during this century. Longer-term global forecasts for 2080-2100⁴ show summer temperatures increasing by a significant amount (4–6 °C), while winter temperatures may increase by as much as 9–12 °C. Year-round precipitation is predicted to increase by 0–20%. Model projections are always uncertain, but researchers are confident that this region will warm at a rate of two to three times the global average. Researchers are also predicting more variation in climate and more extremes, which are likely to have as much (or more) effect on the regional ecology as the overall climate trends themselves. Together, the climate trends and climate variability are expected to have a major influence on the Peel landscape.

Exactly how a changing climate will affect the Peel, however, is difficult to predict. Warmer winters with more variation through the freeze-thaw cycle could result in more snow crusts forming during thaws.

Such crusts make foraging more difficult for a number of herbivores, while the changing plant communities will probably mean foraging in different locations. Warmer temperatures and variations in surface water flow will likely produce localized or extensive melting of the permafrost. Slope failures resulting from this localized melting are already occurring (Figure 2.26), and have probably occurred in the past, often in connection with forest fires⁵.

Accelerated melting, possibly exaggerated by more frequent forest fires, would cause widespread slope instability. Roads, pipelines, and other infrastructure will have to be designed to avoid or withstand unstable slopes. Melting permafrost would in turn change the hydrology of the region, with effects on fish and wetland ecology and on human water users. A changing ecology and unpredictable weather may make cultural and tourist activities less attractive to future generations.



Figure 2.26: A “retrogressive thaw” in the Peel Watershed. An initial disturbance to the permafrost results in a slump, which in turn exposes more permafrost to thawing temperatures. The slump then expands away from the initial disturbance. Note the resulting disturbance to the creek. (Photo: D. Davidge, Environment Canada)

⁴ Based on the results of the CGCM1 model running the IS92a scenario with a base period of 1975-1995 (<http://atlas.nrcan.gc.ca/site/english/maps/climatechange/scenarios>).

⁵ http://gsc.nrcan.gc.ca/permafrost/suppdoc_e.php

3. Plan Concepts

The Plan uses four main tools to protect and conserve important values, and guide land management decisions in the Peel region:

1. Landscape Management Units;
2. Land Use Designation System;
3. General Management Direction; and
4. Cumulative Effects Indicators

Each of these four tools complements the others. Together, along with existing legislation, regulations, and assessment processes, they form part of an integrated land management framework, and assist in achieving the Plan goals as identified in Table 1.1. The four tools are described below.

3.1. Landscape Management Units

Under the Plan, the Peel Watershed Planning Region is divided into **landscape management units** (LMUs). They are distinct areas of land that encompass watersheds, or have similar ecological properties (landforms and vegetation). They also have similar planning issues and management intent¹.

The borders of LMUs are usually defined by rivers, roads, or other identifiable features, including First Nation land selections. Where possible, LMUs boundaries have been made to match with adjacent regional land use plans.

There are sixteen LMUs in the Peel Watershed Planning Region (Appendix A, Map 1). Some LMUs have been further divided into sub-units. The management intent of each LMU is expressed through the **land use designation system**, described in Section 3.2, below. In Section 5, the resource values and special management considerations for each LMU are described in detail.

3.2. Land Use Designation System

Based on identified values and sensitivity to disturbance, different LMUs in the Peel region require different land management. Some areas are more sensitive than others, or have high conservation and wilderness values, and require careful land management. Others may be less sensitive or have important economic considerations. The management intent of each LMU is conveyed through a land use designation system.

The land use designation system uses different categories to guide the management of land use activities. In this Plan, there are three broad land use categories:

1. Protected Area (PA);
2. Restricted Use Wilderness Area (RUWA); and
3. Integrated Management Area (IMA)

¹ **Management intent** refers to how a landscape management unit or area is intended to be managed. The management intent provides the thinking behind the directions for managing an area.

These three categories are described in the following sections; Table 3.1 provides an overview. In addition, overlay zones for important corridors – the major rivers in the IMA, and the Dempster Highway – are also identified. In all land categories, First Nation activities and the pursuit of treaty rights as recognized by the Final Agreements will be respected.

Where possible, the land use designation has been made consistent with adjacent regional land use plans. Appendix A, Map 1 shows the land use designations for each LMU or sub-unit.

3.2.1. Protected Area

Protected Areas (PAs) are managed for the protection of ecological and cultural resources, and the long-term preservation of wilderness characteristics. In addition to protection, PAs provide places where wilderness tourism and recreation and other non-industrial land uses are the intended uses. PAs are withdrawn from the issuance of new surface and subsurface rights. New mining, oil and gas, and other industrial land uses are not allowed. Existing rights are acknowledged and are allowed to be exercised in compliance with the management direction of this Plan and the regulatory regime.

3.2.1.1. Protected Area Land Use Designations

The PA land category can contain different designations including Natural Environment Park, Wilderness Preserve, or a new designation, Wild River Park. A National Historic Site designation, administered by Parks Canada, may also be an option for portions of the Peel River.

Natural Environment Park and Wilderness Preserve

Natural Environment Parks and Wilderness Preserves are used to designate large, contiguous areas with high biological, cultural and wilderness values. They are intended to protect these values and provide opportunities for wilderness recreation and education. In accordance with the Parks and Land Certainty Act, management plans are prepared with consultation to establish the long term management of the parks. Interim guidelines may be prepared pending approval of the park management plan.

Wild River Park

Wild River Park is a new PA designation under the Parks and Land Certainty Act. It was developed in recognition of the significance of the rivers of the Peel Watershed Planning Region. Wild Rivers identify protected corridors around the most significant wilderness tourism and recreation rivers in the region—the Wind, Bonnet Plume, Snake and Hart rivers. The corridors are approximately two to ten kilometers in width, as determined by the type of activity and values requiring protection. Wild River Parks are intended to protect important views and maintain wilderness character while allowing for carefully managed recreational opportunities. This designation was created to provide a conservation tool for managing land use issues in these important corridors and to promote wilderness tourism opportunities. In accordance with the Parks and Land Certainty Act, management plans are prepared with consultation to establish the long term management of the parks. Interim guidelines may be prepared pending approval of the park management plan.

National Historic Site

The Gwich'in Social and Cultural Institute (GSCI 2003) has proposed that two sites in LMU #14 (Peel River), Tshuu tr'adaojich'uu and Teetl'it njik, be recommended for National Historic Site designation. Based on agreement between the Gwich'in Tribal Council and Parks Canada, this PA designation could be an option for designating these culturally important sites.

Table 3.1: Overview of Peel Watershed Planning Region land use categories.

LAND USE CATEGORIES			
Description	PROTECTED AREA (PA)	RESTRICTED USE WILDERNESS AREA (RUWA)	INTEGRATED MANAGEMENT AREA (IMA)
Management Intent	Protection of ecological and cultural values and preservation of long-term wilderness character.	Conservation of ecological and cultural values and maintenance of long-term wilderness character.	Economic development and maintenance of ecological integrity.
Management Approach	Prescriptive planning and management to protect and enhance identified key ecological, cultural and wilderness values. Primary approach is withdrawal of PAs from new surface and sub-surface disposition.	Prescriptive planning and management to mitigate land use impacts and minimize land use conflicts. New rules and management restrictions have been created to achieve RUWA management intent.	Reliance on existing regulatory / management framework to achieve defined objectives for LMUs or sub-units. Ecological integrity managed through cumulative effects framework. Allowable level of activity based on the values and ecological sensitivity of the LMU.
LMU Key Values	As identified by each LMU	As identified by each LMU	As identified by each LMU
Land Uses	Allowable land uses are specified: <ul style="list-style-type: none"> • Intended land uses are wilderness tourism and recreation and guide outfitting; • New industrial land use or surface access is not allowed. 	Allowable land uses are specified: <ul style="list-style-type: none"> • Intended land uses are wilderness tourism and recreation and guide outfitting; • Low levels of new industrial land use and surface access are allowed provided it meets specific criteria. 	Allowable land uses are <u>not</u> specified: <ul style="list-style-type: none"> • Intended to be the 'working landscape' where most industrial land use activities could occur; • All industrial and non-industrial land uses are allowed provided they meet Plan guidelines and regulatory requirements.
Cumulative Effects Indicator Levels	Not applicable	Low levels of allowable surface disturbance (0.2%) and linear density (0.1 km/km ²) are specified.	Four levels (low to moderate) of allowable surface disturbance (0.1% to 1.0%) and linear density (0.1 to 1.0 km/km ²) are specified, depending on Zone designation (Zone I-IV).
Implementation	<ul style="list-style-type: none"> • Legally-designated protected areas as per Yukon and Federal statutes. • More detailed management plans will be developed for specific areas as required. 	<ul style="list-style-type: none"> • New management measures apply (e.g., new surface access regulations; Air Access Coordination, timing windows, Class 1 mineral exploration rules, and off-road vehicle regulations). • Guidance on cumulative land use activity provided by defined indicator levels. • LMU specific direction on prohibited and allowable land uses attached to implementation plan. 	<ul style="list-style-type: none"> • Existing regulatory framework and legislation. • Guidance on cumulative land use activity provided by defined indicator levels.

3.2.1.2. Protected Area: Allowable and Prohibited Land Uses

Allowable and prohibited land uses in PAs of the Peel Watershed Planning Region are listed in Table 3.2, below. These allowable and prohibited uses apply following Plan approval. Existing surface or subsurface tenures are addressed in Section 3.2.1.3. Special management direction can be developed for specific situations or locations, if required. Opportunities for First Nation traditional and subsistence activities as established by the Final Agreements – hunting, trapping, fishing and gathering – will be respected.

Table 3.2: Allowable and prohibited land uses in Protected Areas of the Peel Watershed Planning Region.

<p>PA Allowable Land Uses: **</p> <p>The following land uses are allowed, unless prohibited by specific management direction at a defined location:</p> <ul style="list-style-type: none"> • Pursuit of First Nation treaty rights; • Outfitting and associated temporary structures; • Commercial wilderness tourism and guiding, and associated temporary structures; • Travel by motorized boat, off-road vehicle (ORV), airplane, and helicopter; • Recreational sport fishing and hunting; • Research and education; and • Commercial fur harvesting, commercial fishing, commercial harvesting of non-timber forest products.
<p>PA Prohibited Land Uses:</p> <p>The following new land uses are prohibited:</p> <ul style="list-style-type: none"> • Issuance of new surface and sub-surface rights (disposition of crown land); • Commercial forestry; • Commercial agriculture including grazing; • Mineral exploration and development; • Oil and gas exploration and development; • Energy generation; • Energy transmission and communication corridors; • Road building (<i>as per section 3.2.1.3 temporary roads may be considered to enable the development of existing subsurface rights</i>); and • Aggregate extraction.

** In Protected Areas, the additional rules and management restrictions for the Restricted Use Wilderness Area, as described in Table 3.4, also apply to allowable land uses.

3.2.1.3. Protected Area: Existing Surface and Sub-surface Rights

Existing surface or subsurface tenures are allowed to continue so long as they are maintained in good standing and there is no change in the approved use. Lapsed tenure will not be renewed. Holders of subsurface rights (minerals and oil and gas) will be allowed reasonable access to assess and develop their claims or permit areas. For mineral claims, reasonable access is defined as:

- Air only for exploration activity;
- Temporary surface access may be considered for advanced exploration or development of a mine on a case by case basis. If temporary surface access is permitted, consideration must be given to winter only access; and
- If all season access is required the access must be designed and managed to minimize impact on the key values of the LMU and to facilitate abandonment and reclamation of the road right-of-way.

If surface access is required, the same rules and management restrictions apply as in the RUWA (see Table 3.4, below).

3.2.2. Restricted Use Wilderness Area (RUWA)

The conservation of ecological and cultural values and the long-term maintenance of wilderness character, while allowing for low levels of carefully managed land use activity, is the primary goal of the RUWA. The RUWA designation reflects areas with higher non-renewable resource potential where industrial land use activity may impact ecological or wilderness values, or creates conflicts with other land users.

To achieve the conservation and wilderness goals of the RUWA, multiple land uses must be actively managed in a more prescriptive manner than in the IMA. Prescriptive land use direction for allowable and prohibited land uses is provided, and additional rules and management restrictions apply. While it is acknowledged that some level of land use impacts may occur, the amount and extent of acceptable land impacts is defined by conservative cumulative effects guidelines (see Section 3.4). At this time, the RUWA does not contain additional sub-categories.

3.2.2.1. Restricted Use Wilderness Area: Allowable and Prohibited Land Uses

Allowable and prohibited land uses in the RUWA of the Peel Watershed Planning Region are listed in Table 3.3, below. These allowable and prohibited uses apply following Plan approval. In the RUWA, all land uses are subject to the additional rules and management restrictions listed in Section 3.2.2.2. Special management direction can be developed for specific situations, if required. Opportunities for First Nation traditional and subsistence activities as established by the Final Agreements – hunting, trapping, fishing and gathering – will be respected.

Table 3.3: Allowable and prohibited land uses in the Restricted Use Wilderness Area of the Peel Watershed Planning Region.

<p><u>RUWA Allowable Land Uses:</u> **</p> <p>The following land uses are allowed, unless prohibited by specific management direction at a defined location:</p> <ul style="list-style-type: none"> • Pursuit of First Nation treaty rights; • Outfitting and associated temporary structures; • Commercial wilderness tourism and guiding, and associated temporary structures; • Travel by motorized boat, off-road vehicle (ORV), airplane, and helicopter; • Recreational sport fishing and hunting; • Research and education; • Commercial fur harvesting, commercial fishing, commercial harvesting of non-timber forest products; and • Mineral exploration and development.
<p><u>RUWA Prohibited Land Uses:</u></p> <p>The following land uses are prohibited, unless allowed by specific management direction at a defined location:</p> <ul style="list-style-type: none"> • Oil and gas exploration and development; • Commercial forestry; • Commercial agriculture including grazing; • Energy generation project greater than 0.5 MW, except as required by allowable commercial operations such as a mine; • Permanent energy transmission and communication corridors; • Permanent roads; and • Aggregate extraction, except as required by allowable commercial operations such as a mine.

** In the Restricted Use Wilderness Area, the additional rules and management restrictions described in Table 3.4 apply to allowable land uses.

3.2.2.2. Restricted Use Wilderness Area: Additional Rules and Management Restrictions

To achieve the wilderness and conservation objectives of the RUWA, and to reduce the potential for land use conflicts between First Nation traditional pursuits, wilderness tourism, guide outfitting and allowable industrial land uses, additional rules and management restrictions apply to all land use activities (Table 3.4).

Table 3.4: Additional rules and management restrictions in the Restricted Use Wilderness Area of the Peel Watershed Planning Region.

Topic	RUWA Additional Rules and Management Restrictions
New Surface Access	<ul style="list-style-type: none"> • All new surface access is to be temporary; • Proponents are required to complete a surface access management plan (for approval by the regulator) detailing: <ul style="list-style-type: none"> ○ How the identified values in the LMU will not be impacted by the proposed access; ○ Mitigation measures for impacted values; ○ Public access management and enforcement; and ○ Abandonment and reclamation. • Any new surface access will be built and managed as private access prohibiting public access (subject to an approved management plan); • Seasonal, winter only access, must be included as an option for consideration by the regulator; • In areas with more than one proponent, consideration must be given to shared access (and infrastructure). Shared access will require a “shared use agreement” between the users and approved by the regulator; and • Security based on the cost of returning the road to its natural state will be required.
Timing Windows	<p>Timing windows will be developed for important ecological and wilderness tourism periods. These may include:</p> <ul style="list-style-type: none"> • No flying zones or only high altitude flying over sheep habitat during spring lambing season (or other important conditions—to be developed). • It is recommended that a dedicated wilderness river travel timing window be established for Wild River Parks. During this peak wilderness travel period, mineral exploration activities on existing claims in the Wild River Park would not be allowed—active claim work would need to be scheduled outside of this time period. • Similar timing windows may be developed for guide outfitting. • Wilderness river travel or guide outfitting could still occur outside of the specified periods but there would be the upfront expectation that low level mineral exploration activities may be encountered.
Air Access Coordination	<p>Most land and resource use in the Peel Watershed, including low-level mineral exploration activity, is supported by helicopter and fixed-wing air transportation. To minimize potential conflicts between different user groups in the RUWA, the concept of an Access Coordination Committee or Manager will be established. While the regulation of aircraft is under federal jurisdiction, guidance on best practices and air access coordination can be encouraged. If timing windows are established for periods of activity on mineral claims, this helps to achieve coordination of aircraft supported activities. The concept for such a process is as follows:</p> <ul style="list-style-type: none"> • All land users with planned activities in the RUWA are required to

	<p>submit a general activity plan each year well in advance of the proposed activities. The location, timing, and nature of activities would be required (this step does not apply to mineral staking activities);</p> <ul style="list-style-type: none"> • All proposed activities would be posted on a publicly-available website; • An access coordinator (committee or person) would examine all proposed activities, and determine potentially conflicting activities. This would be assisted by comments and feedback left by land users on the website; • The access coordinator would work with land users to attempt to resolve potential conflicts between different user groups. • For multi-year projects, an overall master plan with yearly updates would be required.
Class 1 Mineral Exploration Activities	<ul style="list-style-type: none"> • Notification of activities may be required, regardless of size of program; • All RUWA rules and restrictions listed in this table (e.g., timing windows, air access coordination, surface access and off-road vehicles) will apply to all Classes of mineral exploration and development activities; • Proposed ground disturbance must be minimized and restored annually after activities have been completed (each season). This requirement promotes progressive reclamation and elevates multi-year projects to Class 2/3 activities, resulting in a full environmental assessment by YESAB.
Off-road Vehicles	<ul style="list-style-type: none"> • Prohibited use in sensitive areas (as defined by the Plan—wetlands, and alpine areas in spring, summer and fall). • Restricted to existing trails in immediate proximity of camps and facilities; and • Proposed use to support industrial or commercial activities, including tourism and guide outfitting, will require approval by the regulator.

3.2.3. Integrated Management Area (IMA)

The IMA is intended to be the ‘working landscape’ where most new industrial land use activities could occur. The goals of the IMA category are economic development and maintaining ecological integrity. As in the PA and RUWA, the pursuit of First Nation treaty rights may also occur. In the IMA, the type of activity that is or is not allowed within a LMU is not specified. The IMA land category is therefore considered to be ‘non-prescriptive’. Its management focus is ensuring current and future land use activity respects the ecological carrying capacity and sensitivity of the landscape, primarily by managing landscape-level land use intensity and extent.

The IMA is sub-divided into four different zones (Zones I – IV) based on the relative level of conservation or economic development considered acceptable. The four zones are described in Table 3.5. Figure 3.1 shows how the IMA zones are organized according to sensitivity to human-caused change and the potential risk to ecological and cultural resources. Managing the cumulative effects of land use activity is an important focus in the IMA. Cumulative effects management guidelines are described in Section 3.4.

Table 3.5: Overview of Integrated Management Area sub-categories, Zones I – IV.

INTEGRATED MANAGEMENT AREA (IMA)		
IMA Sub-category	Management Intent	Description
Zone I	Lowest development	<ul style="list-style-type: none"> • Very high ecological and heritage/cultural values within a sensitive biophysical setting. • Maintaining ecological integrity and protecting heritage and cultural resources is the priority. • Land uses are acceptable if they do not create significant functional disturbance². • All-season industrial infrastructure is discouraged.
Zone II	Low development	<ul style="list-style-type: none"> • High ecological and heritage/cultural values within a moderately sensitive biophysical setting. • Maintaining ecological integrity, protecting heritage and cultural resources, and minimizing land use impact is the priority.
Zone III	Moderate development	<ul style="list-style-type: none"> • Moderate ecological and heritage/cultural values within a moderately sensitive biophysical setting. • Conservative levels of land use are consistent with Zone III objectives.
Zone IV	Highest development	<ul style="list-style-type: none"> • Lower ecological and heritage/cultural values within a moderately sensitive biophysical setting. • Higher levels of land use are consistent with Zone IV objectives.

² See Section 3.4 for definition of functional disturbance.

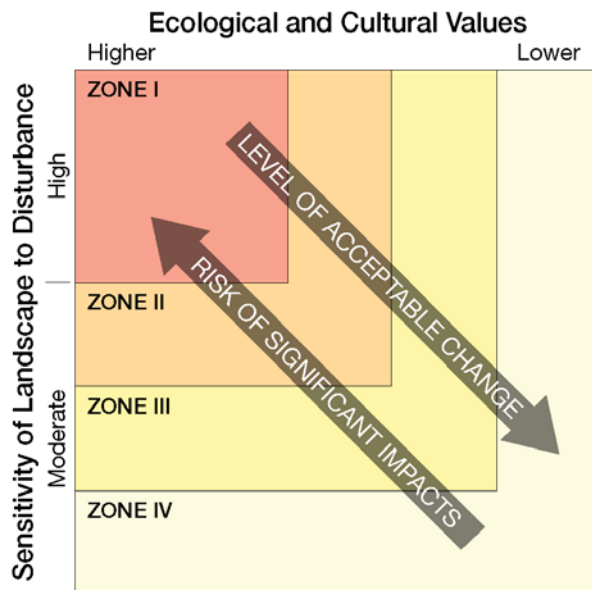


Figure 3.1: Zoning considerations for Integrated Management Area.

3.2.4. Overlay Zones

In the Peel region, some features require special consideration and additional management direction. **Overlay zones** apply to these features regardless of the land use category they occur within. Overlay zones are currently identified for two important features – the Dempster Highway Corridor, and Major River Corridors within the IMA. In the future, additional overlay zones may be developed.

3.2.4.1. Dempster Highway Corridor

Providing access to the western portion of the planning region, the **Dempster Highway Corridor** is both a transportation/industrial corridor and tourism resource. It offers the only all-season road access to the region. The highest levels of land use occur along the corridor, a pattern that will likely continue.

The Plan recommends that sub-regional planning should be completed for the Dempster Highway Corridor. The Plan shows the Dempster Highway Corridor as a two-kilometer-wide corridor for purposes of illustration only. Any sub-regional planning area would be defined by the participating governments. See Section 4.3.1.1 for more management direction about the Dempster Highway Corridor.

3.2.4.2. Major River Corridors

In the Peel region, there are several large rivers that require special management. In addition to the Wild River Parks (Wind, Bonnet Plume, Snake and Hart rivers – see Section 3.2.1, above), some important rivers also occur in the IMA, where higher levels of industrial land use are anticipated. These rivers have high cultural, recreational and biological importance.

The Ogilvie, Blackstone and a portion of the upper Peel rivers are identified as **Major River Corridors**. To limit potential effects on these rivers, new permanent infrastructure should not be allowed along them. This means that any river crossings should only happen in the winter on an adequate ice bridge. Major River Corridors are currently defined as the center line of the river channel with a one-kilometer buffer on each side, for a total corridor width of two kilometers. The Major River Corridors of the IMA assist in maintaining opportunities for First Nation traditional pursuits and other tourism and recreation activities.

3.3.2. Best Management Practices

Best management practices are ways of working that can reduce the time, intensity, or duration of land use activities³. Many best management practices developed for Yukon relate directly to achieving the goals of the IMA in this Plan. Appendix B provides references to applicable Yukon best management practices.

3.4. Cumulative Effects Indicators

The Plan provides two indicators for tracking the cumulative effects of land use in the RUWA and IMA. The indicators are:

1. **Direct Surface Disturbance:** the area of land physically disturbed by human activities. Such features as structures, roads, gravel quarries, seismic lines, and access trails all create physical *footprints* on the land. These footprints have a direct impact on habitat.
2. **Linear Density:** the total length of all human-created linear features (roads, seismic lines, access trails, etc.) in a given area. Linear density can be used as an indicator of fragmentation (the division of larger areas of habitat into smaller areas). The development of linear features may lead to increasing levels of access. Increased access may lead to greater harvesting of wildlife and fish, higher predation rates, and a change in how people and wildlife use the land. For this reason linear density is sometimes referred to as “access density.”

What are cumulative effects?

Cumulative effects are changes to the environment and/or society that result from a land use activity in combination with other past, present and future activities. Managing cumulative effects is best accomplished by applying a suite of integrated and coordinated actions to land management. Assessment, mitigation, government policy, legislation and planning all play a role. Managing the cumulative effects of land use can be an important outcome of applying a results-based management framework. An evaluation of cumulative effects is partially achieved through the measurement of indicators (for example, how much impact are we having on the land?).

3.4.1. Cumulative Effects Indicator Levels

The indicator levels recommended in the Plan provide guidance on the acceptable limits of human-caused disturbance in LMUs of the RUWA and IMA, areas where new industrial land uses may occur. An increase in the level of the cumulative effects indicators represents increased risk to valued ecological and cultural resources.

The recommended indicator levels are not intended to be an absolute cap on activities. In the IMA, the Plan uses these levels to try and balance potential risks to ecological and cultural resources with economic development.

As shown in Table 3.6, these indicator levels help define acceptable conditions within the RUWA, and are linked to each IMA zone (Zones I-IV). If an indicator level in a zone is reached or exceeded, the result may be undesirable effects on ecological and cultural resources.

³ A description of best management practices is provided by the Yukon Department of Energy, Mines and Resources, Oil and Gas Management Branch, 2007: http://www.emr.gov.yk.ca/oilandgas/best_management_practices.html#What_are_Best_Management_Practices.

There are two indicator levels:

1. Cautionary level

- means that indicators (measures of disturbance) are close to reaching undesirable levels;
- provides an early warning signal; and
- allows time for pro-active management to avert or limit potential impacts.

2. Critical level

- represents the point at which the indicators have reached or surpassed acceptable levels.

3.4.2. Monitoring of Cumulative Effects Indicators

Cumulative effects indicators must be monitored to see if indicator levels are being kept within an acceptable limit (see Section 3.4.1, above). Land uses that create **functional disturbances** contribute to the level of cumulative effects indicators.

Some types of land use activities and surface disturbances do not contribute to cumulative effects indicator levels. Activities considered exempt from the creation of functional disturbances are:

- new linear features, such as trails or seismic lines, less than 1.5 m in width;
- land use activities that occur on frozen water bodies;
- winter work in non-forested areas, or that does not result in the clearing of trees; and
- winter work that uses existing disturbances and linear features.

Functional disturbances are physical disturbances that disrupt the soil or water systems, or that require tree cutting.

Cumulative effects indicator levels are calculated within each LMU or sub-unit of the RUWA and IMA. As human-caused surface disturbances recover through natural re-vegetation or active reclamation, they are subtracted from the total amount of disturbed area within the LMU or sub-unit. A human-caused surface disturbance is considered recovered under the following conditions:

- when it no longer enables travel or access by wildlife and people (In forested or tall shrub areas, a feature can be considered recovered when it contains woody vegetation – trees and shrubs – approximately 1.5 m in height);
- when increased run-off and sediment loading is no longer significant; and
- when its contours roughly match that of the original contours.

Table 3.6: Proposed levels of cumulative effects indicators for the Restricted Use Wilderness Area and for each Integrated Management Area zone*. Cumulative effects indicator levels are calculated within each LMU of the RUWA and IMA.

Land Category	Zone	Management Intent	Cumulative Effects Indicators	Cautionary Level **	Critical Level
RUWA	n/a	Conservation	Surface disturbance	0.15%	0.2%
			Linear density	0.075 km/km ²	0.1 km/km ²
IMA	Zone I ***	Lowest development	Surface disturbance	0.075%	0.1%
			Linear density	0.075 km/km ²	0.1 km/km ²
	Zone II	Low development	Surface disturbance	0.15%	0.2%
			Linear density	0.15 km/km ²	0.2 km/km ²
	Zone III	Moderate development	Surface disturbance	0.375%	0.5%
			Linear density	0.375 km/km ²	0.5 km/km ²
	Zone IV	Highest development	Surface disturbance	0.75%	1.0%
			Linear density	0.75 km/km ²	1.0 km/km ²

* These levels have been adopted from the adjacent North Yukon Regional Land Use Plan. The landscapes, potential land-uses, and ecological values of the North Yukon Region are comparable to those of the Integrated Management Area of the Peel Watershed Planning Region. During the North Yukon regional planning process, computer models were used to help understand what levels of disturbance could occur without undue impact on regional values, like the Porcupine Caribou Herd (Francis and Hamm 2009).

When combined with the additional rules and management restrictions listed in Table 3.4, and the Protected Area designation of the associated Wild River parks (Wind, Bonnet Plume, Snake and Hart rivers), subsequent analysis completed for the RUWA land category suggested the recommended RUWA indicator levels would be reasonable values.

** The cautionary level is established as 75% of the upper, or critical, level.

*** While the Plan does not currently recommend a Zone I land designation, it is included in this table for consistency with adjacent regions. The intent of Zone I is to discourage development of new all-season industrial infrastructure, aggregate extraction, and human settlements/structures.

4. General Management Direction

This section provides general management direction for the Peel Watershed Planning Region. General management direction identifies specific recommendations, strategies and best management practices that assist land managers to meet Plan goals. Much of this section provides direction for areas where new industrial activities are allowed – the IMA and RUWA land categories.

Two types of recommendations are made – policy and research. Policy recommendations provide direction on land use issues and their management. Research recommendations suggest topics to be investigated in more detail or information gaps to be filled. Policy and research recommendations are summarized in Appendix C.

These recommendations, strategies, and best management practices are designed to achieve the Plan’s core principle of sustainable development. This section is organized around the three major components of sustainable development:

- Environment;
- Social (heritage and culture); and
- Economy.

For a discussion of how specific management direction is applied to each LMU, see ‘Special Management Considerations’ for each LMU in Section 5 of this Plan. An overview of the ecological, cultural and economic values and resources referenced in this section is provided in Maps 1-6, Appendix A. Detailed maps and descriptions of resource values are contained in the Peel Watershed Planning Region Resource Assessment Report (PWPC 2008a,b).

The management direction proposed here can be integrated into existing processes, such as the land application review process. Other management plans in effect or in preparation for the region should be consulted for additional direction and guidance, as required (*see* Appendix E).

Strategies and Best Management Practices

This Plan assumes that whenever possible and practical, the recommended strategies and best management practices will be considered and implemented. In the IMA, many operational decisions regarding the strategies and best management practices are at the discretion of land users, assessment boards and agencies. In the RUWA, specific operating practices are described in Table 3.4. A summary of strategies and best management practices from this section is provided in Appendix B.

4.1. Environment

Sustaining regional wildlife and fish populations requires the maintenance of habitat integrity and the protection of significant habitats. Maintaining large, intact wilderness areas within the planning region will ensure that healthy fish and wildlife populations remain viable into the future. Many of the ecologically important areas that support wildlife and fish populations are shown in Map 3, Appendix A.

Strategies to maintain habitat integrity for wildlife and fish populations, and the wilderness character and water quality of the region, are described below. Each of the strategies and recommendations are designed to assist the Plan achieve its four goals related to Environment:

Environment Goals
<p>Goal 1 Maintain the wilderness character of much of the planning region.</p>
<p>Goal 2 Maintain ecological integrity by ensuring terrestrial and aquatic habitats remain in a suitable condition to sustain healthy native wildlife and fish populations and communities within their natural ranges.</p>
<p>Goal 3 Maintain the quantity, quality, and rate of flow of water within its natural range.</p>
<p>Goal 4 Ensure that any lands disturbed by human activities are reclaimed or restored to their natural state.</p>

4.1.1. Cumulative Effects Management

Cumulative effects are changes to the environment and/or society caused by a series of land-use activities over time (past, present, and expected future activities). Negative effects are called cumulative impacts. While one activity may have only a small effect, the combination of a number of activities may have a large impact.

The best way to manage the cumulative effects of land use is to integrate and coordinate actions and decisions. Assessment, mitigation, government policy, legislation and planning all play a role. In the absence of regional planning, project assessment is not able to manage the potential regional effects of multiple land uses.

Key issues related to cumulative effects management:

- Assessing and mitigating land-use activities on a project-by-project basis are not effective strategies for managing the potential cumulative effects of land use activity.
- Cumulative effects management must consider both direct and indirect effects to valued resources, resource users and affected communities.

- The effects of multiple land use activities must be monitored in order to evaluate potential cumulative impacts.
- A benchmark must be determined to define acceptable levels of cumulative impacts.
- Assessing the cumulative effect of land use on fish and wildlife populations is challenging.

In the IMA and RUWA, this Plan focuses on the management of cumulative environmental effects by establishing defined benchmarks for surface disturbance impacts. Recommended cumulative effects indicator levels, and the monitoring of those indicators, is a central focus for maintaining the ecological integrity of these areas. The IMA land use designation system (*see* Section 3.4) is built around the concepts of managing different levels of cumulative surface disturbance. To assist in achieving the conservation and wilderness goals of the RUWA, it has adopted the most conservative levels of acceptable disturbance levels from the IMA tiered system.

At this time, socio-economic indicators and effects are not directly addressed by this Plan but recommendations for consideration during implementation and in future Plan reviews are provided in Table 6.2.

Surface Disturbance

Human-caused surface disturbance – the physical human *footprint* on the land – is the most visible legacy of land use activities. Increasing levels of surface disturbance and habitat change mean greater risks to native wildlife and fish populations and to ecosystem integrity.

In this Plan, the amount of surface disturbance in the region is currently measured in two ways:

- Total area of human-caused footprint (direct surface disturbance); and
- Total length of roads, trails and other linear features, per unit area (linear density).

See Section 3.4 for more detailed information on surface disturbance indicators, and their relationship to cumulative effects monitoring.

Historical oil, gas, and mineral exploration created approximately 7,000 kilometres of seismic lines and trails, resulting in thousands of hectares of surface disturbance in the Peel region. Almost all historical linear features are seismic lines, tote roads, and winter trails that are in various stages of recovery.

Some disturbances are relatively permanent and will remain visible for decades, while other features have recovered to the point where they no longer function as surface disturbances. Very few of these linear features are actively used by people.

Key issues related to surface disturbance:

- Current knowledge of recovery of surface disturbance in this region is poor.
- Surface disturbances have direct and indirect effects on wildlife and fish.
- The wilderness character of the landscape for human use and enjoyment can be affected for long periods of time.
- Managing levels of surface disturbance is a central focus of the cumulative effects management strategy for the Integrated Management Area. Current levels of surface disturbance must be

compared to recommended indicator levels in order to monitor and track the cumulative effects of land use.

Recovery of Human-Caused Surface Disturbances

A human-caused surface disturbance may be considered recovered, or returned to its natural state, under the following conditions:

1. When the feature no longer enables travel or access by wildlife and people.
 - in forested or shrubby areas, a feature is covered by woody vegetation (trees and shrubs) at least 1.5 metres in height.
 - in areas mostly covered with low-growing vegetation (less than 1.5 metres), a feature can be considered recovered when (a) it is covered with native species roughly the same height and composition as the surrounding dominant vegetation.
2. When increased run-off and sediment loading returns to background levels.
3. When its contours roughly match the original contours.
 - it may be necessary to re-contour certain disturbances, such as bridge abutments or elevated road beds, before the site can be considered fully restored to natural conditions.
4. When all debris and human-brought materials have been removed from the site.

RECOMMENDATIONS

Managing the level of surface disturbance is central to the management of cumulative impacts resulting from land use activity. In order to maintain surface disturbance at acceptable levels, the following policy recommendation is proposed:

POLICY RECOMMENDATION # 1	<ul style="list-style-type: none"> • <i>In the IMA and RUWA, the amount of surface disturbance in a landscape management unit or sub-unit should be maintained below the cumulative effects indicator levels recommended in the Plan.</i>
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In order to facilitate necessary monitoring and tracking of surface disturbance recovery and effects, the following research recommendations are proposed:

RESEARCH RECOMMENDATION # 1	<ul style="list-style-type: none"> • <i>To provide a benchmark for the monitoring of cumulative effects indicator levels, the status of existing surface disturbances should be documented.</i>
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RESEARCH RECOMMENDATION # 2	<ul style="list-style-type: none"> • <i>The effectiveness of the Plans’ definition of “surface disturbance recovery” in dealing with water run-off and sediment loading should be evaluated, especially in non-forested/shrubby areas.</i>
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MANAGEMENT STRATEGIES

Please refer to sections 4.1.2 and 4.1.3, below, for strategies to reduce surface disturbance and cumulative land use impacts on wildlife, fish and their habitats. Some strategies that reduce impacts to heritage and cultural resources also relate to managing surface disturbance, and people’s use of those features (*see* sections 4.2 and 4.3.1, respectively). Best management practice references are listed in Appendix B.

4.1.2. Disturbance to Wildlife and Terrestrial Habitats

The Peel region contains a number of important wildlife species that are sustained by a diversity of intact habitats. Healthy populations of grizzly bear, moose, sheep, woodland caribou, Peregrine Falcon and other iconic northern species reside in the Peel. Part of the winter range of the Porcupine Caribou Herd is also in the region. Wildlife is regulated under the Yukon *Wildlife Act*, or, depending on status, the federal *Species at Risk Act*. Locations of important terrestrial habitats and areas of wildlife use are displayed in Map 3, Appendix A.

First Nation peoples have relied on the wildlife of the region for thousands of years. Both aboriginal and non-aboriginal people continue to rely on these species today. The integrity and availability of adequate high-quality habitats, and the protection of sensitive habits, is essential for the long-term viability of wildlife populations in the Peel region.

Key issues related to wildlife and their habitats:

- Industrial land-use activities, the level of aerial traffic required to support these activities, and the increased access made possible through associated roads and trails, may result in wildlife avoiding or reducing their use of key habitats such as nesting sites, mineral licks, prime foraging habitat, or movement routes.
- Increased road and trail access may result in increased harvesting pressures or higher rates of mortality due to vehicle collisions or predation.

RECOMMENDATIONS

Specific policy or research recommendations regarding the management of wildlife and wildlife habitats are not required at this time. The extent of the PAs, combined with the identified management strategies, recommendations and best management practices for the RUWA and IMA, are currently considered adequate to protect wildlife and their habitats.

In order to highlight the importance of adequate environmental assessment and impact mitigation, and to provide necessary information for monitoring, the following policy recommendation is proposed:

POLICY RECOMMENDATION # 2	<ul style="list-style-type: none"> • <i>Ensure adequate wildlife and habitat baseline data collection is completed prior to any development activities occurring in the Peel Watershed Planning Region.</i>
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MANAGEMENT STRATEGIES

The following general management strategies should be used to assist in mitigating the potential effects of land use activities on wildlife and terrestrial habitats – many refer to surface access and transportation features (*see* Section 4.3.1 for more information):

MANAGEMENT STRATEGIES – WILDLIFE and TERRESTRIAL HABITATS
<ol style="list-style-type: none"> 1. Reduce size, intensity and duration of human-caused physical surface disturbances (e.g., utilize low impact seismic, winter roads and principle of full reclamation). 2. Coordinate, manage and minimize new road and trail access. <ul style="list-style-type: none"> • To the extent possible, avoid routing new roads and trails through concentrated seasonal use areas and significant habitats (<i>see</i> Map 3, Appendix A for locations). • Avoid using or crossing seasonal migration corridors with new access routes. 3. Avoid or reduce activities in significant wildlife habitats during important biological periods (e.g., utilize timing windows). <ul style="list-style-type: none"> • Avoid sensitive sheep habitats and key areas, with emphasis on winter range avoidance (<i>see</i> Map 3, Appendix A for locations). • Porcupine Caribou are typically in the region during winter period (December – March) • Avoid concentrated woodland caribou use areas (<i>see</i> Map 3, Appendix A for locations) 4. Reduce other human land use-related disturbances such as noise, smell and light.

The strategies listed here summarize a suite of detailed best management practices designed to reduce impacts and potential risks to wildlife and their habitats. Specific guidance and management considerations for individual LMUs are provided in Section 5. Best practices for specific wildlife species (woodland and barren ground caribou, moose, sheep, bears, waterfowl and others) are described in a number of Yukon documents. Please refer to Appendix B for a list of accessible resources.

4.1.3. Disturbance to Fish, Aquatic Habitats and Hydrology

Maintaining the quantity and quality of water in the Peel region is an important goal of the Plan. The waters of the Peel region provide drinking water for the downstream residents of Ft. McPherson and Aklavik when on the land, and support a number of fish species. Wetlands and riparian environments provide important habitats for both fish and waterfowl.

Many fish and waterbird species have cultural and subsistence importance to local First Nations. However, fish and fish habitats in the region remain poorly understood, particularly in the tributaries of

the Peel River. Waterbirds (e.g., ducks, geese, swans, loons, grebes, gulls, terns, and shorebirds) rely on wetlands and riparian environments with the highest levels of seasonal use occurring in the wetland complexes of the Peel Plateau and Bonnet Plume Basin. Fish and fish habitats are regulated under the federal *Fisheries Act*, while the federal *Migratory Birds Convention Act* applies to waterbirds. Locations of some important fish and waterbird habitats are shown in Map 3, Appendix A.

The Yukon - Northwest Territories Transboundary Water Management Agreement (2002) sets out a series of water management and monitoring principles for the Peel watershed. Water flow has been measured for decades at a small number of gauging stations in the watershed. Water quality and chemistry have also been measured at more locations, but only infrequently. Water quality and flows in the Peel Watershed are naturally very dynamic. Winter flows are typically very low but of high quality, while in the summer flows reach their highest level but are of lower water quality due to higher sediment loads. Water quality also varies naturally with the underlying rock formations. Currently, water quality and flow in the planning region are likely unaltered by human activity.

Key issues related to fish, aquatic habitats and hydrology:

- Fish and waterfowl are sensitive to aquatic habitat disturbances and changes in water quality and quantity. Both natural and human-caused changes to land and vegetation around water features affects water quality and quantity.
- Fish over-wintering and spawning areas are of critical importance to the maintenance of healthy fish populations. These areas are particularly sensitive to habitat disturbances and changes in water quality and quantity but in the Peel region, their locations are poorly understood.
- Alterations to wetlands, resulting from the construction of all-season roads, well pads, and similar industrial features can cause long-term disruption of wetland function and habitat use.
- If impacted by all-season roads or other infrastructure, restoring disturbed wetlands and riparian habitats to their natural state is very difficult.
- Rivers, lakes and wetlands are important for both ecological function and land-use activity. The potential for impacts, and land-use conflicts, in these areas is high, particularly along the Major River Corridors and at important fly-in lakes.
- Given the naturally low water flow volumes during winter months, without major storage structures water availability may be inadequate to support large-scale industrial activities during this period.
- Historical water quality and flow data is sparse and may not be enough to determine meaningful cumulative effects indicators.

RECOMMENDATIONS

Specific policy recommendations regarding the management of fish and aquatic habitats are not required at this time. The extent of the PAs, in combination with identified management strategies, other recommendations and best management practices in the RUWA and IMA, are currently considered adequate to protect fish and aquatic habitats in the region. The greatest risk of aquatic impacts is currently in the IMA, particularly near the Dempster Highway.

In order to highlight the importance of adequate environmental assessment and impact mitigation, and to provide necessary information for monitoring, the following policy recommendation is proposed:

POLICY RECOMMENDATION # 3	<ul style="list-style-type: none"> • <i>Ensure adequate fish, waterbird, aquatic habitat and water quality baseline data collection is completed prior to any development activities occurring in the Peel Watershed Planning Region.</i>
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In order to improve management decisions, and to better understand fish and aquatic habitats, the following research recommendations are proposed:

RESEARCH RECOMMENDATION # 3	<ul style="list-style-type: none"> • <i>Confirm overwintering and spawning locations of important fish species, with an initial priority on the Integrated Management Area, prior to any new major developments occurring.</i>
RESEARCH RECOMMENDATION # 4	<ul style="list-style-type: none"> • <i>Support and, if possible, expand current water quality and flow monitoring programs to the Major River Corridors of the IMA (Ogilvie, Blackstone and Upper Peel). This will provide benchmarks for the monitoring of potential cumulative effects indicators. Monitoring should include benthic invertebrate communities and water chemistry.</i>
RESEARCH RECOMMENDATION # 5	<ul style="list-style-type: none"> • <i>A survey of wetlands in the Peel region, with initial emphasis on the IMA and RUWA, should be completed prior to any new major developments occurring. These surveys should include relevant indicators of wetland health.</i>

MANAGEMENT STRATEGIES

The following general management strategies should be used to assist in reducing the potential effects of land use activity on fish, aquatic habitats and water quality – many refer to surface access and transportation features (*see* Section 4.3.1 for more information):

MANAGEMENT STRATEGIES – HYDROLOGY and AQUATIC HABITATS

1. Minimize surface and vegetation disturbance in riparian areas.
2. Avoid or minimize industrial land use activities in wetlands and riparian areas.
 - Activities in the vicinity of wetlands and wetland complexes should be carried out during the winter period.
 - Locations of all-season infrastructure should maintain a minimum distance of 100m from wetlands and lakes¹.
3. Prohibit significant levels of winter in-stream water withdrawals in sensitive over-wintering fish habitat².
4. Avoid large-scale industrial and/or infrastructure projects within Major River Corridors.
5. Avoid in-stream aggregate (gravel) extraction.
6. Prohibit direct disturbance to sensitive over-wintering and spawning habitats.
7. Minimize stream crossings; if stream crossings are required ensure proper bridge and crossing structures are used, and are designed for ease of removal (i.e. temporary structures).
8. Avoid direct or indirect blocking of identified fish migration routes.

The strategies listed here summarize a suite of detailed best management practices designed to minimize impacts and potential risks to hydrology, fish and aquatic habitats. These detailed management practices are described in a number of Yukon documents. Please refer to Appendix B for a list of accessible resources. Specific guidance and management considerations for individual LMUs are provided in Section 5.

4.1.4. Contaminated Sites

Several contaminated sites have been identified in the region. Based on existing information, three sites (two connected with the old Hart River mine and one with the Crest iron deposit) require remediation, and eleven require updated assessments. One or more sites have been remediated. Most sites consist of empty fuel drums and assorted debris left from historical oil and gas or mineral exploration.

The identified sites do not currently appear to be a major threat to the region's ecological integrity or the health of wildlife and fish populations. However, contaminated sites are a concern for local land users and surrounding communities. They also affect the perception of wilderness desired by tourism and big game outfitting.

¹ Source: Petrula (1994).

² Department of Fisheries and Oceans, or other relevant management authority, to determine acceptable level of water withdrawals.

RECOMMENDATIONS

The following policy recommendation regarding contaminated sites management is proposed:

POLICY RECOMMENDATION # 4	<ul style="list-style-type: none">• <i>Contaminated sites should be remediated, with the priority being those sites with the highest potential to negatively affect water quality and/or tourism and big game outfitting.</i>
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MANAGEMENT STRATEGIES

The most important strategy to reduce potential impacts of contaminated-sites is prevention. New developments require careful planning, mitigation and operating practices, and remediation and monitoring.

4.2. Social (Heritage and Culture)

The Peel region is a land rich in history, legend and stories, and is host to many identified paleontological resources, historical sites and artifacts. Protecting, conserving and promoting the social, heritage and cultural resources and values of the Peel region is an important goal of this Plan³.

Heritage resources include sites and objects that are 45 years old or older and relate to human history, including archaeological and historic sites and artifacts. This definition also includes paleontological resources – fossil and other remains of extinct or prehistoric plants and animals. Cultural resources include places and locations associated with events, stories, and legends.

In the Peel region, the continuation of First Nation culture and traditional economy depends on a healthy environment, and people’s ongoing connection with the land. Maintaining the integrity of, and access to, important community use areas is therefore required. Community use areas include locations for subsistence harvesting, cultural pursuits, and travel.

Some significant heritage resources, community use areas, and culturally important areas for First Nations are shown in Map 4, Appendix A. These areas were identified and mapped based on information provided by local and traditional knowledge, the Gwich’in Social and Cultural Institute, and the Yukon Department of Tourism and Culture, Cultural Services Branch.

Heritage and culture is closely linked with other parts of the Plan – subsistence harvesting (Section 4.3.7), trapping (Section 4.3.8), and the environmental topics discussed in Section 4.1 all play roles in supporting social considerations. Strategies to protect and minimize impacts to heritage and cultural resources are described below. Each of the strategies and recommendations are designed to assist the Plan achieve its social goal:

Social (Heritage and Culture) Goal
<p>Goal 5 Recognize, conserve, and promote the heritage and cultural resources and values, and traditional land use practices, of affected First Nations and the Yukon.</p>

MANAGEMENT STRATEGIES

The following general management strategies should be used to reduce the potential impact of land use activity on heritage and cultural resources and values, and on community use areas – most strategies rely on avoidance and timing of activities. All require some knowledge of the location of identified resources, sites and use areas:

³ At this time, the Plan does not focus on all social planning considerations—only heritage and cultural issues are addressed.

SOCIAL (HERITAGE AND CULTURE)

MANAGEMENT STRATEGIES

1. Avoid or minimize land use impacts in the vicinity of identified heritage and historic resources.
2. Avoid or minimize land use conflicts by avoiding or reducing the level of land use activities in important subsistence harvesting and current community use areas.
3. Avoid or reduce activities in significant heritage and current community use areas during important seasonal use periods (e.g., utilize timing windows).
4. Where impacts to identified heritage and cultural sites and resources may occur, implement the following appropriate mitigation practices.
 - Work camps associated with resource exploration and development activity should be sited near areas of resource production, and away from identified heritage routes, historic sites, and current community use areas.
 - Implement immediate stop work orders if evidence of heritage or cultural values is detected, to assess significance.

The strategies listed here summarize a suite of detailed best management practices designed to minimize impacts and protect heritage and cultural resources and values. These detailed management practices are described in a number of reference documents. Please refer to Appendix B for a list of accessible resources.

4.2.1. Heritage and Historic Resources

Important First Nation heritage resources include camps/cabins, historical fish traps, travel routes, hunting/fishing/trapping areas, and caribou fences. Many camps and cabins are S-sites (*see* Map 1, Appendix A). S-sites are site-specific Yukon First Nation settlement lands of heritage, cultural or traditional economic significance to the First Nation.

Heritage and historic resources are regulated by the Yukon *Historic Resources Act*. As defined in the *Act*, historic resources include:

- historic sites,
- historic objects, and
- any work or assembly of works of nature or of human endeavour that is of value for its archaeological, palaeontological, prehistoric, historic, scientific, or aesthetic features.

Historic objects include:

- objects that are more than 45 years old and have been abandoned,
- archaeological objects,
- palaeontological objects, and
- objects designated under subsection (2) of the *Historic Resources Act* as a historic object.

The location of identified heritage and cultural resources is shown in Map 4, Appendix A. Not all resources or their locations are known, requiring a cautious approach to land use and resource development.

Key issues related to heritage and historic resources:

- While many resources have been identified and their locations are known, new resources and sites are discovered regularly.
- Some heritage resources, such as brush structures and caribou fences, may be difficult to recognize, and are easily disturbed.
- Some areas, with high concentrations of identified heritage and historic resources, may require special protection measures.
- Mining and oil and gas interests in the Peel region overlap with some identified heritage and historic resources, creating the potential for impacts and the loss of resources.

RECOMMENDATIONS

In order to protect and conserve heritage and historic resources in the Peel region, the following policy recommendations are proposed:

<p>POLICY RECOMMENDATION # 5</p>	<ul style="list-style-type: none"> • <i>Ensure adequate heritage and historic resource surveys and data collection are completed prior to any development activities occurring in the Peel Watershed Planning Region.</i>
<p>POLICY RECOMMENDATION # 6</p>	<ul style="list-style-type: none"> • <i>Heritage and historic resource education materials should be developed for tourism operators and clients, big game outfitters and clients, and other workers to help understand and identify potential heritage resources, sites and artifacts in the Peel Watershed Planning Region.</i>
<p>POLICY RECOMMENDATION # 7</p>	<ul style="list-style-type: none"> • <i>The Gwich'in Social and Cultural Institute (GSCI 2003) has proposed that two sites in LMU #14 (Peel River), Tshuu tr'adaojüich'uu and Teetl'it njik, be recommended for National Historic Site designation (these two areas are shown in Figure 4.1, below). Based on agreement between the Gwich'in Tribal Council and Parks Canada, a National Historic Site designation should be considered for designating these culturally important sites. A National Historic Site designation would be consistent with the PA designation for this LMU.</i>

The management strategies listed at the beginning of this section (4.2) are relevant to the management of heritage and historic resources.

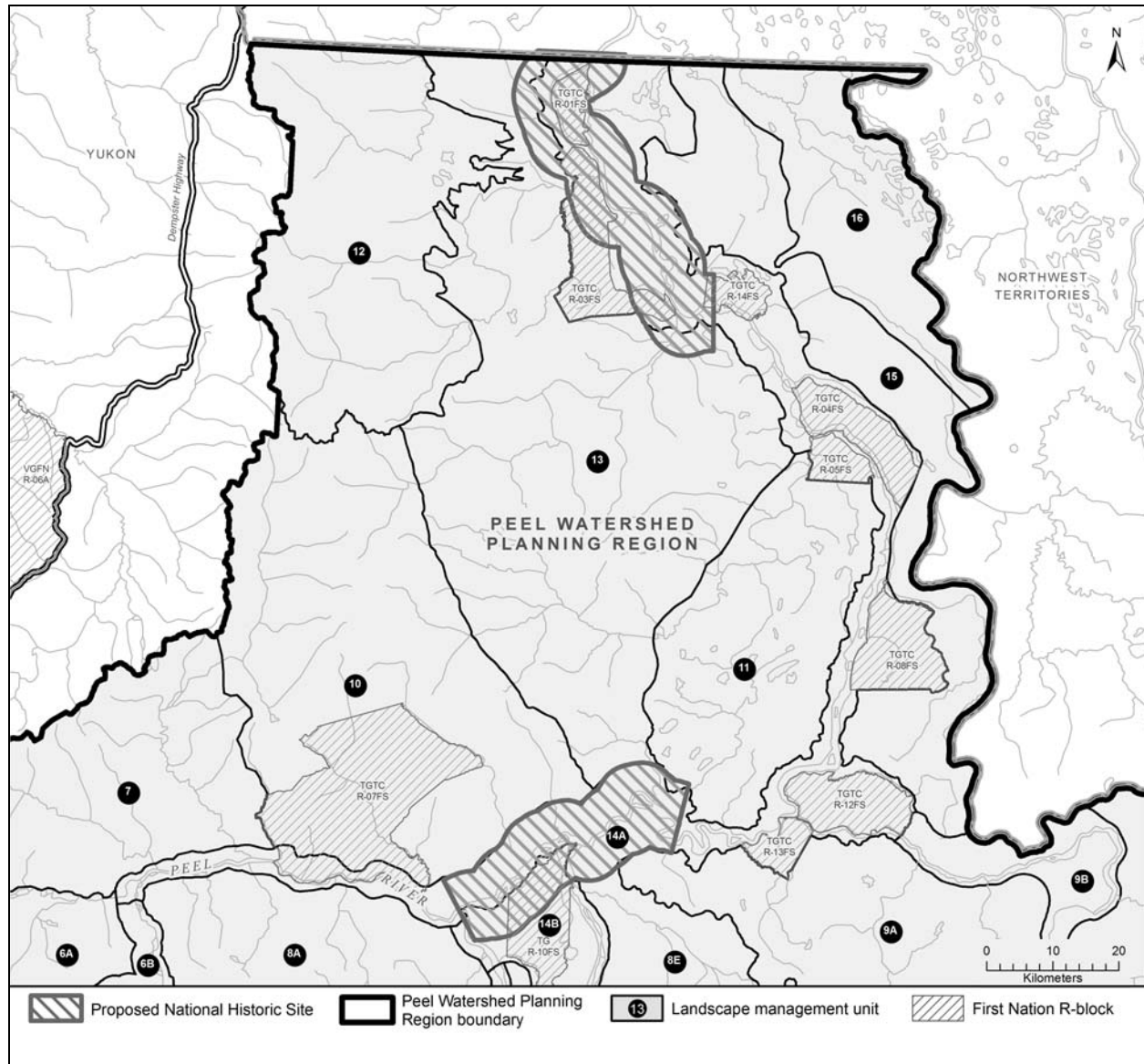


Figure 4.1. The Tshuu tr'adaojich'uu and Teet'it njik sites located along the Peel River, as recommended for National Historic Site designation by Gwich'in Social and Cultural Institute (GSCI 2003).

4.2.2. Community Use Areas

Community use areas support such activities as hunting, fishing, trapping, woodcutting, berry picking, and general travel. Local First Nations and other Yukon residents spend a considerable amount of time on the land participating in various seasonal activities. The use and enjoyment of community areas depends on the continued health of the land, water, ecosystems, and wildlife and fish resources. The long-term availability and health of community use areas contributes to the maintenance of First Nations culture and the traditional economy.

Community use areas are shown in Map 4, Appendix A, as 'General Land Use'. Various areas are used seasonally throughout the region. Summer activities focus on the main rivers, with the Peel main-stem

receiving the highest level of use. In winter, snowmobile travel occurs between Mayo and Ft. McPherson, and other areas in the region. The timing of these activities, particularly harvesting, varies in response to the availability of resources and travel conditions. Proponents and land users are encouraged to contact First Nation land and resource management offices for further information regarding community use areas.

Key issues related to community use areas:

- The location and level of use of all community use areas are not well documented.
- Use areas may change over time, given availability of resources and travel conditions.
- Conflicts between subsistence harvesting and industrial land uses are likely to occur wherever they overlap.

RECOMMENDATIONS

Specific policy recommendations regarding the management of community use areas are not required at this time. The extent of the PAs, RUWA and Major River Corridors, in combination with identified management strategies, other recommendations and best management practices, are currently considered adequate to maintain community use areas in the region.

The management strategies listed at the beginning of this section (4.2) are relevant to the management of community use areas.

4.3. Economy

The Peel region contains a number of economic interests and potentials. This Plan considers a range of renewable and non-renewable land uses and sectors, including traditional economy. Recommendations and guidance are provided in the following areas: transportation (access), mineral resources, oil and gas resources, aggregate resources, tourism and recreation, forest resources, subsistence harvesting, trapping, and big game outfitting.

The following maps in Appendix A should be consulted for locations of economic potential and interests:

- Map 4 – First Nations subsistence harvesting and general land use;
- Map 5 – Renewable resources (tourism and recreation, trapping and big game outfitting); and
- Map 6 – Non-renewable industries (transportation, minerals and oil and gas).

This section includes a number of recommendations but does not include detailed management strategies. The recommendations, strategies and best management practices from Section 4.1 (Environment) and Section 4.2 (Social) are used to reduce the potential impacts of land use on environmental and heritage and cultural values. In this Plan, transportation (access) receives heightened attention.

This Plan strives to achieve the following economic goals:

Economic Goals
<p>Goal 6 Facilitate economic opportunities and activities that result in benefits to surrounding communities, affected First Nations, and Yukon as a whole, and that contribute to achieving the goals established by this Plan.</p>
<p>Goal 7 Provide land use certainty and minimize land use conflicts throughout the region.</p>
<p>Goal 8 Maintain future land use options by adopting a cautious but flexible approach to land and resource decision-making.</p>

4.3.1. Transportation (Access)

The pattern of land use and economic development is closely linked to transportation networks and infrastructure, especially in remote northern jurisdictions. Roads and people's use of them create many of the impacts of industrial land use, particularly to wildlife, fish, and renewable resources. For these reasons, transportation and access are discussed as a separate topic.

Road (surface), air, and water are important modes of transportation in the region, but options are currently limited. Apart from the all-season Dempster Highway, surface access relies on the construction of ice roads or winter roads. First Nations people, tourists, and recreation users travel on the major rivers, especially the Peel, Wind, Bonnet Plume, and Snake. There are a limited number of rough airstrips and a small number of well-used lakes that can be reached by float plane.

All-season Access

The term *all-season surface access* in this Plan refers to gravel or paved roads and the associated roadbed as defined under the *Yukon Highways Act*. Though generally not required for resource exploration, all-season roads (or other all-season transportation infrastructure) are required for conventional approaches to developing most mineral and hydrocarbon resources.

In the IMA and RUWA, where new roads are allowed to be constructed, when a proponent is considering access options, the following hierarchy should apply:

1. Air access first,
2. Winter roads and trails second, and finally, if absolutely required,
3. All-season roads (and railways) last. If all-season access is required, then the principle of full reclamation shall apply.

Under this Plan, any new all-season road (where and when they occur in the IMA and RUWA) is to be temporary. Once the development activity that required the road has concluded, and reclamation plans are complete, all associated access development should be reclaimed. This Plan does not endorse any new roads being maintained in perpetuity.

Key issues related to transportation and access:

- Roads and other linear features reduce the wilderness character of an area.
- Roads and other linear features result in direct loss and fragmentation of wildlife habitat, and cause indirect impacts on wildlife. Potential indirect effects include avoidance or reduced use, increased harvest pressures, and/or increased levels of predation.
- In mountainous areas, road development usually takes place in valley bottoms, alongside major watercourses. These areas have high ecological and cultural values.
- All-season roads and routes tend to persist for very long periods of time, making full decommissioning and reclamation difficult.
- Managing people's use of roads (access management) in remote areas such as the Peel region is difficult.

- Airstrips and float planes create new access points. This expands human activities and impacts into areas that used to be out of reach.
- Improperly constructed stream crossings cause impacts to fish through increased sedimentation or by creating blockages to fish passage.

4.3.1.1. Existing Surface Access

Dempster Highway

The Dempster Highway is an important corridor for many activities, including transportation, tourism, subsistence harvesting, and communications. The highway is critical for future economic development in northern Yukon and Northwest Territories. Uninterrupted operation and maintenance of the Dempster Highway is therefore a priority.

There are land uses and interests that overlap along the Dempster Highway. It is promoted as a scenic tourist route and as an industrial/ transportation corridor for both the Yukon and Northwest Territories. A Yukon government and northern Yukon First Nations (VGFN, TH, and NND) Dempster Highway partnership agreement is in place.

Key issues related to the Dempster Highway:

- The highway is a multiple-use corridor. It must be maintained to support land use activity, now and in the future, without undermining the heritage, social and ecological resource values around the highway.
- A future pipeline and its infrastructure and telecommunications would probably parallel the highway.
- There is potential for tourist infrastructure, such as lodges, along the Dempster Highway.
- The only “rubber-tire” or front-country tourism in the Peel region is along the Dempster Highway. Viewscapes and hiking opportunities from the highway are valuable.
- There are many archaeological sites and culturally important areas in the Dempster Highway corridor.
- Wildlife managers and boards are concerned that the high level of hunting along the Dempster Highway is impacting the Porcupine Caribou Herd, and possibly the Hart River herd.
- Gravel mining to support Dempster Highway maintenance and future development causes direct disturbance to wildlife and fish habitat.
- Wildlife viewing and highway maintenance activities may be impacting use of key wildlife habitats (e.g., mineral licks, nesting sites).

RECOMMENDATIONS

Because of the overlapping land uses and issues concentrated along the Dempster Highway Corridor, this area of the Peel region requires more detailed analysis and planning. Therefore, sub-regional planning is needed along this corridor. This Plan temporarily defines it as being two-kilometres wide. The following policy recommendation is provided:

POLICY RECOMMENDATION # 8	<ul style="list-style-type: none">• <i>A sub-regional plan for the Dempster Highway Corridor should be developed through co-operation of the Yukon government and affected First Nations. The sub-regional plan should consider the following:</i><ul style="list-style-type: none">○ <i>The corridor planning area should be defined jointly by the Yukon government and affected First Nations.</i>○ <i>Where the Dempster Highway passes through PA land use designations (LMU #2 and #4), the corridor should be managed with a higher level of conservation focus. This may include limits on aggregate extraction and new above-ground infrastructure.</i>○ <i>Harvesting activities and concerns.</i>○ <i>Commercial wildlife viewing and concerns.</i>○ <i>The scenic integrity of the entire highway corridor should be maintained at all times.</i>○ <i>Unregulated backcountry access, particularly for off-road vehicles, should not be allowed.</i>○ <i>As with all human-caused disturbances, high standards of restoration should apply to all new surface disturbances within the corridor (e.g., gravel pits).</i>
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Wind River Trail

The Wind River Trail was built in 1959. It links Elsa and Keno City to the Wind River Valley and beyond. Over the years, the trail has been used occasionally as a winter road for supplying exploration camps and drill sites in the Peel region. Interest in this use continues. Today, local snowmobilers also use the Wind River Trail for hunting and recreation.

Key issues related to the Wind River Trail:

- The Wind River Trail runs along the valley bottom of a river that is highly valued for wilderness tourism. The area is also important to First Nations.
- Recent proposals to use the Wind River Trail for winter hauling of exploration supplies created great public controversy.
- Private industry has expressed interest in upgrading the Wind River Trail to an all-season road. The trail runs through wet terrain and makes several river crossings. Upgrading to an all-season road would be technically challenging without significant re-routing and/or engineering.
- The Yukon government recognizes the Wind River Trail, and its 60 metre right-of-way, as an existing route, as defined under the Yukon *Highways Act*. The existing road status, as defined under the *Highways Act*, means that new use of the trail to support industrial land use activity does not require a full environmental assessment.

RECOMMENDATIONS

The following recommendation applies to the Wind River Trail:

<p>POLICY RECOMMENDATION # 9</p>	<ul style="list-style-type: none"> • <i>Within the Peel Watershed Planning Region, the Wind River Trail should no longer be recognized as an existing route under the Yukon Highways Act. If the Wind River Trail is used for new future surface access, the RUWA New Surface Access additional rules and management restrictions, as described in Table 3.4, will apply.</i>
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Off-road Vehicle Access

An off-road vehicle (ORV) is any motorized vehicle that can be driven off paved or gravel surfaces. People use several types of ORVs in the region, including snowmobiles, all-terrain vehicles (wheeled ATVs – quads or Argo-like vehicles), and motor bikes. Off-road vehicle use is a controversial land use issue in Yukon and elsewhere.

ORV use in the Peel is becoming more common, leading to surface and noise disturbance. ORV drivers use the Wind River Trail, Hart River Trail, and some other trails or routes. Snowmobiles are used most winters as part of a First Nation cultural trip between Fort McPherson and Mayo. First Nation members often use ORVs for hunting and cultural activities. Sport hunters, prospectors, and some big game outfitters also use ORVs.

Key issues related to off-road vehicle access:

- ORV activity can have impacts on wildlife resulting from sensory (noise and sight) or habitat disturbance. ORVs can also facilitate increased harvest pressures by allowing hunters to access difficult to reach areas.
- If operated in sensitive terrain, ORVs can cause significant damage to soil and vegetation.
- ORV activity can have impacts on other land users due to noise and aesthetics (e.g., soil damage and disturbed vegetation).
- Managing ORV use is difficult because they are very mobile.
- Snowmobiles do not damage habitat as much as wheeled ORVs, but possibly disturb wildlife more.

RECOMMENDATIONS

These recommendations about ORV use in the Peel region provide guidance to help achieve the environmental and social goals of the Plan. They apply to the use of ORVs in the entire Peel Watershed Planning Region:

POLICY RECOMMENDATION # 10	<ul style="list-style-type: none"> • <i>To prevent impacts on wildlife, soil damage and land-user conflicts, the use of wheeled off-road vehicles (quads, motorbikes and Argo-like vehicles) for any purpose should be restricted to the Hart River Trail, existing trails in areas immediately adjacent to the Dempster Highway, licensed camps, and existing facilities.</i>
POLICY RECOMMENDATION # 11	<ul style="list-style-type: none"> • <i>In areas of allowed use (see Policy Recommendation # 10, above), off-road vehicle use should not occur in sensitive habitats. In this Plan sensitive habitats are defined as wetlands and alpine areas in the spring, summer and fall seasons.</i>

4.3.1.2. New Surface Access

New surface access features include winter roads and trails, all-season roads and railways. New surface access brings both economic opportunities and environmental risks to a wilderness region. Resource development and extraction generally needs all-season roads and other surface access features. Land uses such as subsistence harvesting may benefit from roads, or be impacted by them. Some tourism activities need roads or trails, while new routes affect backcountry and wilderness tourism.

In areas like the Peel, with mountainous terrain and permafrost, all-season road construction is very expensive. Because of high costs, any new all-season road would probably be built for a major development project such as a large mine site. However, once an all-season road is created, it increases the possibility of other new roads linking smaller projects.

Key issues related to new surface access:

- Construction and use of new roads and surface transportation features would reduce the wilderness character of the Peel region.
- The construction and use of new roads and related features (e.g. trails) results in direct loss and fragmentation of wildlife habitat. Indirect impacts on wildlife may also occur, including habitat avoidance, increased harvest pressures, and/or increased levels of predation.
- Road construction and maintenance may need large amounts of water and gravel, leading to increased surface disturbance and cumulative impacts.
- Improperly constructed stream crossings cause impacts to fish through increased sedimentation or by creating blockages to fish passage. Stream crossings can also increase harvest pressure on fisheries, by facilitating access to previously inaccessible areas.
- Mitigating the effects of roads in mountainous terrain is challenging, as roads, high quality wildlife habitats, and cultural values all tend to overlap in valley bottoms.
- All-season roads and access routes tend to persist for a very long period of time, making full decommissioning and reclamation difficult.

RECOMMENDATIONS

The potential construction of new roads and other surface transportation infrastructure represents some of the most significant challenges to achieving the Plans' environmental goals and statement of intent.

The strategies in Section 4.1.3 (wildlife and terrestrial habitats) and Section 4.1.4 (fish, aquatic habitats and hydrology), and the best management practices in Appendix B, are all designed to reduce the impacts of new roads and surface transportation features on wilderness character, wildlife and fish populations and habitats, and water quality. As a general strategy, where new surface access is required, winter roads or trails, ice roads and other temporary routes should be utilized preferentially over all-season roads. New or emerging surface access technologies, such as hovercraft, should be monitored and evaluated for consistency with the goals of this Plan.

However, some impacts of new surface access cannot be mitigated, and are incompatible with PA management objectives. The following policy recommendations apply to new surface access in the Peel Watershed Planning Region:

POLICY RECOMMENDATION # 12	<ul style="list-style-type: none"> • <i>In the PA, outside of existing dispositions, new surface access should not be allowed unless required for reasonable access to existing mineral claims and permit areas. In this Plan, reasonable access is defined as: <ul style="list-style-type: none"> ○ <i>Air only for exploration type activity.</i> ○ <i>Temporary surface access may be considered for advanced exploration or development of a mine on a case-by-case basis. If temporary surface access is permitted, consideration must be given to winter only access.</i> ○ <i>If all season surface access is required, the access route must be designed and managed to minimize impact on the key values of the LMU, and to facilitate abandonment and reclamation of the road right-of- way.</i> </i>
POLICY RECOMMENDATION # 13	<ul style="list-style-type: none"> • <i>In the IMA and RUWA, where new surface access is allowed, all proponents of new surface access routes should be required to provide adequate bonding to ensure that full-reclamation is achieved.</i>
POLICY RECOMMENDATION # 14	<ul style="list-style-type: none"> • <i>In the PA, if new surface access is required for reasonable access to existing mineral claims and permit areas, the same rules and restrictions should apply as in the RUWA (see Section 3.2.2.2).</i>
POLICY RECOMMENDATION # 15	<ul style="list-style-type: none"> • <i>The use of all new surface transportation features should be carefully managed and controlled. Public access on all new roads and surface transportation features should not be allowed. This action will decrease the potential for over-harvesting and un-regulated off-road vehicle use.</i>

In order to avoid unnecessary road (or rail) building, the following research recommendation is provided:

RESEARCH RECOMMENDATION # 6	<ul style="list-style-type: none"> • <i>The suitability of large airlift technology now being developed and tested in the marketplace to enable remote access for industrial activities should be examined in advance of any new road or rail construction.</i>
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4.3.1.3. Air Access

Outside the Dempster Highway Corridor, aircraft (fixed-wing airplanes and helicopters) are the primary modes of transportation. Aircraft provide access to exploration sites and camps, and to wilderness tourism and recreation destinations. Fixed-wing aircraft need either rough airstrips for landing and take-off or, if fitted with floats, suitable waterbodies. The Peel region contains many landing strips that vary in use and condition, but relatively few waterbodies that float planes can use.

Key issues related to air access:

- Concentrations of activity around common aircraft landing spots (e.g., suitable lakes and airstrips) can lead to habitat impacts, changes in habitat use or wilderness character.
- Frequent overhead air traffic can lead to changes in habitat use by wildlife. Frequent air traffic also decreases the perception of wilderness for backcountry tourists and recreational users.
- Fuel caches can contaminate soil or water and can spoil the aesthetics for wilderness tourism use.
- Clearing of airstrips creates surface disturbance that results in habitat impacts and the alteration of wilderness character.

RECOMMENDATIONS

This Plan recognizes the importance of air transportation for most land uses in the Peel region. However, new airstrips, like surface access features, also create surface disturbance. High levels of aircraft use can also create conflicts with other land users. The following policy recommendations apply to air access in the Peel Watershed Planning Region:

<p>POLICY RECOMMENDATION # 16</p>	<ul style="list-style-type: none"> • <i>In the PA, outside of existing dispositions, new airstrips should not be allowed unless required for reasonable access to existing claims and permit areas (see Policy Recommendation #13) or to eliminate the need for new surface access. Existing airstrips and landing locations may continue to be used, however.</i>
<p>POLICY RECOMMENDATION # 17</p>	<ul style="list-style-type: none"> • <i>To minimize potential conflicts between different user groups, an Air Access Coordination process should be established to better coordinate the timing and location of all aircraft supported activities in the RUWA and PA. See Section 3.2.2.2 (Table 3.4), for additional details.</i>

POLICY RECOMMENDATION # 18	<ul style="list-style-type: none"> • <i>An air access management plan may be required for LMU #8 (Wind and Bonnet Plume watershed), LMU #9 (Snake River) and LMU #6 (Hart River). The need for an air access plan should be addressed during PA planning, and should be considered as part of the RUWA Air Access Coordination (see above). An air access management plan may be required to avoid the “bunching up” of parties at well-used airstrips and landing locations, which affects both groups of tourists/recreationalists and resource exploration programs. Lakes and landing locations that require special attention include:</i> <ul style="list-style-type: none"> ○ <i>Hart and Elliot lakes (in LMU #6);</i> ○ <i>McClusky, Quartet, Margaret and Fairchild lakes (in LMU #8); and</i> ○ <i>Bonnet Plume, Goz and Duo lakes (in LMU #9).</i>
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In order to facilitate development of an air access management plan for LMUs #6, 8 and 9 (and potentially other areas), and to better understand tourism user levels and patterns in the Peel region, the following research recommendation is provided:

RESEARCH RECOMMENDATION # 7	<ul style="list-style-type: none"> • <i>The number of parties and people arriving at common landing locations should be recorded as part of commercial tourism and outdoor recreation use tracking (see Tourism recommendations in Section 4.3.4), and to inform future versions of this Plan.</i>
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4.3.1.4. Water Access

River travel is the primary mode of transportation in summer for wilderness tourists, recreational users and for the Tettit Gwich'in. Barges have sometimes been used to transport supplies from Fort McPherson to exploration camps upstream on the lower Peel River. The Peel, Wind, Bonnet Plume, and Snake rivers receive the most use by motorized and non-motorized watercraft. River travelers, wilderness tourists and recreation users value unaltered viewsapes and wilderness solitude.

Key issues related to water access:

- Motor boats and jet-boats can cause aquatic habitat disturbance, and sensory disturbance for wilderness river tourists and recreation users travelling by canoe or other non-motorized craft.
- Fuel spills can contaminate water.

RECOMMENDATIONS

At this time, specific policy recommendations regarding water access are not required. The level of motorized watercraft travel in the Peel region is not currently a major management issue. To better inform future management planning activities, the following research recommendation regarding water access is provided:

RESEARCH RECOMMENDATION # 8	<ul style="list-style-type: none"> • <i>On a periodic basis and where necessary, assess the ecological and social impacts of motorized watercraft use on lakes and rivers in order to inform future Plan revisions and management of the PA and RUWA.</i>
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4.3.2. Mineral Resources

The Ogilvie, Wernecke, and Selwyn mountains of the southern Peel Watershed Planning Region have interested the mineral and coal industry for a long time. The Wind, Bonnet Plume and upper Hart River watersheds are believed to have some of the highest mineral potential. A large number of mineral claims were staked in this area in the recent past. Map 6, Appendix A shows areas with mineral potential and locations of existing claims⁴.

The conflict between exploring and developing the Peel’s mineral resources, and maintaining and conserving the region’s wilderness character and ecological values, was the defining issue of the planning process. Mineral companies and industry representatives felt that existing regulatory processes and best management practices could mitigate most potential impacts. Some believe there is no need for land withdrawals, and that all lands in the Peel region should be available for mineral exploration and development.

In contrast, others view mine development, and the transportation needs that come with it, as incompatible with maintaining wilderness values. They believe that mineral exploration and development should not take place in some areas of the Peel. The Plan has had to view these positions in the context of its core principle, statement of intent, and goals.

Key issues related to mineral exploration and development:

- Mine site operations can lead to local and downstream water impacts and localized wildlife and habitat disturbance.
- Mineral exploration can take place with either winter road or air access. However, mineral development usually needs the building of all-season roads, transmission lines, rail lines, and other structures.
- Mines and milling facilities usually need large amounts of power. New transmission lines and hydro power dams may have to be built, or large amounts of coal, diesel fuel or natural gas burned.

⁴ Since these mineral potential maps were produced, new information suggests the upper Hart River watershed (LMU #6) contains similar geology and mineral potential as the adjacent Crag and Nadaleen Trend mineral plays.

- Building and operating large-scale mines would bring many new workers to the region.

RECOMMENDATIONS

Mineral exploration and development are considered compatible with the IMA objectives of the Peel region. Some types of mineral exploration and development may also be compatible with RUWA objectives. These activities are subject to existing regulatory processes, the Plan guidelines for cumulative effects management, and the additional rules and restrictions of the RUWA (see Section 3.2.2.2, Table 3.4). However, mineral exploration and development are generally not considered to be compatible with PA objectives.

The following policy recommendation applies to mineral exploration and development activity:

POLICY RECOMMENDATION # 19	<ul style="list-style-type: none"> • <i>The PA of the Peel Watershed Planning Region should be withdrawn from the issuance of new mineral claims.</i>
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The combination of the Plan land use designation and cumulative effects management guidelines, wildlife and fish impact mitigation strategies (Sections 4.1.2 and 4.1.3, respectively), best management practices, and additional rules and restrictions of the RUWA (see Section 3.2.2.2, Table 3.4), is currently considered adequate to mitigate most impacts of mineral exploration and development activity in the IMA and RUWA. Policy recommendation # 6 regarding heritage and historic site education should also be considered. Please refer to Appendix B for a list of accessible references related to best management practices for mineral exploration and development.

4.3.3. Oil and Gas Resources

While oil and gas activity in the Peel region is currently low, some basins hold moderate oil and significant natural gas potential. Oil and gas basins and existing permit areas and significant discovery licenses are shown in Map 6, Appendix A.

The Eagle Plain and Peel Plateau basins have been explored the most. The Eagle Plain basin, in LMU #7, is considered to hold the highest potential and can be reached from the Dempster Highway. The development of coal bed methane is an emerging issue, with the Bonnet Plume coal deposits considered to hold the highest potential.

Past exploration and drilling identified potential resources but did not lead to oil and gas production. In the near-term, the level of oil and gas activity in the Peel region is anticipated to be low (Fekete 2006). The lack of a pipeline is a major factor limiting natural gas development in the Peel region.

Key issues related to oil and gas exploration and development:

- Oil and gas exploration and development, along with the necessary transportation, gravel extraction, and water withdrawals, can cause cumulative and adverse change over large landscapes. The creation of high levels of linear features, primarily seismic lines, is the primary disturbance.
- Oil and gas exploration can take place with either winter road or air access. However, development usually needs the building of all-season roads, pipelines, and other structures.
- Building and operating large-scale oil and gas facilities would bring many new workers to the region.

RECOMMENDATIONS

Given the limited overlap of the Eagle Plain and portions of the Peel Plateau basins with tourism values, big-game outfitting activities and significant wildlife and fish habitats, oil and gas exploration and development activity is considered compatible with the IMA objectives of the Peel region. The high levels of linear disturbance generally created by oil and gas exploration and development activities may not be compatible with RUWA objectives. All exploration and development is subject to existing regulatory processes and the cumulative effects guidelines of this Plan.

Two policy recommendations apply to oil and gas exploration and development activity. The first reinforces the management intent of the PA land use designation (*see* Section 3.2); the second provides land use direction for the RUWA:

POLICY RECOMMENDATION # 20	<ul style="list-style-type: none"> • <i>The PA of the Peel Watershed Planning Region should be withdrawn from the issuance of new oil and gas exploration permits and leases.</i>
POLICY RECOMMENDATION # 21	<ul style="list-style-type: none"> • <i>At this time, oil and gas exploration and development activities should be considered a prohibited land use in the RUWA of the Peel Watershed Planning Region unless allowed by special management direction at a defined location. As technology changes and improves, this recommendation may be revisited during future Plan reviews.</i>

The combination of the Plan land use designation and cumulative effects management guidelines, wildlife and fish impact mitigation strategies (*see* Sections 4.1.3 and 4.1.4, respectively), and best management practices, is currently considered adequate to mitigate potential negative effects of oil and gas activity in the IMA. Policy recommendation # 6 regarding heritage and historic site education should also be considered. Please refer to Appendix B for a list of accessible references related to best management practices for oil and gas activity.

4.3.4. Tourism and Recreation

The tourism industry in the Peel depends on the region's rugged, unpopulated wilderness character. Tourism includes both 'rubber tire' traffic along the Dempster Highway, and wilderness travel, mainly paddling trips down the Wind, Bonnet Plume, Snake and Hart rivers. The Bonnet Plume watershed is a Canadian Heritage River and has a management plan.

Most unguided recreation takes place close to, or begins from, the Dempster Highway. The Ogilvie and Blackstone rivers are accessible from the Dempster. Tombstone Territorial Park, a well-established tourist destination close to the Peel, may provide a central point for front-country tourism. Map 5, Appendix A shows important tourism and recreation areas.

Wilderness tourism may be the most sensitive sector to changes in land use and surface disturbances. Impacts to the visual integrity of the major rivers, and their surrounding views, affects the quality of wilderness traveler experiences. Similarly, high levels of overhead aircraft traffic decrease the wilderness experience.

If not properly managed, or in too high numbers, wilderness tourism can also cause impacts to wildlife, fish and their habitats, and create conflicts with other tourism groups or land users. Except for paddling trips on the Blackstone and Ogilvie rivers, most wilderness tourism in the Peel depends on air travel to well-established landing sites and lakes.

Key issues related to tourism and recreation:

- Most wilderness tourism activity occurs in the Wind, Bonnet Plume and Snake River watersheds. These high value wilderness tourism areas directly overlap with areas of high mineral potential and exploration activity. Continued use of these areas for wilderness tourism requires large, intact unroaded areas – a condition that may become compromised by mineral resource development.
- High levels of overhead air traffic or improperly located mineral exploration camps diminish the wilderness experience of backcountry travelers.
- People are concerned that high backcountry tourism and recreation use will start to diminish the very wilderness values that support this sector.
- There are limited data regarding the number of self-guided recreationalists and the economic contribution of tourism by Yukon residents and non-residents in the Peel watershed.

RECOMMENDATIONS

Properly managed wilderness and Dempster highway-based tourism is an important, sustainable economic activity for the region. Tourism can provide economic benefits to surrounding communities and residents – it can also provide opportunities to showcase cultural activities and values. Maintaining the Wind and Bonnet Plume watersheds (LMU #8), Snake River (LMU #9), Hart River (LMU#6) and adjacent areas as intact, wilderness landscapes, is key to achieving the economic potential of this sector.

Two policy recommendations apply to tourism and recreation activity. The first identifies planning topics to be addressed as part of the PA plan for Source Peaks and the Wind, Bonnet Plume, Snake and Hart Wild River corridors; the second recommends concerns to be addressed as part of the Dempster Highway Corridor Management Plan:

POLICY RECOMMENDATION # 22	<ul style="list-style-type: none"> • <i>A wilderness tourism management plan should be developed for the following areas:</i> <ul style="list-style-type: none"> ○ <i>The Wind, Bonnet Plume, Snake and Hart Wild River PA corridors; and</i> ○ <i>the Source Peaks PA in LMU #9</i> • <i>Such a plan should be completed as part of the PA planning process for these areas. The wilderness tourism plan should address the following:</i> <ul style="list-style-type: none"> ○ <i>Wilderness tourism carrying capacity (number of allowable tourism activity days in different areas, party size, and spacing)</i> ○ <i>Air access management (see also Policy Recommendations # 16, 17 and 18 in Section 4.3.1.3)</i> ○ <i>Develop policy on commercial wilderness tourism land tenure</i>
POLICY RECOMMENDATION # 23	<ul style="list-style-type: none"> • <i>Management guidelines for commercial wildlife viewing along the Dempster Highway should be developed as part of the Dempster Highway Corridor management plan (see also Recommendation # 8 in Section 4.3.1.1).</i>

Some wildlife and fish impact mitigation strategies (*see* sections 4.1.2 and 4.1.3, respectively) are applicable to reducing the adverse effects of tourism on wildlife, fish and their habitats. Other Plan recommendations, especially regarding off-road vehicle use (*see* Section 4.3.1.1), are also applicable. Policy recommendation # 6 regarding heritage and historic site education should also be considered. A number of best management practices regarding no trace camping, wildlife viewing, and wilderness travel have been developed for Yukon. Please refer to Appendix B for a list of accessible resources.

4.3.5. Aggregate Resources

Aggregate (gravel, sand and crushed rock) is an important resource for maintaining the Dempster Highway. New industrial activity and related road development would likely require large amounts of aggregate materials. Industrial development such as all-season road building or oil and gas facilities, would drive this demand. Some parts of the Peel region have limited aggregate resources. Crushed rock may be used in these areas, but it is more expensive.

Key issues related to aggregate resources:

- In permafrost landscapes like northern Yukon, development requires large volumes of aggregate. Obtaining necessary volumes of aggregate may disturb large areas of land, in some cases nearly as large as the footprint of the development itself.

- The unglaciated portion of the Peel region, primarily in the Ogilvie Mountains, has limited aggregate resources. In this area, the most accessible aggregate materials occur in stream and river channels, which may lead to aquatic and fisheries impacts.
- Surface disturbances created by aggregate quarrying persist for very long periods of time.

RECOMMENDATIONS

This Plan recognizes that aggregate is an important resource, especially in the Dempster Highway area. Any new development activity should carefully plan for the location and transportation of aggregate materials, and ensure efficient use of this resource. While aggregate is recognized as an important resource near the Dempster Highway, aggregate mining also creates highly visible surface disturbance impacts that persist for long periods. Commercial production of aggregate resources is not compatible with the wilderness objectives of the PA and RUWA.

The following policy recommendation regarding aggregate resources is provided:

POLICY RECOMMENDATION # 24	<ul style="list-style-type: none"> • <i>Aggregate extraction should be considered a prohibited land use in PA and RUWA, except as required by allowable land uses such as development of a mine site and associated infrastructure.</i>
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In order to better manage aggregate resources in the vicinity of the Dempster Highway, the following research recommendation is provided:

RESEARCH RECOMMENDATION # 9	<ul style="list-style-type: none"> • <i>In the vicinity of the Dempster Highway, aggregate assessments should be conducted in advance of any significant development activity. Such aggregate assessments should be completed as part of the Dempster Highway Corridor management plan (see also Recommendation # 8 in Section 4.3.1.1).</i>
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The combination of the Plan land use designation and cumulative effects management guidelines, wildlife and fish impact mitigation strategies (*see* Sections 4.1.2 and 4.1.3, respectively), and best management practices, is currently considered adequate to mitigate the potential negative effects of aggregate mining in the Integrated Management Area. Please refer to Appendix B for a list of accessible references related to best management practices for aggregate mining and surface disturbance reclamation.

4.3.6. Forest Resources

Forest resources include both trees and other forest plants. Local communities and land users use the forest for fuel wood, building materials, berry picking, and medicine. Most forest harvesting takes place near First Nation cabins or along the Peel River. The potential for commercial forestry in the region is very limited or none. The number of trees used for subsistence is very low.

The Plan does not deal with forest management because it was not identified as an important issue. No management or research recommendations are needed at this time.

4.3.7. Subsistence Harvesting

Participation in traditional economic activities required for First Nations culture and community well-being. Subsistence harvesting and traditional economic activities are also an important means of offsetting the high cost of food in northern communities. Yukon First Nations land claim agreements provide for continued harvesting opportunities.

Subsistence harvesting is closely linked with Section 4.2, heritage and culture. Map 4, Appendix A shows the location of identified subsistence harvesting and traditional land use areas in the Peel region.

Key issues related to subsistence harvesting and traditional economic activities:

- Providing opportunities and landscapes to participate in traditional economic activities is vital to maintaining First Nations culture, community well-being, and ties to the land.
- Opportunities for subsistence harvesting may benefit from the building of new roads and trails. However, increased harvesting pressure may result in the over-harvest of wildlife and fish resources.
- Wildlife harvesting along the Dempster Highway, with the aid of off-road vehicles, has prompted concerns from wildlife management boards and some community members.
- There is limited information on the natural history and population trends of some subsistence species (e.g. location of spawning habitats for broad whitefish, population size and trend of Hart River and Bonnet Plume woodland caribou herds), and harvest rates and locations. With this limited information, sustainable wildlife management is challenging.

RECOMMENDATIONS

As per the Final Agreements, this Plan provides for continued subsistence harvesting, which supports important social and economic traditions. While the Plan supports harvesting, it must also consider potential impacts. The following policy recommendation applies to subsistence harvesting in the Peel Watershed Planning Region:

POLICY RECOMMENDATION # 25	<ul style="list-style-type: none"> • <i>First Nation subsistence harvesting activities and the pursuit of treaty rights as recognized by the Final Agreements should be respected in the Peel Watershed Planning region, subject to the following:</i> <ul style="list-style-type: none"> ○ <i>The use of off-road vehicles for any purpose should be limited to certain locations and specific trails (see Policy Recommendations # 10 and 11, in Section 4.3.1.1).</i>
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4.3.8. Trapping

Trapping provides self-employment opportunities for local residents and is a First Nations cultural tradition. Lynx, marten and wolverine are important species. Trapping concessions occur throughout the entire Peel Watershed Planning Region (*see* Map 5, Appendix A). Trappers have exclusive rights to harvest, but do not have rights to furbearer habitat. Trapping is primarily a winter activity. Similar to subsistence harvesting, trappers rely on healthy wildlife populations and, indirectly, on healthy ecosystems.

Key issues related to trapping:

- New trails and roads can help trappers access their traplines more efficiently. However, some types of development related to the new routes may also disrupt trapping, potentially resulting in compensation to the trapper.
- Land-use patterns of trappers, including but not limited to the locations of cabins and trails, is poorly documented, making consideration of trapping during project-level assessment and planning difficult.

RECOMMENDATIONS

Few trapping-related issues were expressed to the Commission. Given the current level of land use activity, combined with the extent of proposed PA, RUWA and Major River Corridors, specific policy recommendations are not required at this time.

To better facilitate project-level assessment and planning, the following research recommendation is provided:

RESEARCH RECOMMENDATION # 10	<ul style="list-style-type: none"> • <i>Land use patterns of trappers, including but not limited to the location of cabins and trails, should be documented in order to facilitate improved project assessment and future resource planning.</i>
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4.3.9. Big Game Outfitting

The Peel watershed offers some of the highest quality big game hunting in North America. Big game outfitting takes place in the southern half of the region, where outfitting concessions are located. Map 5, Appendix A shows the location of outfitting concessions in the Peel region. Wilderness tourism, mineral exploration, and subsistence harvesting also occur in this area.

Sport hunting species are mainly Dall's sheep, grizzly bear, caribou, and moose. Most trips are undertaken by floatplane, with overland transportation by horseback or on foot. Big game outfitting occurs in the summer and fall seasons. In the Peel region, high quality big game outfitting experiences rely on the maintenance of large, unroaded wilderness areas.

Key issues related to big game outfitting:

- The wilderness experience required by big game outfitters is affected by:
 - Development of new roads, other surface access features, and associated infrastructure.
 - Improperly located resource exploration camps.
 - Excessive use of motorized off-road vehicles, jet-boats and aircraft.
 - Excessive numbers of wilderness tourism and recreational users – tourism and recreation carrying capacity also affects big game outfitting.
 - Increases in subsistence and sport hunting.
- Land-use patterns of outfitters in all Peel concessions, including but not limited to the locations of camps and trails, is poorly documented, making consideration of big game outfitting during project-level assessment and planning difficult.

RECOMMENDATIONS

Maintaining the Peel region as one of the highest quality big game hunting destinations in North America will require maintenance of the wilderness character of much of the region. The following policy recommendation supports this continuation of big game outfitting activities in the region:

POLICY RECOMMENDATION # 26	<ul style="list-style-type: none"> • <i>Big game guiding and outfitting should be accommodated in the Peel Watershed Planning Region, subject to the following:</i> <ul style="list-style-type: none"> ○ <i>The use of off-road vehicles for any purpose should be limited to certain locations and specific trails (see Policy Recommendations # 10 and 11, in Section 4.3.1.1).</i>
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To better facilitate project-level assessment and planning, the following research recommendation is provided:

RESEARCH RECOMMENDATION # 11	<ul style="list-style-type: none"> • <i>Land use patterns of big game outfitters, including but not limited to the location of camps and trails, should be documented in order to facilitate improved project assessment and future resource planning.</i>
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A number of best practices relating to no trace camping and back country travel have been developed and are applicable to big game outfitting. Please see Appendix B for a list of accessible resources. Policy recommendation # 6 regarding heritage and historic site education should also be considered.

5. Land Use Designation and Landscape Management Units

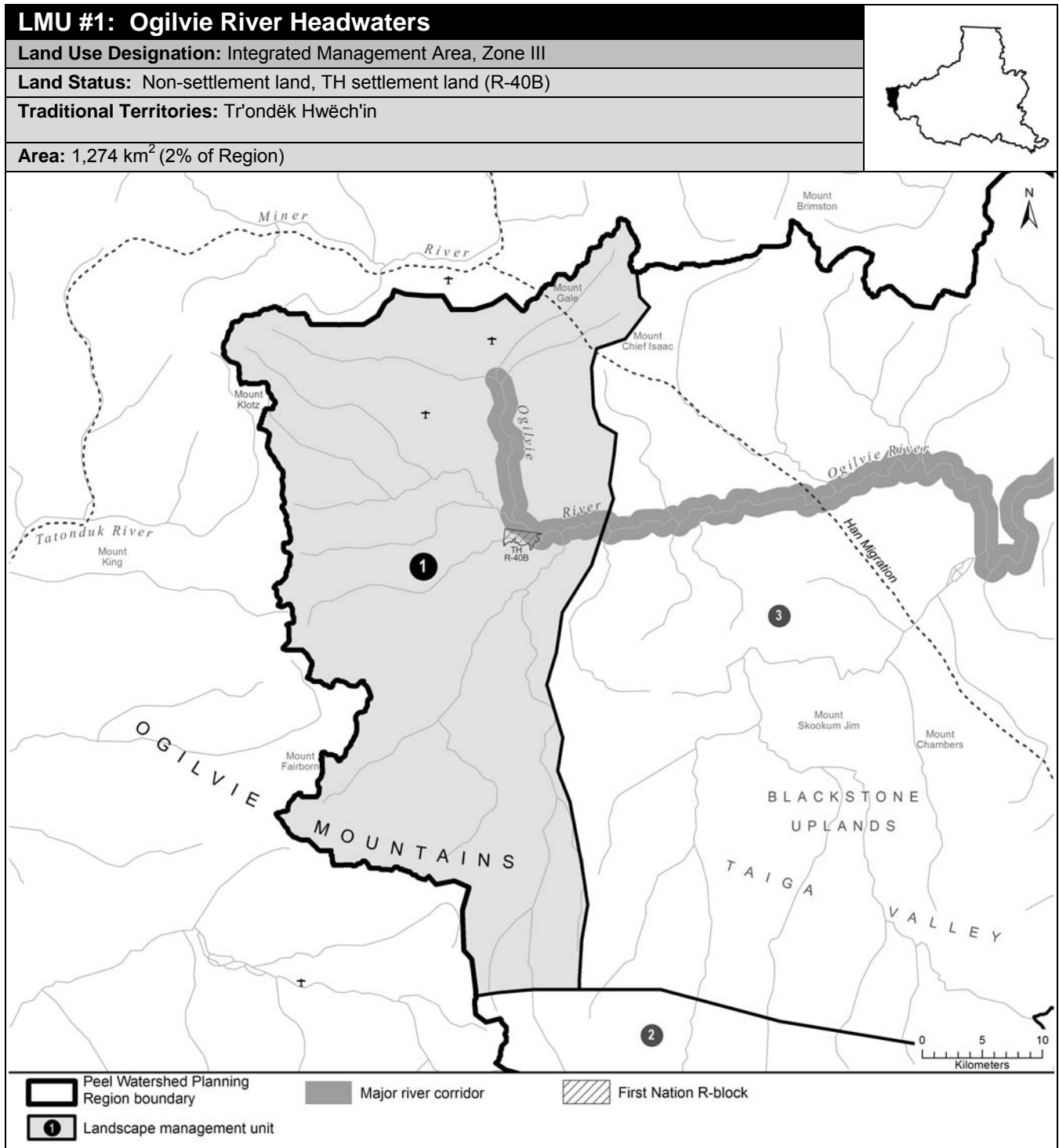
This section describes the values, issues, management direction and special considerations for each of the sixteen landscape management units (LMUs) in the Peel Watershed Planning Region. The section also gives the land use designation for each LMU, the reason for the designation, a map, and representative photo(s)¹. Table 5-1 shows the total area for each land use category. Appendix D gives a summary of each LMU.

Maps 3 – 6, Appendix A give an overview of ecological, cultural, and economic values and resources in each LMU. More detailed maps and descriptions are available in the Peel Watershed Resource Assessment Report and Conservation Priorities Assessment Report (PWPC 2008a, b).

Table 5.1: Land use designation summary.

Land Use Category	Area (km ²)	Area (% region)
Protected Area (PA)		
Natural Environment Park or Wilderness Preserve	14,190	21%
Wild River Park	5,610	8%
Total	19,800	29%
Restricted Use Wilderness Area (RUWA)		
Total	29,702	44%
Integrated Management Area (IMA)		
Zone I	0	0%
Zone II	3,214	5%
Zone III	13,155	20%
Zone IV	1,559	2%
Total	17,928	27%
Peel Watershed Planning Region		
Totals	67,430	100%

¹ Photo credits are as follows: YG – J. Meikle and M. Waterreus, Yukon Environment; CWS – J. Hawkings, Canadian Wildlife Service; and DFO – A. von Finster, Fisheries and Oceans Canada.




OBJECTIVES

- **Ecological integrity is maintained.**
- **Culturally important sites remain intact.**
- **Winter habitat of the Porcupine caribou herd without recent disturbances is maintained.**
- **Land use activity does not significantly impact movement and habitats of caribou.**
- **Water quality and flow from the Ogilvie headwaters not substantially affected by human activities.**
- **Community cultural activities practiced without significant disturbance.**
- **Economic development that supports local economies.**

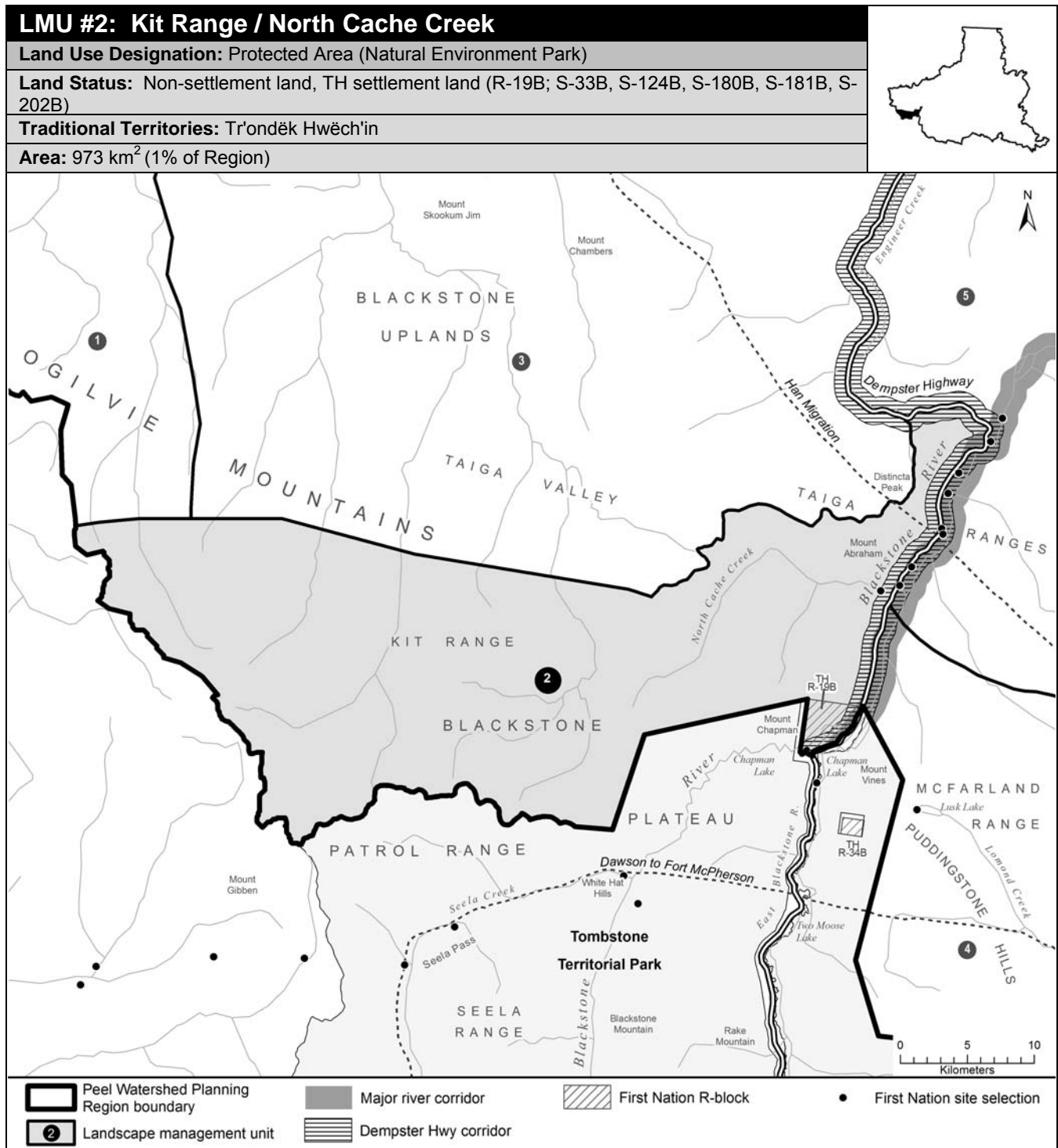
RATIONALE FOR DESIGNATION


- Culturally important travel route with historic and prehistoric settlements.
- TH consider this area important for long-term sustenance.
- Includes the headwaters of the Ogilvie watershed; is considered important for water quality.
- Extensive concentrated and general use areas for the Porcupine herd.
- Includes a portion of the Blackstone Uplands which were considered to be a candidate for protection by the Peel River Watershed Advisory Committee.
- Generally low non-renewable resource development potential because of lower mineral and oil and gas potentials, and distance from an existing road.
- Surface access to west from the Dempster needs consideration given Protected Areas to south of LMU 1.

BIOPHYSICAL SETTING

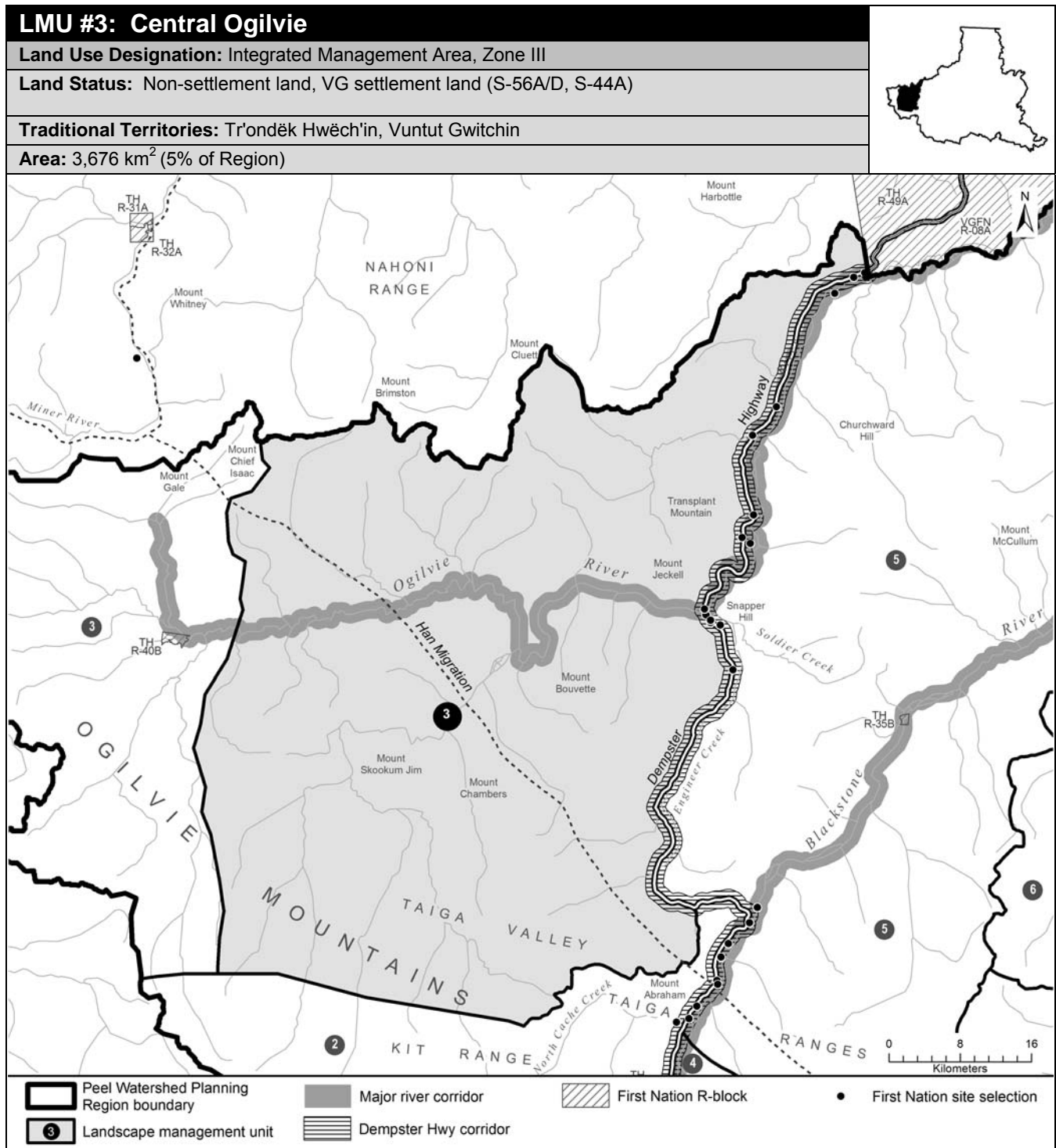
<p>Setting:</p>	<p>Extensive tundra-like plains with mountains rising to the west and significant riparian zones</p>	 <p>Large flat and shrubby expanses ringed by rounded mountains characterize LMU 1. (YG photo)</p>
<p>Ecoregions:</p>	<p>North Ogilvie Mountains</p>	
<p>Bioclimate Zones:</p>	<p>Taiga Wooded, Taiga Shrub and Alpine</p>	

ECOLOGICAL RESOURCES	
SIGNIFICANT WILDLIFE and FISH HABITATS	
Caribou:	High & moderate value winter habitat of the Porcupine herd on flat plains. Extensive concentrated and general use areas for the Porcupine herd.
Moose:	Narrow bands of high habitat suitability along smaller tributaries and broad swathes of high habitat suitability and use along Ogilvie headwaters; generally low late winter habitat suitability elsewhere.
Marten:	Variable winter habitat quality.
Sheep:	Some sheep habitat only near Mt Klotz.
Fish:	Fish likely present in rivers and lower gradient streams; winter overflow and surface groundwater indicate good overwintering potential.
Grizzly Bear:	Mostly moderate habitat suitability in low to mid elevation; high grizzly bear habitat suitability – riparian areas are key in the mountains.
Peregrine Falcon:	Potential foraging habitat along the upper Ogilvie River.
Birds:	High value waterbird habitat in riparian areas; low to moderate breeding bird species richness; moderate number species of conservation concern.
Vegetation:	High endemism/rarity. Alpine plants, low-mid elevation dry herb/shrub/coniferous forests, riparian communities.
Wetlands, Lakes and Riparian Areas:	Few small wetlands with scattered small wetlands/oxbows and lakes along the upper Ogilvie corridor.
Permafrost:	Extensive high water content permafrost expected for flatter pediments/plateaus.
Special Features:	Several mineral licks; possible wildlife passes.
HERITAGE, SOCIAL and CULTURAL RESOURCES	
Heritage Resources:	Cabins (TH). Culturally important places for TGFN, TH, VGFN. N-S THFN travel route.
Paleontological Resources:	The Bouvette Formation (Road River Group), Ogilvie Formation and Michelle Formation sedimentary rocks in this area have high potential to yield further discoveries.
ECONOMIC DEVELOPMENT	
Transportation and Access:	Some old unclassified trails (many are seismic lines); A conceptual access route has been identified in this unit connecting to Miner River and Fifteenmile River; a few airstrips of unknown status.
Traditional Economy:	TH traditional harvesting and wildlife areas.
Recreation and Tourism:	High value hiking in headwaters of Ogilvie River, but poor access.
Forestry:	Little potential for forestry.
Big Game Outfitters and Trapping:	Blackstone Outfitting Ltd. and Reynolds Outfitting Ltd; some high value hunting
Oil and Gas Resources:	Part of Kandik basin is within this unit. This basin has low development potential.
Mineral Resources:	No quartz claims; generally low mineral potential.
SPECIAL MANAGEMENT CONSIDERATIONS	
<ol style="list-style-type: none"> 1. The Ogilvie River is designated as a Major River Corridor. 2. If required, potential surface access to the west from the Dempster highway should be routed through LMU 3, and avoid the Major River Corridor. 3. Consider merging LMU 1 and 3 in future plan revisions given their similar values and management directions. 	



OBJECTIVES	
<ul style="list-style-type: none"> • Wilderness character is maintained. • Community cultural activities practiced without significant disturbance. • Unfettered movement and habitat use of Porcupine and Hart River caribou herds, Dall’s sheep and other large mammals. • Wilderness tourism activities linked to the existing Tombstone Territorial Park that are consistent with the objectives above. 	
RATIONALE FOR DESIGNATION	
<ul style="list-style-type: none"> • North Cache Creek and area supports important cultural activities of the TH. • Overlapping key wintering areas for two caribou herds: Porcupine caribou herd, and the Hart River herd. <ul style="list-style-type: none"> ○ Overlapping caribou key areas only occur in two places in the Region. ○ The Hart River herd is of the Northern Mountain ecotype, which is listed as “Special Concern” under the Species at Risk Act. • Sheep habitat valued by outfitters and the TH. • National hotspot for plant endemism. • Adjacency to Tombstone Territorial Park and the Dempster Highway Corridor improves suitability for recreation, hunting/outfitting, and tourism. • Includes a portion of the Blackstone Uplands which were considered a candidate for protection by the Peel River Watershed Advisory Committee. • If surface access to high mineral potential areas in the western end of LMU 2 is required, consideration should be given to routing through LMU 1 to minimize impact on the values listed above. 	
BIOPHYSICAL SETTING	
Setting:	Extensive tundra-like plains with mountains rising to the south and significant riparian zones.
Ecoregions:	Mackenzie Mountains and North Ogilvie Mountains
Bioclimate Zones:	Taiga Wooded, Taiga Shrub and Alpine
	
<p>Gentle mountains interspersed with valleys with open forests characterize LMU 2. (YG photo)</p>	

ECOLOGICAL RESOURCES	
SIGNIFICANT WILDLIFE and FISH HABITATS	
Caribou:	Unusual convergence of key/concentrated winter use areas for both the Porcupine and Hart river herds west of North Cache Creek.
Moose:	High habitat suitability and use in valley bottoms and in narrow bands along smaller tributaries; low-nil late winter habitat suitability in higher country.
Marten:	Generally poor quality winter habitat; significant pockets of moderate habitat occur.
Sheep:	Some highly suitable winter habitat with documented (TK, big game outfitters, scientific) habitat use.
Fish:	Fish likely present in rivers and lower gradient streams, including North Cache Creek; winter overflow and surface groundwater indicate good overwintering potential.
Grizzly Bear:	Mostly moderate habitat suitability in low to mid elevation; high habitat suitability in riparian areas.
Peregrine Falcon:	No known or predicted habitat.
Birds (General):	High value waterbird habitat in riparian areas; low to moderate breeding bird species richness; high number species of conservation concern in mountain valleys.
Vegetation:	A national hotspot for plant endemism. Alpine plants, shrubs, and riparian coniferous forests.
Wetlands, Lakes and Riparian Areas:	Few small riparian wetlands.
Permafrost:	Extensive high water content permafrost expected for flatter pediments/plateaus on northern edge of unit.
Special Features:	
HERITAGE, SOCIAL and CULTURAL RESOURCES	
Heritage Resources:	Culturally important places around North Cache Creek and Chapman Lake. Several historic camps and the current TH culture camp.
Paleontological Resources:	Sedimentary rocks in this area have high potential to yield Paleozoic fossils.
ECONOMIC DEVELOPMENT	
Transportation and Access:	The Dempster Highway lies at the eastern boundary. Conceptual access route has been identified at the far western end of this unit between the Fifteen Mile River and the Miner River. The conceptual Dempster Highway lateral pipeline bisects unit away from highway.
Traditional Economy:	TH "First Hunt" is often within this LMU. TH hunting and fishing.
Recreation and Tourism:	High value hiking and recreation potential. Proximity to Dempster Highway gives options for "front-country" tourism.
Forestry:	Little potential for forestry.
Big Game Outfitters and Trapping:	Blackstone Outfitting Ltd. and Reynolds Outfitting Ltd; some high value hunting
Oil and Gas Resources:	No potential.
Mineral Resources:	Several quartz claims; high copper/gold/uranium and zinc-lead potential at western end of unit.
SPECIAL MANAGEMENT CONSIDERATIONS	
<ol style="list-style-type: none"> 1. The proposed right-of-way for the Dempster Highway lateral pipeline passes through this unit and is to be respected, as well as highway and communications related infrastructure. 2. The Hart River caribou herd and Porcupine caribou herd core wintering areas overlap in this unit. 3. Subsequent Dempster Highway sub-regional land use plan may apply to eastern part of unit – Dempster Corridor to be managed consistent with PA objectives. 	



OBJECTIVES

- **Ecological integrity is maintained.**
- **Economic development that supports the local economies.**
- **Land use activity does not significantly impact movement and habitats of caribou.**

RATIONALE FOR DESIGNATION

- Adjacency to the Dempster Highway may allow development to occur more readily with less access-related impacts.
- Limited wilderness tourism activity reduces potential conflict between industrial and tourism sectors.
- Landscape characteristics makes cumulative effects monitoring more effective in limiting impacts on habitat.
- Moderate mineral potential with good access.
- Portion of the Kandik oil and gas basin.
- The high value of this unit for the Porcupine caribou herd, Dall’s sheep, and the people that hunt them calls for a limited scale of industrial development, thus meriting a Zone III designation.

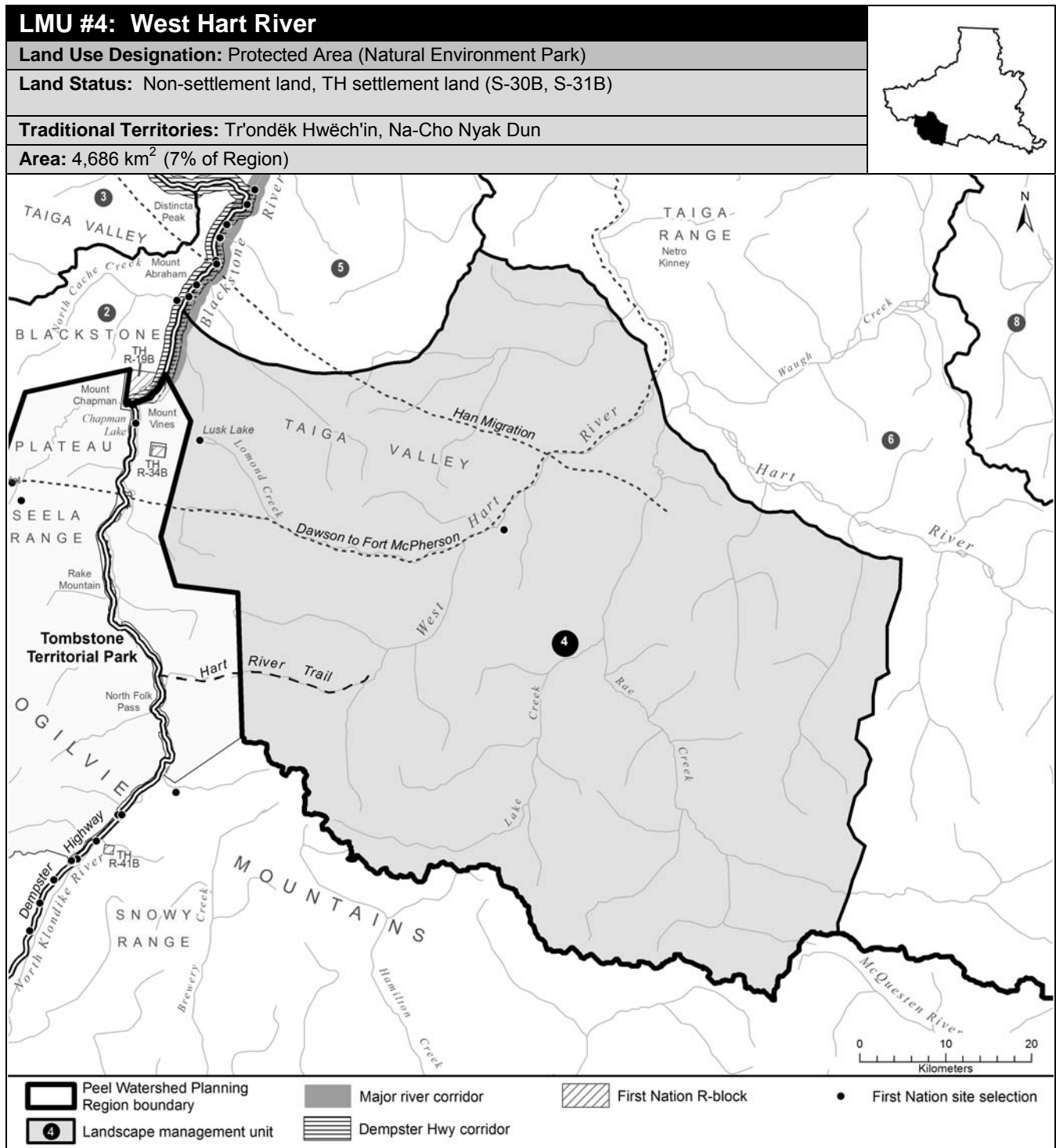
BIOPHYSICAL SETTING


Setting:	An area of tundra-like plains and mountains lying between the Blackstone Watershed to the east and Upper Ogilvie Watershed to the west.
Ecoregions:	North Ogilvie Mountains and corner of Eagle Plains
Bioclimate Zones:	Taiga Wooded, Taiga Shrub and Alpine



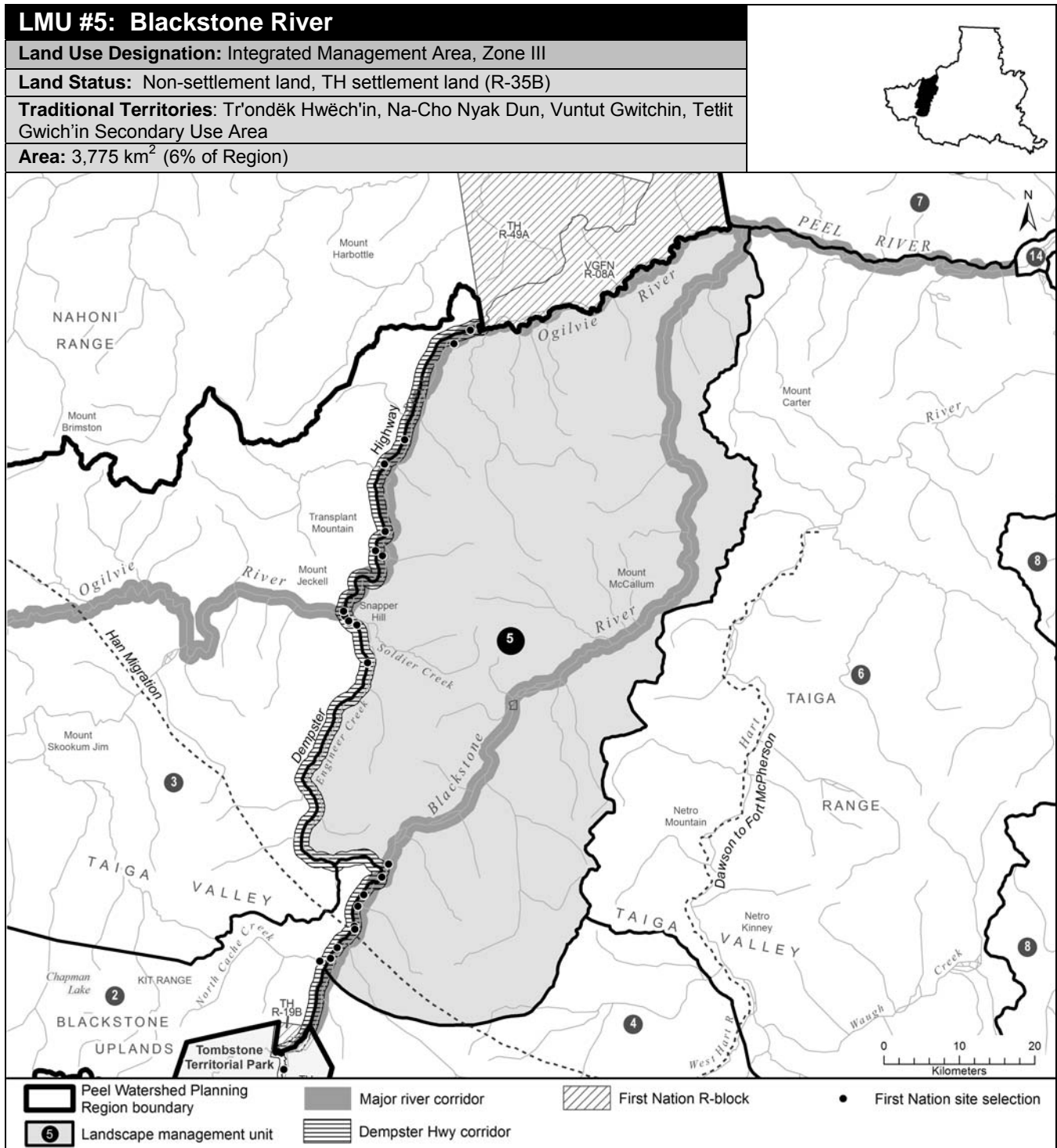
The rounded Ogilvie Mountains and broad sparsely forested valleys characterize LMU 3. (YG photo)


ECOLOGICAL RESOURCES	
SIGNIFICANT WILDLIFE and FISH HABITATS	
Caribou:	High value winter habitat of the Porcupine and Hart River herds. Extensive concentrated and general use areas for the Porcupine herd.
Moose:	Narrow bands of high habitat suitability along valley bottoms and smaller tributaries; generally low late winter habitat suitability elsewhere.
Marten:	Variable winter habitat quality, with significant pockets of moderate-high value habitat.
Sheep:	Areas of highly suitable winter habitat with documented (TK, big game outfitters, scientific) habitat use.
Fish:	Fish presence likely in lower gradient streams and main rivers; some known fish occupancy and spawning sites (one); winter overflow, open water and surface groundwater indicate good overwintering potential.
Grizzly Bear:	Mostly moderate habitat suitability in low to mid elevation; high in riparian areas and subalpine zones. TK of a good denning area.
Peregrine Falcon:	High potential for peregrine falcon foraging and nesting near Ogilvie River.
Birds (General):	High value waterbird habitat in riparian areas; low to moderate breeding bird species richness; high number species of conservation concern.
Vegetation:	Edge of a national hotspot for plant endemism. Alpine plants, low-mid elevation dry herb, shrub, and coniferous forests, mid-subalpine shrub, riparian communities.
Wetlands, Lakes and Riparian Areas:	Broad swath of oxbows and riparian habitat along Ogilvie River.
Permafrost:	Extensive high water content permafrost expected for flatter pediments/plateaus.
Special Features:	Some mineral licks. Several possible wildlife passes.
HERITAGE, SOCIAL and CULTURAL RESOURCES	
Heritage Resources:	Cabins (THFN). Culturally important places for TGFN, THFN, VGFN. N-S THFN heritage routes.
Paleontological Resources:	The Bouvette Formation; Road River Group: Ogilvie Formation and Michelle Formation sedimentary rocks in this area have known fossil localities and have high potential to yield further discoveries.
ECONOMIC DEVELOPMENT	
Transportation and Access:	The Dempster Highway lies at the eastern boundary. Some old unclassified trails; a few airstrips of unknown status.
Traditional Economy:	TH traditional harvesting and wildlife area and big game/fur-bearing locations.
Recreation and Tourism:	Near the Dempster Highway there may be some unusual front-country tourism opportunities. Little tourism potential beyond the Dempster Highway Corridor.
Forestry:	Little potential for forestry.
Big Game Outfitters and Trapping:	Reynolds Outfitting Ltd. and Blackstone Outfitting Ltd.; some high value hunting.
Oil and Gas Resources:	Part of Kandik basin is within this unit. This basin is considered to have low development potential.
Mineral Resources:	Very few quartz claims; some moderate zinc-lead potential; moderate general mineral potential.
SPECIAL MANAGEMENT CONSIDERATIONS	
<ol style="list-style-type: none"> 1. The proposed right-of-way for the Dempster Highway lateral pipeline runs along eastern boundary. 2. The Ogilvie River is designated as a Major River Corridor; Major River Corridor management direction applies. 3. Subsequent Dempster Highway sub-regional land use plan may apply to eastern part of unit – Dempster Corridor to be managed consistent with IMA Zone III objectives. 	



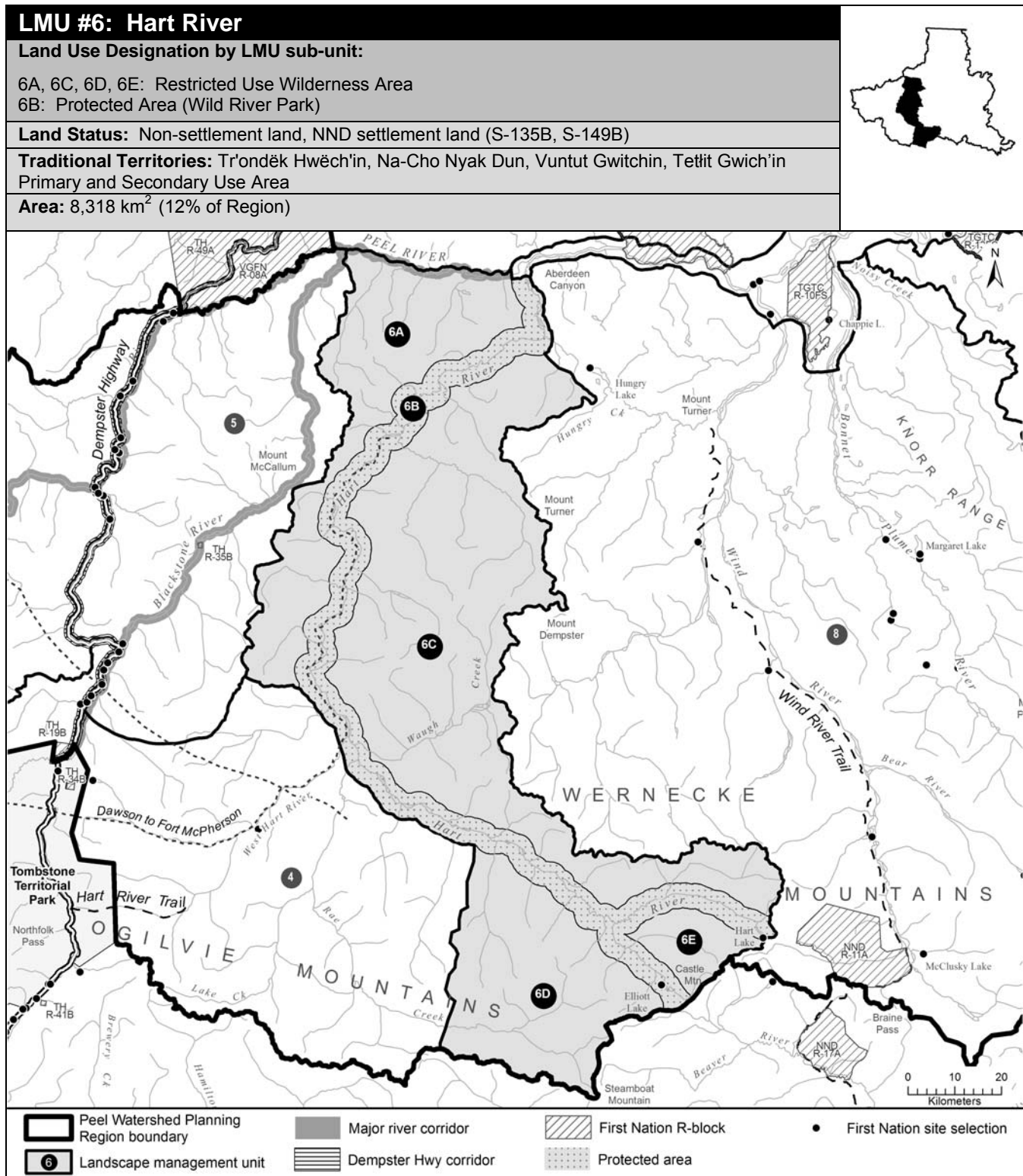
OBJECTIVES	
<ul style="list-style-type: none"> • Wilderness character is maintained. • Cultural activities of relevant First Nations are practiced without significant disturbance from other land-use activities. • Unfettered movement and habitat use of Porcupine and Hart River caribou herds, Dall’s sheep and other large mammals. • Wilderness tourism activities linked to the existing Tombstone Territorial Park that are consistent with the objectives above and don’t require significant infrastructure. 	
RATIONALE FOR DESIGNATION	
<ul style="list-style-type: none"> • Overlapping key wintering areas for two caribou herds: Porcupine caribou herd, and the Hart River herd. <ul style="list-style-type: none"> ○ Overlapping caribou key areas only occur in two places in the Region. ○ The Hart River herd is of the Northern Mountain ecotype, which is listed as “Special Concern” under the Species at Risk Act. • Sheep habitat valued by outfitters and the TH. • National hotspot for plant endemism. • Adjacency to Tombstone Territorial Park and the Dempster Highway Corridor improves suitability for recreation, hunting/outfitting, and tourism. • Generally high ecological values, no coal, oil and gas potential, and generally low potential for carbonate hosted zinc-lead and Wernecke Breccias. 	
BIOPHYSICAL SETTING	
Setting:	<p>An area of tundra-like plains at the confluence of the West Hart River, Rae Creek, and the Hart River surrounded by mountains that lie to the east of Tombstone Territorial Park.</p>
Ecoregions:	Mackenzie Mountains and North Ogilvie Mountains
Bioclimate Zones:	Taiga Wooded, Taiga Shrub and Alpine
	
<p>Rugged mountains (r) separated by broad valleys or flatter, rolling terrain (l) with open forests characterize LMU 4. (YG photo)</p>	

ECOLOGICAL RESOURCES	
SIGNIFICANT WILDLIFE and FISH HABITATS	
Caribou:	Unusual convergence of key/concentrated use areas for both the Porcupine and Hart river herds throughout.
Moose:	High habitat suitability and use in valley bottoms and in narrow bands along smaller tributaries; low-nil late winter habitat suitability in higher country.
Marten:	Generally poor quality winter habitat; significant pockets of moderate habitat occur.
Sheep:	Some highly suitable winter habitat with documented (TK, big game outfitters, scientific) habitat use.
Fish:	Fish likely present in rivers and lower gradient streams; winter overflow and surface groundwater indicate good overwintering potential.
Grizzly Bear:	Mostly moderate habitat suitability in low to mid elevation; high habitat suitability in riparian areas.
Peregrine Falcon:	No known or predicted habitat.
Birds (General):	High value waterbird habitat in riparian areas; low to moderate breeding bird species richness; high number species of conservation concern in mountain valleys.
Vegetation:	A national hotspot for plant endemism. Alpine plants, shrubs, and riparian coniferous forests.
Wetlands, Lakes and Riparian Areas:	Broad swaths of riparian habitats along major rivers and creeks.
Permafrost:	Extensive high water content permafrost expected for flatter pediments/plateaus and valley bottoms.
Special Features:	Some mineral licks. Several possible wildlife passes.
HERITAGE, SOCIAL and CULTURAL RESOURCES	
Heritage Resources:	Culturally important places, camps and cabins around Lomond Lake, along the West Hart River and scattered elsewhere (TH and NND).
Paleontological Resources:	Sedimentary rocks in this area have high potential to yield Paleozoic fossils.
ECONOMIC DEVELOPMENT	
Transportation and Access:	The Dempster Highway lies at the northwestern boundary, and the old Hart River road/trail extends into the unit from the west. Conceptual access route has been identified that bisects the unit from west to east. A few airstrips of unknown status.
Traditional Economy:	Hunting, fishing and trapping, with most activity to the west.
Recreation and Tourism:	High value hiking and recreation potential. Paddling opportunities. Proximity to Dempster Highway gives options for “front-country” tourism.
Forestry:	Little potential for forestry.
Big Game Outfitters and Trapping:	Three outfitting concessions; some high value hunting (sheep, caribou).
Oil and Gas Resources:	No potential.
Mineral Resources:	Several quartz claims; one Cu-Zn deposit; high general mineral potential, though generally low potential for carbonate hosted zinc-lead and Wernecke Breccias.
SPECIAL MANAGEMENT CONSIDERATIONS	
<ol style="list-style-type: none"> 1. Extensive regionally rare overlap of winter core areas of two caribou herds. 2. Subsequent Dempster Highway land use plan may apply to northwestern part of unit. 3. The administrative boundary between NND and TH traditional territories bisects the unit N-S. 4. The Hart River Trail accesses the unit from the west, off the Dempster Highway. Use of this trail by off-road vehicles is allowed, subject to 4.3.1.1 of the Plan and consistent with the intent of the Tombstone Park management plan. 	



OBJECTIVES	
<ul style="list-style-type: none"> • Ecological integrity is maintained. • Some culturally and ecologically-aware resource exploration and extraction that supports the local economies. • All permitted land use activity does not significantly impact movement and habitats of caribou. • Continued use of the Blackstone River for accessible wilderness tourism. 	
RATIONALE FOR DESIGNATION	
<ul style="list-style-type: none"> • Adjacency to the Dempster Highway may allow development to occur more readily with less access-related impacts. • Existing tourism and recreation opportunities are generally reliant on Dempster Highway, and may be somewhat more tolerant of development than in more remote areas. • Flatter areas of unit makes cumulative effects monitoring more effective in limiting impacts on habitat in those area; however, • Most of the unit is quite rugged, thus limiting the effectiveness of cumulative effects monitoring; and, • The high value of this unit for the Porcupine caribou herd, Dall’s sheep, and the people that hunt them calls for a limited scale of industrial development, thus meriting a Zone III designation. 	
BIOPHYSICAL SETTING	
Setting:	Generally mountainous terrain with forested valley bottoms, slopes and flats.
Ecoregions:	North Ogilvie Mountains
Bioclimate Zones:	Taiga Wooded, Taiga Shrub and Alpine
	
<p>Weathering and lack of glaciation and have resulted in pillars of rocks called tors. Deep forested valleys are also characteristic of this area. (YG photo)</p>	

ECOLOGICAL RESOURCES	
SIGNIFICANT WILDLIFE and FISH HABITATS	
Caribou:	High value winter habitat of the Hart River herd concentrated along forested valley bottoms and flatter terrain. Moderate value winter habitat of the Porcupine herd throughout. The Porcupine herd has general use winter and fall areas scattered throughout this unit.
Moose:	Narrow bands of high habitat suitability along smaller tributaries; generally low late winter habitat suitability elsewhere.
Marten:	Generally poor quality winter habitat; significant pockets of moderate habitat occur.
Sheep:	Extensive areas of highly suitable winter habitat with documented (TK, big game outfitters, scientific) habitat use. Scattered licks.
Fish:	Winter overflow, open water and surface groundwater locations indicate overwintering potential, fish in rivers and lower gradient tributaries.
Grizzly Bear:	Mostly moderate habitat suitability in low to mid elevation; high in riparian areas and subalpine zones.
Peregrine Falcon:	High potential for peregrine falcon foraging and nesting habitat in lower elevations.
Birds (General):	High value waterbird habitat in riparian areas; low to moderate breeding bird species richness; moderate number species of conservation concern.
Vegetation:	High endemism/rarity. Alpine plants, low-mid elevation dry herb/shrub/coniferous forests, mid-subalpine shrub, riparian communities.
Wetlands, Lakes and Riparian Areas:	Few small wetlands. Narrow riparian strips.
Permafrost:	Extensive high water content permafrost expected for flatter pediments/plateaus.
Special Features:	Some mineral licks. Several possible wildlife passes.
HERITAGE, SOCIAL and CULTURAL RESOURCES	
Heritage Resources:	Cabins (TH) and camps (NND). Culturally important places for TGFN, TH, VGFN. Several heritage routes.
Paleontological Resources:	The Bouvette Formation; Road River Group: Ogilvie Formation and Michelle Formation sedimentary rocks in this area have known fossil localities and have high potential to yield further discoveries.
ECONOMIC DEVELOPMENT	
Transportation and Access:	The Dempster Highway lies at the western boundary. A few airstrips of unknown status along highway and near mouth of the Blackstone River.
Traditional Economy:	Significant harvesting along Dempster Highway. Other traditional harvesting and wildlife area and big game/fur-bearing locations.
Recreation and Tourism:	Near the Dempster Highway there may be some front-country tourism opportunities. Blackstone River provides as readily accessible “backcountry” paddling experience.
Forestry:	Little potential for forestry.
Big Game Outfitters and Trapping:	Blackstone Outfitting Ltd.; some high value hunting.
Oil and Gas Resources:	No potential.
Mineral Resources:	Few quartz claims; moderate zinc-lead potential; moderate-high general mineral potential.
SPECIAL MANAGEMENT CONSIDERATIONS	
<ol style="list-style-type: none"> 1. The proposed right-of-way for the Dempster Highway lateral pipeline runs along western boundary. 2. The Ogilvie and Blackstone Rivers are designated as Major River Corridors; Major River Corridor management direction applies to these rivers. 3. Dempster Highway Corridor management directions apply near the Dempster Highway. 4. Subsequent Dempster Highway sub-regional land use plan may apply to western part of unit – Dempster Corridor to be managed consistent with IMA Zone III objectives. 5. The administrative boundary between NND and TH traditional territories runs through NE corner. 	



OBJECTIVES

- Wilderness character is maintained.
- Critical viewscapes of the Hart River are protected.
- First Nations’ cultural activities are practiced without significant disturbance from other land-use activities.
- Unfettered movement and habitat use of Porcupine and Hart River caribou herds, Dall’s sheep and other large mammals.
- Wilderness tourism and outfitting activities are managed to be consistent with the objectives above.
- Low levels of mineral exploration and development activity managed to be consistent with the objectives above.

RATIONALE FOR DESIGNATION

- Extensive habitat and key areas for the Hart River herd which is of the Northern Mountain ecotype, listed as “Special Concern” under the Species at Risk Act.
- Extensive general winter and fall use areas for the Porcupine caribou herd.
- Extensive sheep habitat valued by outfitters and the TH.
- Provided connectivity between Tombstone Territorial Park and LMU 4 to the west, and LMU 8 to the east.
- Generally high ecological values, no coal, oil and gas potential, and generally low potential for carbonate hosted zinc-lead and Wernecke Breccias.
- Recent mineral activity suggests significant potential for extension of Rackla-style gold deposits across southern portion of LMU.

BIOPHYSICAL SETTING

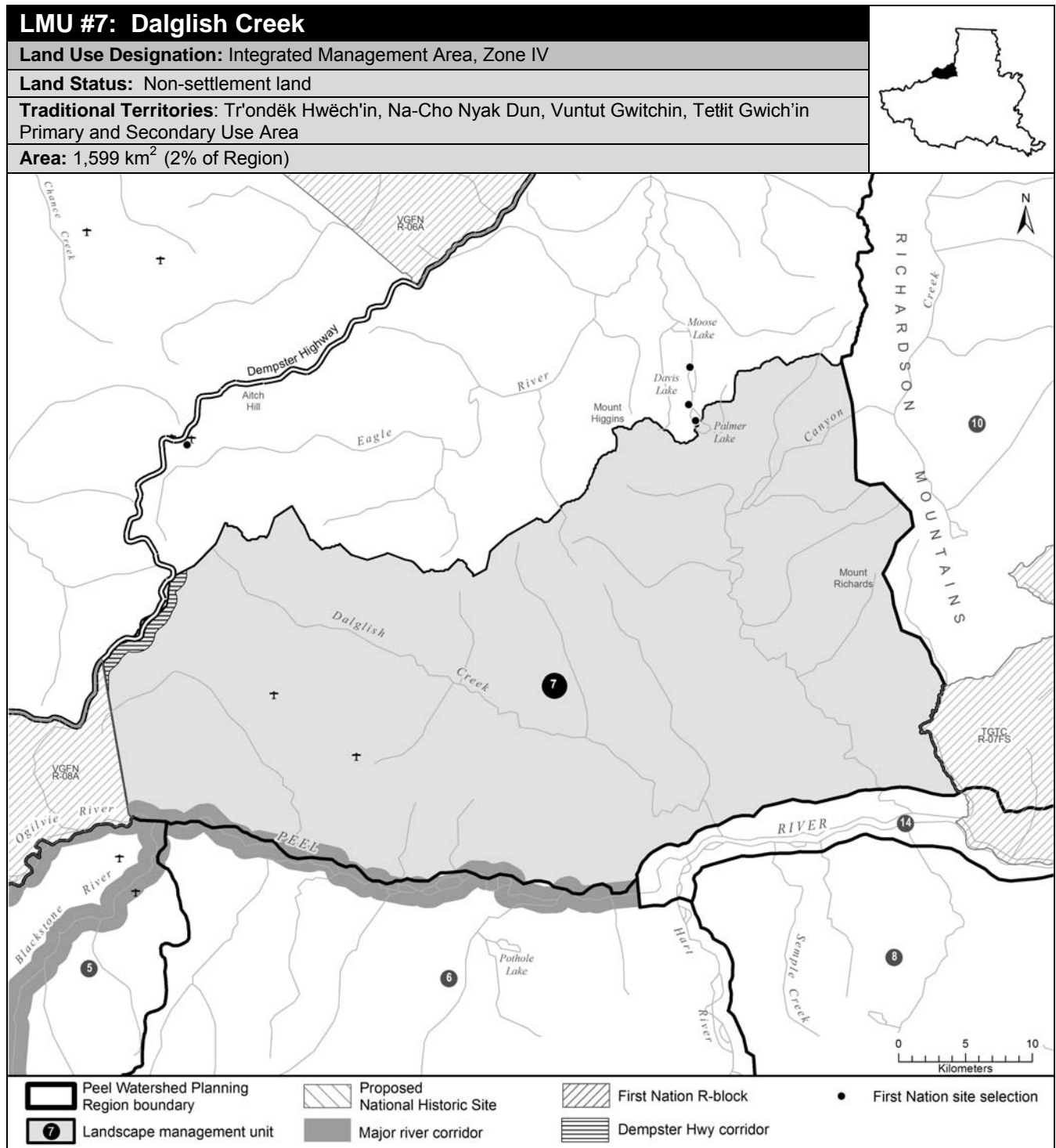
Setting:	A large mountainous watershed punctuated with bands of flatter, forested terrain
Ecoregions:	Mackenzie Mountains, North Ogilvie Mountains, transition to Eagle Plains
Bioclimate Zones:	Taiga Wooded, Taiga Shrub and Alpine (minor Boreal)




Gentle mountains separated by often broad valleys characterize LMU 6. (CWS photo)

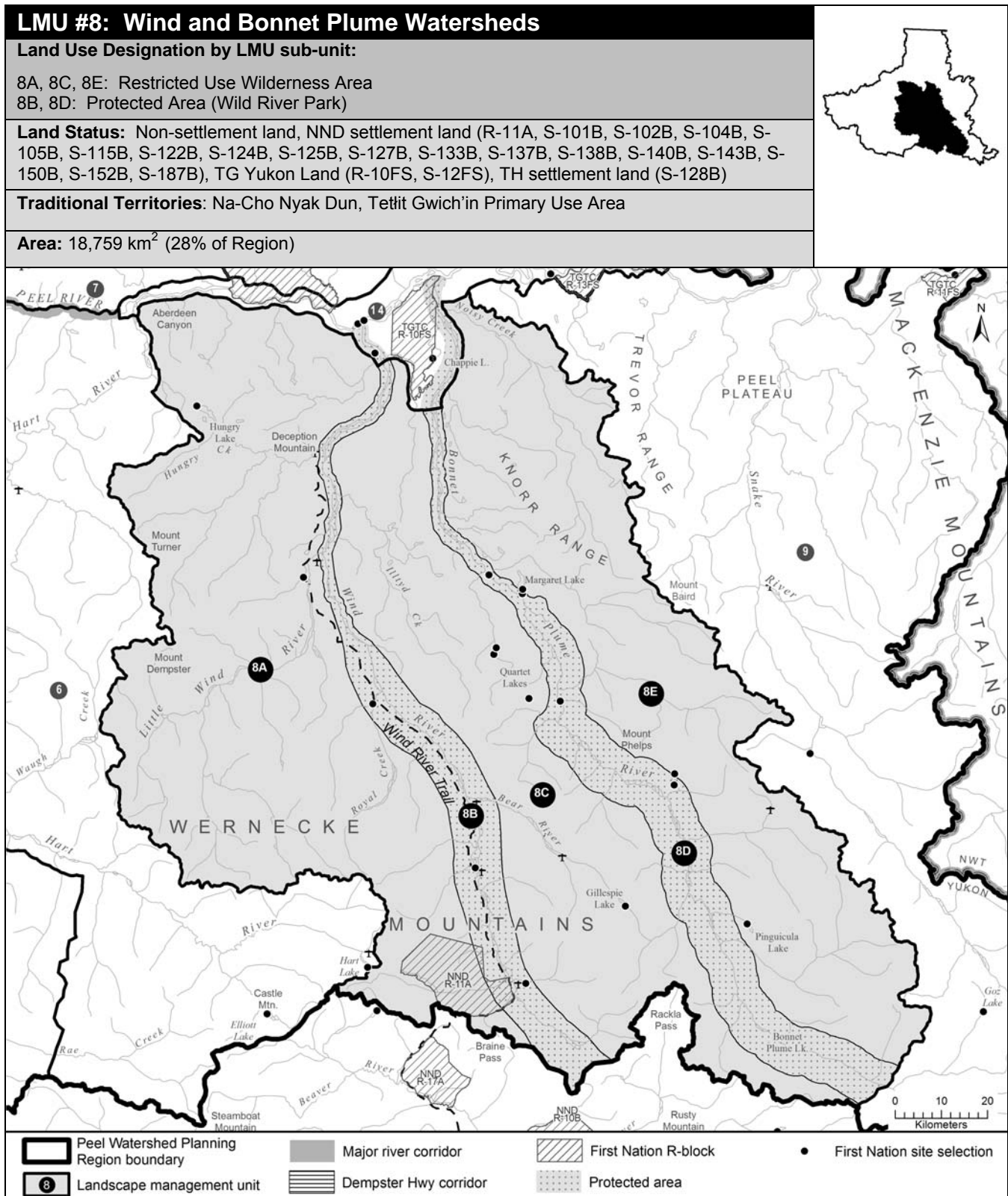
ECOLOGICAL RESOURCES	
SIGNIFICANT WILDLIFE and FISH HABITATS	
Caribou:	High value winter habitat of the Hart River herd concentrated along forested valley bottoms and flatter terrain. Moderate value winter habitat of the Porcupine herd throughout. Both herds have extensive key/general use winter and fall areas scattered throughout this unit.
Moose:	Broad swathes of high habitat suitability and use in valley bottoms, and in narrow bands along smaller tributaries; low-nil late winter habitat suitability in higher country.
Marten:	In headwaters, the high value winter habitat is in valley-bottom forests. Moderate-high quality habitat gets more extensive down towards the Peel River.
Sheep:	Extensive areas of highly suitable winter habitat with documented (TK, big game outfitters, scientific) habitat use. Scattered licks and movement corridor(s).
Fish:	Scattered known fish occupancy sites, fish presence likely in rivers, lower gradient tributaries. Little fish data for this area.
Grizzly Bear:	Mostly moderate habitat suitability in low to mid elevations, high in riparian areas.
Peregrine Falcon:	High potential for peregrine falcon foraging and nesting along lower Hart River and Peel River.
Birds (General):	High value waterbird habitat in riparian areas; low breeding birds species richness, high in riparian areas; high number species of conservation concern.
Vegetation:	Moderate-high endemism/rarity along upper Rae Creek and below West Hart River. Low-mid elevation wet/dry shrub, subalpine shrub, and alpine exposed rock.
Wetlands, Lakes and Riparian Areas:	Large wetland complexes on Hart River, scattered wetlands. Three sizeable lakes in headwaters (Worm, Elliot, and Hart Lakes).
Permafrost:	Continuous permafrost is predicted.
Special Features:	Several mineral licks; several possible wildlife passes.
HERITAGE, SOCIAL and CULTURAL RESOURCES	
Heritage Resources:	Numerous travel routes connecting to Blackstone River, to Dempster Hwy/Tombstone (via West Hart River), to Little Wind River (via Waugh Creek), to Wind River (via Hungry Lakes) and through Rae Creek. Several cabins (THFN, NND).
Paleontological Resources:	Sedimentary rocks in this area have high potential to yield Paleozoic fossils.
ECONOMIC DEVELOPMENT	
Transportation and Access:	Few old winter roads in the lower section of unit; a conceptual access route has been identified in this unit between Waugh Creek to West Hart/Dempster Hwy. Three airstrips. Floatplane landing at three lakes.
Traditional Economy:	TH traditional harvesting and wildlife areas and TG seasonal land use; TH fish harvesting.
Recreation and Tourism:	Very high values for wilderness paddling. Extensive wilderness hiking in the headwaters of West Hart and Hart Rivers. Road access to West Hart, Fly-in put-in access in upper Hart River (Hart Lake, Elliot Lake and Worm lake); horseback touring.
Forestry:	Little potential for forestry.
Big Game Outfitters and Trapping:	Blackstone Outfitting Ltd. and Midnight Sun Outfitting Ltd.; high value hunting.
Oil and Gas Resources:	No potential.
Mineral Resources:	Few quartz claims & no proven deposits; low copper/gold/uranium potential; moderate zinc-lead potential; moderate-high general potential.
SPECIAL MANAGEMENT CONSIDERATIONS	
<ol style="list-style-type: none"> 1. The administrative boundary between NND and TH traditional territories runs through the central-west part of the unit. 2. Allowable and prohibited land uses in the PA and RUWA are defined in Table 3.2 and 3.3 of this Plan. 3. Maximum cumulative effects indicator levels in each RUWA LMU are as follows: <ol style="list-style-type: none"> a. 0.2% direct surface disturbance; and b. 0.1 km/km² total linear density. 4. Mining Land Use Special Operating Conditions (including Class 1 activities): <ol style="list-style-type: none"> a. Proposed ground disturbance must be minimized and restored annually after activities have been completed (each season); b. Security may be required, equal to cost of reclaiming the disturbance, as determined by the Chief of Mining Land Use; 	

- c. Air access only for exploration activity;
 - d. Off-road vehicles (ORVs) may be used on claims in compliance with direction provided the Plan - e.g. respect areas that are off limits, stay on existing trails, avoid sensitive alpine and wet areas;
 - e. No flying zones over sheep habitat during spring lambing season; and
 - f. No mineral activity on existing claims in Wild River Parks during the peak wilderness travel season (e.g., July 1 to July 31).
5. Air Access Coordination:
 - a. All land users are expected to participate in the Air Access Coordination process (e.g., the location, timing, and nature of activities would be submitted in advance of activities to ensure adequate coordination occurs). Note: this step does not apply to mineral staking activities.
6. Surface Access:
 - a. Access management plan required prior to authorizing any surface access; and
 - b. Temporary restricted access only, general public access is not allowed.
7. ORVs:
 - a. Prohibited in sensitive areas (wetlands and alpine areas during spring, summer and fall seasons); and
 - b. Restricted to existing trails and camps.
8. Research Priority:
 - a. Update mineral potential mapping.



OBJECTIVES	
<ul style="list-style-type: none"> • Ecological integrity is maintained. • Some culturally and ecologically-aware resource exploration and extraction that supports the local economies. • All permitted land use activity does not significantly impact movement and habitats of caribou. • Industrial activity does not result in any alteration to the Peel River’s viewscape. 	
RATIONALE FOR DESIGNATION	
<ul style="list-style-type: none"> • Adjacency to the Dempster Highway may allow development to occur more readily with less access-related impacts. • Highest oil and gas development potential in the Region. • No big-game outfitting activities and no tourism/recreation activities beyond the Peel River corridor. • Porcupine caribou use the entire unit, though only the extreme SW corner falls in a concentrated winter use area. The biggest value of this unit for this herd likely is as a migration route. This calls for some limitations on industrial development; however, • Development will likely occur on relatively flat terrain, making the recommended cumulative effects monitoring more effective in limiting impacts on habitat in those area, thus meriting a Zone IV designation. 	
BIOPHYSICAL SETTING	
Setting:	Rolling forested plateau with incised creeks north of the Peel River and west of the Richardson Mountains
Ecoregions:	Eagle Plains
Bioclimate Zones:	Taiga Wooded
	
<p>LMU 7 is characterized by rolling forested (front left) or recently burned (center) terrain. A historic winter road (circa 1950’s) to Eagle Plains is visible in this photo. (CWS photo)</p>	

ECOLOGICAL RESOURCES	
SIGNIFICANT WILDLIFE and FISH HABITATS	
Caribou:	Moderate habitat suitability for the Porcupine herd, and includes general use areas for the fall migration, rutting, and winter seasons. Importance to the migration of the Porcupine herd may increase as development occurs to the north.
Moose:	Generally low late winter habitat quality, though ribbons of high value habitat follow major creeks.
Marten:	Variable winter habitat value, though generally moderate or high.
Sheep:	Virtually no sheep habitat.
Fish:	Fish likely present throughout unit.
Grizzly Bear:	Moderate to high habitat suitability.
Peregrine Falcon:	Some peregrine foraging habitat along Peel River.
Birds (General):	High value waterbird habitat along riparian areas; variable breeding spp. richness and moderate species of conservation concern (high pockets)
Vegetation:	Low endemism/rarity. Low-mid elevation wet/dry herb and shrub, and dry coniferous forest.
Wetlands, Lakes and Riparian Areas:	Wetlands along Peel River and a few scattered wetlands within unit.
Permafrost:	Continuous permafrost is predicted.
Special Features:	Wildlife passes, Canyon Creek Canyon.
HERITAGE, SOCIAL and CULTURAL RESOURCES	
Heritage Resources:	TG and TH travel routes along Dalglish and Canyon Creeks to Peel River; many VG and TG archaeological sites; TG culturally important places.
Paleontological Resources:	The Eagle Plains and sandstone sedimentary rocks have known fossil localities and this area (including Canyon Creek) has high potential to yield further discoveries
ECONOMIC DEVELOPMENT	
Transportation and Access:	Adjacent to a short section of the Dempster Highway. Few old unclassified linear features and historic trail to Eagle Plains via the Wind River; a conceptual access route has been identified in this unit; two airstrips. Adjacent to floatplane landing on the Peel River at Canyon Creek.
Traditional Economy:	TG seasonal land use and traditional harvesting and wildlife areas.
Recreation and Tourism:	Little current tourism beyond some paddling along the Peel River, though the canyon on Canyon Creek has very high tourism potential.
Forestry:	Little potential for forestry.
Big Game Outfitters and Trapping:	No registered concessions.
Oil and Gas Resources:	Eagle plains basin; highest potential in the PWPR; three abandoned wells, one capped well. Oil and gas permit (#0014 & #0015) and Significant Discovery Licenses (SDL-020 & SDL-021).
Mineral Resources:	Some quartz claims; generally low mineral potential.
SPECIAL MANAGEMENT CONSIDERATIONS	
<ol style="list-style-type: none"> 1. The proposed right-of-way for the Dempster Highway lateral pipeline runs along western boundary. 2. Major River Corridor management direction applies along the upper Peel River to protect the viewscape. 3. Dempster Corridor management directions apply near the Dempster Highway. 4. Subsequent Dempster Highway sub-regional land use plan may apply to northwestern part of unit – Dempster Corridor to be managed consistent with IMA Zone IV objectives. 5. Much of the unit was affected by fire in the summer of 2005. 6. Notification of class 1 mineral exploration will be required. 	




OBJECTIVES

- Wilderness character is maintained.
- Critical viewscapes of the Wind and Bonnet Plume rivers are protected.
- Wilderness tourism and big-game outfitting industries are encouraged in a manner consistent with protection of sensitive ecological values, and within their carrying-capacity.
- Community cultural activities practiced without significant disturbance.
- The core range of the Bonnet Plume caribou herd continues to be able to support the historic full size of the herd.
- Low levels of mineral exploration and development activity in the RUWA area managed to be consistent with the above objectives.

RATIONALE FOR DESIGNATION

- The Bonnet Plume River is a Canadian Heritage River.
- The Wind River watershed, Hungry Lakes, Chappie Lake, Margaret Lake, and Quartet Lake were recommended for consideration for protection by the Peel River Watershed Advisory Committee.
- Numerous culturally important places and First Nation traditional travel routes.
- Two large and mostly pristine watersheds that are well suited for wilderness tourism and big-game outfitting.
- The Bonnet Plume caribou herd is of the Northern Mountain ecotype, which is listed as “Special Concern” under the Species at Risk Act; most of its range is within this one unit.
- Wide-ranging species like caribou and grizzly bears need large tracks of largely unfragmented landscape. This unit may offer an unusual opportunity to conserve sufficient habitat for these species.
- Large unfragmented landscapes with N-S oriented valleys and large elevation ranges are well suited to allowing species to shift their ranges in response to climate change.
- High mineral potential as indicated by the significant number of active claims in LMU 8. Remoteness has limited development to date.
- Low oil and gas potential due to small size, remoteness, and likely lower quality of the Bonnet Plume Basin.

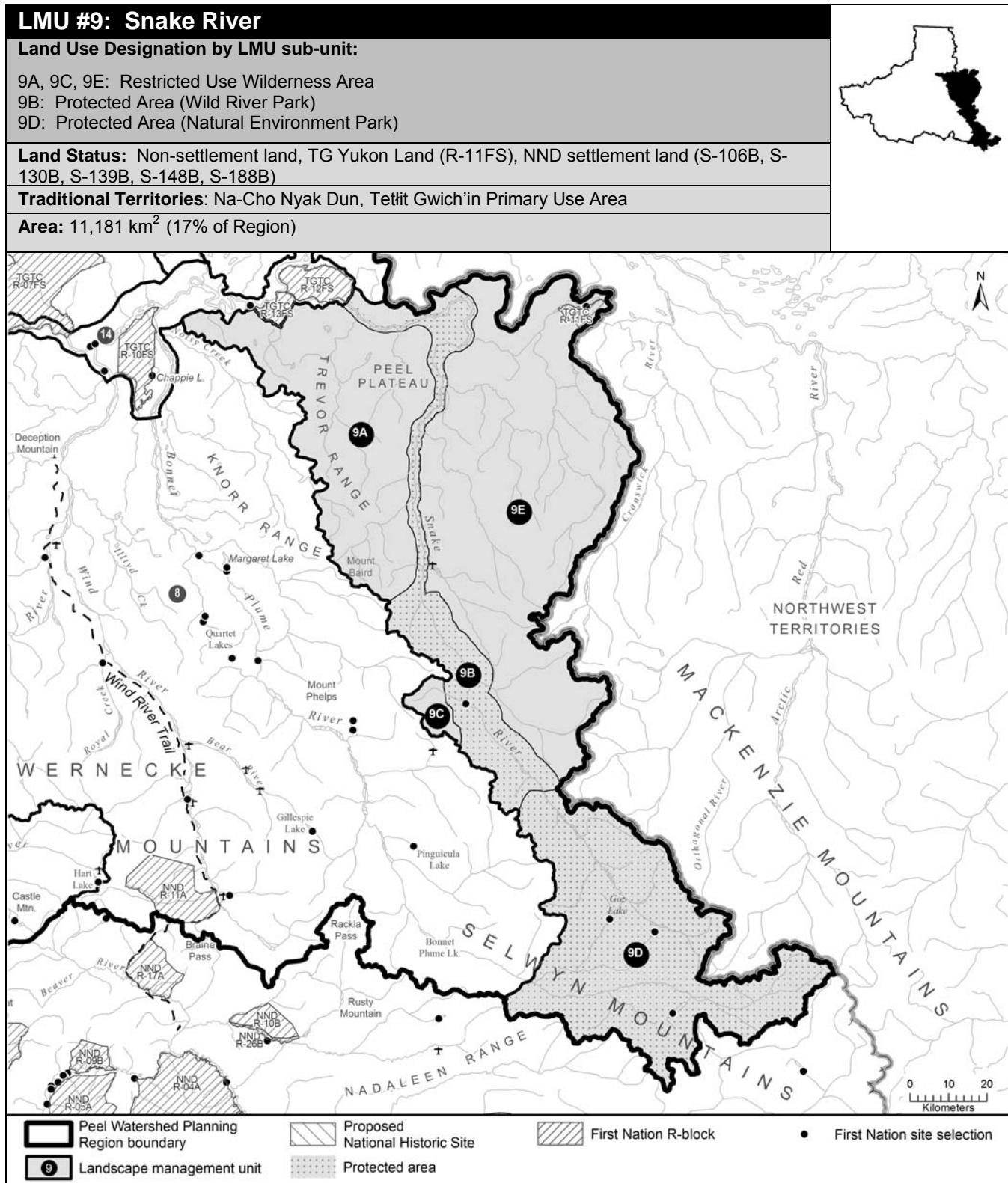
BIOPHYSICAL SETTING

<p>Setting:</p>	<p>Rocky mountainous terrain with deep forested valleys and large rivers that give way to forested plateaus with many wetlands</p>	
<p>Ecoregions:</p>	<p>Mackenzie Mountains, Peel River Plateau, some North Ogilvie Mountains and Eagle Plains</p>	
<p>Bioclimate Zones:</p>	<p>Taiga Wooded, some Taiga Shrub and Alpine</p>	

Rugged Wernecke Mountains with narrow forested or shrubby valleys are characteristic of the headwaters (left), while flatter foothills and plateaus are characteristic of the lower reaches (right). (YG photo)

ECOLOGICAL RESOURCES	
SIGNIFICANT WILDLIFE and FISH HABITATS	
Caribou:	High value winter habitat, key winter, and migratory use areas of the Bonnet Plume herd concentrated along forested valley bottoms, largest concentration of key use areas; extensive moderate winter habitat potential for the Porcupine herd – little use east of Hungry Lakes in recent decades.
Moose:	High habitat suitability and use in valley bottoms; moderate-low late winter habitat suitability elsewhere.
Marten:	High habitat suitability in valley bottoms and in lower plateaus; low-nil late winter habitat suitability elsewhere.
Sheep:	Large concentration of high value winter habitat and documented habitat use in upper and mid portions of unit. Scattered mineral licks and associated trails.
Fish:	Fish presence potential in larger tributaries, several known fish occupancy and spawning sites, and winter open water sites and surface ground water.
Grizzly Bear:	Moderate to high habitat suitability in riparian areas and high elevation subalpine zones.
Peregrine Falcon:	High potential for peregrine falcon foraging, some nesting habitat in the lower plateau areas.
Birds (General):	High value waterbird habitat in riparian areas; breeding bird species richness highest along rivers and in the lower plateaus; variable number species of conservation concern.
Vegetation:	Wide range of vegetation. Moderate rarity/endemism along the transition between mountains and plateau.
Wetlands, Lakes and Riparian Areas:	Several larger lakes in the headwaters (McClusky, Gillespie, Pinguicula, Fairchild, Quartet, Kiwi, and Margaret Lakes) and on lower reaches (Hungry and Chappie Lakes). A territorially-significant wetland complex between Bonnet Plume and Wind Rivers around Chappie Lake.
Permafrost:	Continuous permafrost is predicted, likely with high water content on the flatter plateau areas of the lower Bonnet Plume and Wind Rivers.
Special Features:	Regionally significant concentration of mineral licks; documented and possible wildlife passes (especially for sheep); caribou migration corridors.
HERITAGE, SOCIAL and CULTURAL RESOURCES	
Heritage Resources:	Numerous travel corridors and cabins (NND and TG). Culturally important sites for TG, VGFN.
Paleontological Resources:	The coal bearing deposits of the Bonnet Plume Formation in this region have high potential to be associated with Mesozoic plant and vertebrate fossils. There have been woolly mammoth fossils collected on Noisy Creek in the past. The carbonate rocks of the Road River Formation in this region have known trilobite fossil localities and have high potential to yield further Paleozoic fossils.
ECONOMIC DEVELOPMENT	
Transportation and Access:	Wind River winter trail; conceptual access routes run along the Wind River to Eagle Plains and also cross the unit linking the Hart River to the Little Wind, Bonnet Plume and Snake Rivers. Several airstrips and opportunities for floatplane landing.
Traditional Economy:	NND and TG traditional harvesting and wildlife areas.
Recreation and Tourism:	High value wilderness paddling, hiking and wildlife viewing especially in upper mountainous areas; Canadian Heritage River.
Forestry:	Little potential for forestry.
Big Game Outfitters and Trapping:	Midnight Sun Outfitting Ltd, Bonnet Plume Outfitting Ltd. and Widrig Outfitting Ltd. Extensive high value hunting in mountainous areas.
Oil and Gas Resources:	Noisy Creek drainage is part of the Peel Plateau and Plain Basin and has moderate potential; lower reaches of the Bonnet Plume and Wind Rivers are within the Bonnet Plume basin which has low potential.
Mineral Resources:	All of the region's coal licenses; several coal deposits; highest concentration of quartz claims; some iron potential; mostly moderate with some high copper/gold/uranium potential; moderate to high zinc-lead, one proven deposit.
SPECIAL MANAGEMENT CONSIDERATIONS	
<ol style="list-style-type: none"> 1. The Bonnet Plume Heritage River Management Plan provides further direction for management of land-use activities in this unit. 2. Allowable and prohibited land uses in the PA and RUWA are defined in Table 3.2 and 3.3 of this Plan. 3. Maximum cumulative effects indicator levels in each RUWA LMU are as follows: <ol style="list-style-type: none"> a. 0.2% direct surface disturbance; and b. 0.1 km/km² total linear density. 	

4. Mining Land Use Special Operating Conditions (including Class 1 activities):
 - a. Proposed ground disturbance must be minimized and restored annually after activities have been completed (each season);
 - b. Security may be required, equal to cost of reclaiming the disturbance, as determined by the Chief of Mining Land Use;
 - c. Air access only for exploration activity;
 - d. Off-road vehicles (ORVs) may be used on claims in compliance with direction provided the Plan - e.g. respect areas that are off limits, stay on existing trails, avoid sensitive alpine and wet areas;
 - e. No flying zones over sheep habitat during spring lambing season; and
 - f. No mineral activity on existing claims in Wild River Parks during the peak wilderness travel season (e.g., July 1 to July 31).
5. Air Access Coordination:
 - a. All land users are expected to participate in the Air Access Coordination process (e.g., the location, timing, and nature of activities would be submitted in advance of activities to ensure adequate coordination occurs). Note: this step does not apply to mineral staking activities.
6. Surface Access:
 - a. Access management plan required prior to authorizing any surface access; and
 - b. Temporary restricted access only, general public access is not allowed.
7. ORVs:
 - a. Prohibited in sensitive areas (wetlands and alpine areas during spring, summer and fall seasons); and
 - b. Restricted to existing trails and camps.
8. Research Priority:
 - a. Update mineral potential mapping.





OBJECTIVES

- Wilderness character is maintained.
- Critical viewscapes of the Snake River are protected.
- Wilderness tourism and big-game outfitting industries are encouraged in a manner consistent with protection of sensitive ecological values, and within their carrying-capacity.
- Community cultural activities practiced without significant disturbance.
- Unfettered movement and habitat use of Bonnet Plume and Redstone caribou herds, Dall’s sheep and other large mammals.
- Low levels of mineral exploration and development activity in the RUWA area managed to be consistent with the above objectives.

RATIONALE FOR DESIGNATION

- “Source Peaks” of Snake and Bonnet Plume Rivers (and others), the Snake River watershed, and Bonnet Plume Lake were recommended consideration for protection by the Peel River Watershed Advisory Committee.
- A large and mostly pristine watershed that is well suited for wilderness tourism and big-game outfitting.
- The Bonnet Plume caribou herd is of the Northern Mountain ecotype, which is listed as “Special Concern” under the Species at Risk Act; some of its key areas are within this unit.
- Wide-ranging species like caribou and grizzly bears need large tracks of largely unfragmented landscape. This unit may offer an unusual opportunity to conserve sufficient habitat for these species.
- Large unfragmented landscapes with N-S oriented valleys and large elevation ranges are well suited to allowing species to shift their ranges in response to climate change.
- High mineral potential - remoteness and other factors have precluded development to date.
- Road development that is required to support mining needs to be carefully managed and limited to protect wilderness objectives.
- Lower oil and gas potential due to access difficulties, and moderate quality of the Peel Plateau and Plain Basin.

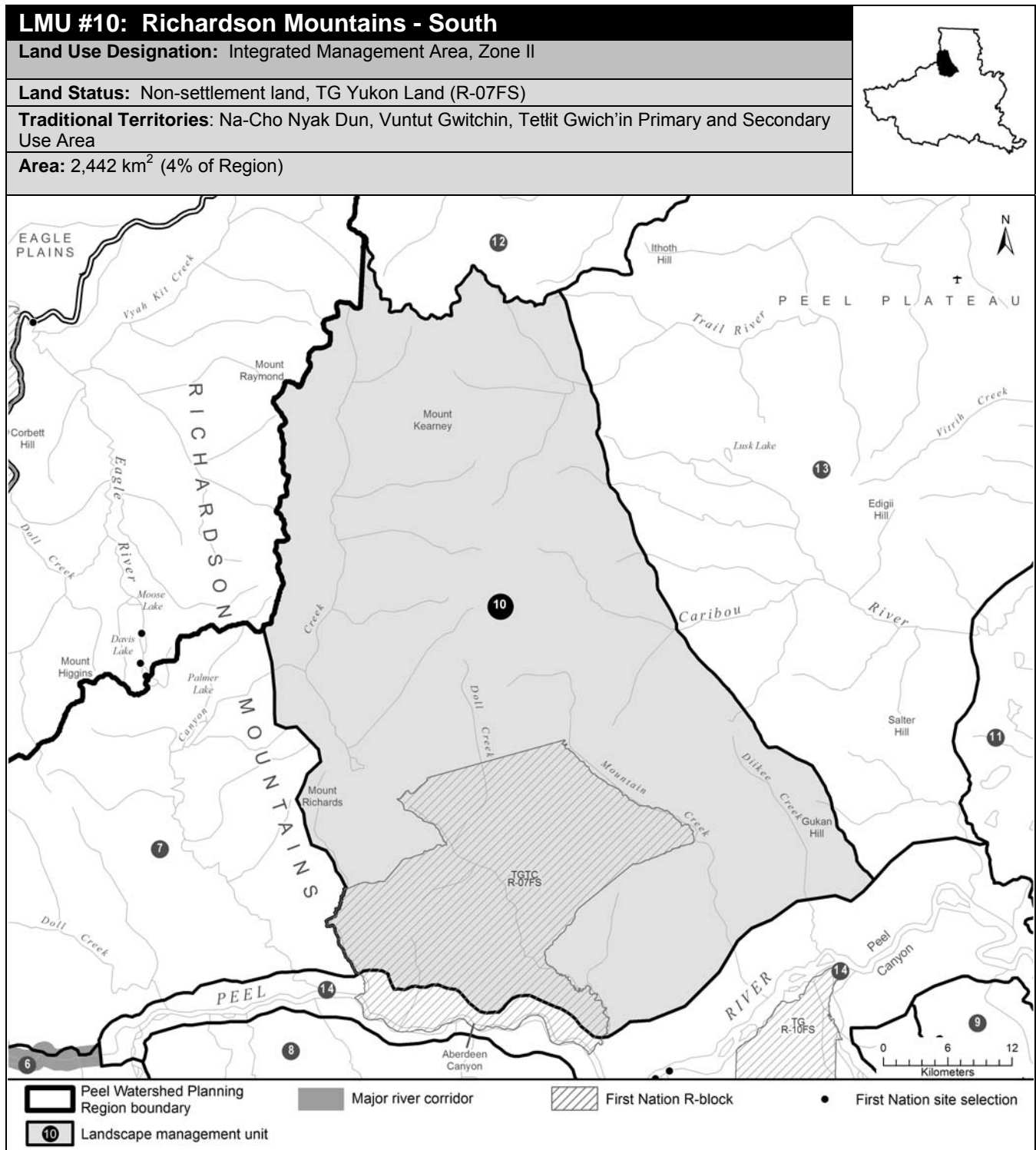
BIOPHYSICAL SETTING

<p>Setting:</p>	<p>Deep forested valley and a large river set in rugged mountains that give way to an incised forested plateaus with many wetlands</p>		
<p>Ecoregions:</p>	<p>Peel River Plateau (north) and Mackenzie Mountains (south)</p>		
<p>Bioclimate Zones:</p>	<p>Taiga Wooded, Taiga Shrub and Alpine</p>		

The upper Snake River (l) is often braided, and flanked by a fairly narrow band of forest on the toe of mountains. The lower Snake River (r) is carved into a forested plateau with wetlands. A seismic line is also depicted at right. (YG photo)

ECOLOGICAL RESOURCES	
SIGNIFICANT WILDLIFE and FISH HABITATS	
Caribou:	High value winter habitat and some key areas of the Bonnet Plume herd concentrated along forested valley bottoms and on lower plateau; moderate-low winter habitat for the Porcupine herd – little use in recent decades.
Moose:	High habitat suitability in valley bottoms; low-nil late winter habitat suitability elsewhere.
Marten:	The most extensive high quality winter habitat in the region, mostly in plateau taiga forests; quality winter habitat in valley-bottom forests, poor elsewhere.
Sheep:	Regionally significant concentration of mineral licks and associated movement corridors (good for viewing by tourists). Concentration of moderate value winter habitat and documented habitat use (winter and lambing seasons) and great importance to big game outfitters.
Fish:	Fish presence potential in larger rivers and streams, several known fish occupancy and winter open water sites.
Grizzly Bear:	High grizzly bear habitat suitability in riparian corridors and valleys.
Peregrine Falcon:	Regionally significant concentration of peregrine falcon nesting and foraging habitat along lower Snake River.
Birds (General):	Extensive waterbird habitat in riparian areas and on lower plateau; low -moderate breeding birds species richness; several species of conservation concern.
Vegetation:	Wide range of vegetation. Moderate rarity/endemism along the transition between mountains and plateau.
Wetlands, Lakes and Riparian Areas:	Three larger lakes in the headwaters (Goz, Duo, and Bonnet Plume Lakes). Numerous wetlands and small lakes (including Popcornfish Lake) in the lower plateau areas.
Permafrost:	Continuous permafrost is predicted.
Special Features:	Regionally significant concentration of mineral licks, caribou migration corridors.
HERITAGE, SOCIAL and CULTURAL RESOURCES	
Heritage Resources:	Very few cabins and travel routes
Paleontological Resources:	This area has known palaeontological sites with fossil fish and trilobites. The sedimentary rocks throughout this LMU have high potential to yield additional Paleozoic fossil specimens.
ECONOMIC DEVELOPMENT	
Transportation and Access:	Old winter road and seismic lines in lower portion; a conceptual access route running along most of the Snake Valley has been identified that links Margaret Lake to Duo Lake.
Traditional Economy:	TG trapping area and NND traditional harvesting and wildlife areas, especially sheep.
Recreation and Tourism:	Highest current value in the region. High value wilderness paddling and access to hiking.
Forestry:	Little potential for forestry.
Big Game Outfitters and Trapping:	Bonnet Plume Outfitters Ltd. and Widrig Outfitting Ltd. Extensive high value hunting in mountainous areas.
Oil and Gas Resources:	Peel Plateau and Plain Basin, which overlaps with the lower plateau portion of this unit, has moderate oil and gas potential. Two abandoned wells.
Mineral Resources:	Very large proven iron deposit; some high zinc-lead potential with a known deposit; small area of coal potential.
SPECIAL MANAGEMENT CONSIDERATIONS	
<ol style="list-style-type: none"> 1. The Bonnet Plume Heritage River Management Plan provides further direction for management of land-use activities in the portion of this unit that includes the headwaters of the Bonnet Plume River. 2. Allowable and prohibited land uses in the PA and RUWA are defined in Table 3.2 and 3.3 of this Plan. 3. Maximum cumulative effects indicator levels in each RUWA LMU are as follows: <ol style="list-style-type: none"> a. 0.2% direct surface disturbance; and b. 0.1 km/km² total linear density. 4. Mining Land Use Special Operating Conditions (including Class 1 activities): <ol style="list-style-type: none"> a. Proposed ground disturbance must be minimized and restored annually after activities have been completed (each season); b. Security may be required, equal to cost of reclaiming the disturbance, as determined by the Chief of Mining Land Use; 	

- c. Air access only for exploration activity;
 - d. Off-road vehicles (ORVs) may be used on claims in compliance with direction provided the Plan - e.g. respect areas that are off limits, stay on existing trails, avoid sensitive alpine and wet areas;
 - e. No flying zones over sheep habitat during spring lambing season; and
 - f. No mineral activity on existing claims in Wild River Parks during the peak wilderness travel season (e.g., July 1 to July 31).
5. Air Access Coordination:
- a. All land users are expected to participate in the Air Access Coordination process (e.g., the location, timing, and nature of activities would be submitted in advance of activities to ensure adequate coordination occurs). Note: this step does not apply to mineral staking activities.
6. Surface Access:
- a. Access management plan required prior to authorizing any surface access; and
 - b. Temporary restricted access only, general public access is not allowed.
7. ORVs:
- a. Prohibited in sensitive areas (wetlands and alpine areas during spring, summer and fall seasons); and
 - b. Restricted to existing trails and camps.



6. Plan Implementation and Revision

The implementation of a land use plan – putting the plan into effect – is a critical stage in the planning process. It is where the guiding principles, goals, and recommendations of the Plan are turned into actions. Yukon government has approved this Plan for Non-Settlement Land in the Peel Watershed Planning Region. By doing so Yukon government has committed to implement the Plan and to establish a process for making revisions to it, if required. Plan implementation tasks and responsibilities are discussed below.

6.1. Plan Implementation

6.1.1 Implementation Responsibilities

Yukon government has the primary responsibility for implementing this Plan. An **Implementation Committee**, with oversight from senior government officials, will be created to implement the Plan. Based on the North Yukon Regional Land Use Plan model (Yukon government and Vuntut Gwitchin Government 2009) the purpose of the Implementation Committee is to ensure:

- Consultation obligations with First Nations are being met;
- There is periodic monitoring of implementation actions to measure the effectiveness of the Plan;
- A Plan Review is recommended when warranted (see Section 6.2, below). A Plan Review would be triggered by a significant change in land use activity in the region and/or recognition that the Plan is not meeting its stated goals; and
- The Plan and planning region is assessed within ten years of Plan approval to determine if a Plan Review is required.

Other groups with implementation responsibilities may include:

- Yukon Land Use Planning Council (YLUPC);
- Yukon Environmental and Socio-economic Assessment Board (YESAB);
- Government of Canada; and
- UFA boards and committees.

6.1.2 Implementing Landscape Management Units and their Designations

Putting LMUs and their land use categories into effect depends on their designation – Protected Area (PA), Restricted Use Wilderness Area (RUWA), or Integrated Management Area (IMA).

6.1.2.1 Protected Area (PA)

Implementing PA land category recommendations requires three main activities. Yukon government will:

- a) Withdraw the LMUs designated as PA from mineral staking and oil and gas disposition, and will designate the new PAs as Territorial Parks under the *Parks and Land Certainty Act*. This includes establishing a new Wild River Park designation;
- b) Manage the PAs in accordance with this Plan until more detailed park management plans are completed; and

- c) Establish a process to coordinate air access in PAs (a single air access coordination process is envisioned for both the PA and RUWA land categories).

6.1.2.2 Restricted Use Wilderness Area (RUWA)

RUWA implementation requires approval of new regulatory instruments and policy direction. Yukon government will:

- a) Designate the RUWA and PA land categories as notification areas¹ for Class 1 mineral activity under the *Quartz Mining Act* and *Placer Mining Act*, and establish special operating conditions for these areas;
- b) Amend the *Territorial Lands Act* to enable management of private resource roads including the ability to limit public access and enforce reclamation;
- c) Under the *Territorial Lands Act*, designate the RUWA as an Off Road Vehicle management area and develop operating conditions as directed by the Plan;
- d) Through policy, follow the list of allowable and prohibited uses within the RUWA land category;
- e) Establish a process to coordinate air access in the RUWA (a single air access coordination process is envisioned for both the RUWA and PA land categories); and
- f) Establish a process for tracking cumulative effects indicators and determining management options (the same process will be developed for the IMA).

6.1.2.3 Integrated Management Area (IMA)

The primary implementation task required to support decision-making in the IMA is the tracking of cumulative effects indicator levels. Yukon government will:

- a) Establish a process for tracking cumulative effects indicators and determining management options (the same process will be developed for RUWA).
 - At minimum, two cumulative effects indicators – total amount of surface disturbance and linear density – will be tracked.
 - If a cautionary indicator level is reached, as defined in this Plan, the status of values will be reviewed and management options to minimize impacts will be determined. Management options may be informed by:
 - indicator levels;
 - other management plan recommendations;
 - research or literature reviews; and
 - advice from third parties such as YESAB.

6.1.3 Plan Conformity

As described in section 12.17 of the Final Agreements, the conformity or agreement of new land uses with the Plan must be assessed through the Development Assessment Process. The same plan conformity process as used in the North Yukon Regional Land Use Plan (Yukon government and Vuntut Gwitchin Government 2009) will be followed for this Plan, with the Yukon Land Use Planning Council secretariat performing conformity checks on behalf of the Parties to the Plan (this arrangement is supported by section 11.3.4 of the Final Agreements).

¹ Notification pertaining to PAs is intended to recognize the presence of existing mineral claims within some PAs.

6.2 Changing the Plan

This Plan is designed to be flexible, and is intended to be a living document. It is open to periodic change and revision as agreed to by the Parties, the Final Agreements and the Peel Watershed General Terms of Reference provide for these revisions. A process for reviewing and changing the Plan supports the principle of adaptive management.

The Plan may need changes when:

- New land management concepts emerge;
- New land and resource information becomes available;
- Technology or new knowledge that affects the Plan becomes available;
- The management values that the Plan is based upon change; or,
- Demand for land and resources in the region changes.

As part of its periodic review, the Implementation Committee will determine when changes to the Plan may be required, and for developing an appropriate process to make such changes.

6.2.1 Plan Review

As described above, a Plan Review may be required when major changes to the Plan are needed, or when new land use issues or information affecting the Plan emerges. A Plan Review may result in, but is not limited to, changes to the following:

- LMU boundaries;
- Re-assignment of land categories; or
- New or modified general management direction recommendations.

Other research or management items that were considered for this Plan but deferred for future consideration should also be examined during a Plan Review. Table 6.1 lists suggested items for future consideration. Table 6.2 lists potential indicators that could be used to assess the effectiveness of the Plan in promoting sustainable development.

6.2.1.1 Schedule

Plan Reviews will take place on an agreed-upon schedule, or whenever the Implementation Committee agrees that a review is needed. Within ten years of Plan approval, the Plan and planning region are to be assessed to determine if a Plan Review is required.

Table 6.1: Suggested items for consideration in future Plan Reviews.

Task	Actions
1. Evaluate success of the Plan in achieving its goals.	<ul style="list-style-type: none"> • Determine if recommendations from Plan were used, and if they were effective. • Determine if goals are still relevant. • Consider if the goals of Plan were met and/or if they are still achievable. • If required, revise Plan content.
3. Develop and put into effect additional indicators.	<ul style="list-style-type: none"> • Consider including habitat targets for focal species in specific LMUs. • Consider indicators of aquatic habitat integrity and water quality (e.g., stream crossing index, CCME water quality index, etc.) to complement current terrestrial indicators. • Consider inclusion of regional sustainability indicators (see Table 6.2 for suggested list). • Consider social indicators of wilderness integrity (e.g., total human presence in an LMU, visible site impacts)
4. Consider refining LMU boundaries.	<ul style="list-style-type: none"> • Consider refining LMU boundaries to better match more detailed base data (1:50,000 scale CanVec).
5. Consider refining boundaries and developing a zoning system for Major River Corridors.	<ul style="list-style-type: none"> • Consider refining boundaries of Major River Corridors to better reflect topography and river valley features (1:50,000 scale CanVec). • Consider zoning system for the Major River Corridors that is complementary to the existing land designation system proposed in the Plan.
6. Consider zoning system for Dempster Highway Corridor.	<ul style="list-style-type: none"> • Re-evaluate zoning of LMUs next to the Dempster Highway in light of the Dempster Highway sub-regional plan.
7. Refine application of cumulative effects indicators and indicator levels.	<ul style="list-style-type: none"> • Consider weighting the effects of linear disturbance in different ways in different types of habitat (e.g. floodplains versus upland habitats). • Incorporate new information on re-vegetation rates and standards for surface disturbances, if needed. • Incorporate current information on social carrying capacity and community well-being.

Table 6.2: Potential regional indicators for sustainable development.

Indicator Type	Indicator	Current Indicator Status	Description
Socio-Economic	Availability of Current Use Areas	From Resources Departments of peripheral FNs.	Provides measure of loss/gain of current use areas for subsistence harvesting and cultural purposes as a result of other land use activities. Not currently reported but the Plan documented current use areas.
	Regional Gross Domestic Product (RGDP)	From Yukon Economic Development	Provides measure of regional economic activity and production.
	Regional Production by Sector	From Yukon Economic Development	Provides a measure for comparing the contribution of each sector to the greater regional economy.
	Human use and activity level (number person days per LMU)	Not presently considered	Provides measure of human use and activity as an indicator of potential stress on wilderness characteristics.

Table 6.2 (cont'd): Potential regional indicators for sustainable development.

Indicator-Type	Indicator	Current Indicator Status	Description
Ecological	Hart River Caribou Herd population status	Estimated at 2,200 animals (2006)	Much of the habitat of the HRCH is in portions of the region that are relatively easy to reach, including IMAs. As a herd of the Northern Mountain population, it is listed nationally as of “special concern.”
	Bonnet Plume Caribou Herd population status	Estimated at 5,000 animals (1984)	Almost the entire range of the BPCH is within the Conservation Area. Trends in this Northern Mountain population could serve as a benchmark.
	Porcupine Caribou Herd winter range use	Core area mapping (Ryder <i>et al.</i> , 2006)	Change in the use of winter range by the Porcupine Caribou Herd should be tracked over time. Possible links to changing land use patterns should be determined.
	Regional habitat integrity	Examined during periodic Regional Assessments	Regional assessment of land habitat conditions, including identifying areas of concern. Surface disturbance and linear density indicators provide measure of habitat integrity.
	Extent of wilderness	Examined during periodic Regional Assessments	A measurable definition of wilderness should be developed. For example, surface disturbance and linear disturbance, or core area, could be used as indicators of wilderness extent.
	LMU habitat integrity	Examined during periodic Regional Assessments	Assessment of land habitat conditions for each LMU. Surface disturbance and linear density indicators provide measure of habitat integrity.
	Regional aquatic habitat integrity	Examined during periodic Regional Assessments	Regional assessment of water habitat conditions, including identifying areas of concern. Stream crossing index and water quality suggested as future indicators.
	LMU (or watershed) aquatic habitat integrity	Examined during periodic Regional Assessments	Regional assessment of water habitat conditions for each LMU or watershed. Stream crossing index and water quality suggested as future indicators.

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8. Glossary of Terms

Adaptive Management: A systematic approach to resource management that uses structured, collaborative research and monitoring with the goal of improving land and resource management policies, objectives, and practices over time.

Aggregate Resources: Any combination of sand, gravel, or crushed stone in a natural or processed state. Aggregates are used in the construction of highways, dams, and airports, as well as residential, industrial, and institutional buildings. Also known as granular resources.

Area Development Act: The *Area Development Act* allows government to regulate the orderly development of an area. Regulations can be made with respect to: zoning of the area; buildings; transportation and infrastructure to support it; water resources; waste management; graveyards; fire management; regulation of firearms. The Dempster Highway Development Area Regulations (created from the *Area Development Act*) are 30 years old (formed April 18, 1979) and applies to the Dempster Highway Development Area (DHDA). The DHDA follows the Dempster Highway from kilometer 68 to the Northwest Territories boundary and extends outwards from the centre line of the Dempster Highway a distance of eight kilometers.

Beringia: An ancient landscape of northwestern North America and eastern Siberia that remained unglaciated during the last Ice Ages (3 million to 10,000 years ago).

Best Management Practices: A range of practices that can reduce the time, intensity, or duration of industrial activities (i.e., footprints) on the land base.

Bioclimate Zone: An ecological zone, observable at broad spatial scales that represents a relatively stable, observable vegetation type or environment. Four bioclimate zones, organized by elevation and latitude, are recognized in the planning region: Taiga Wooded, Taiga Shrub, Alpine, and Tundra.

Biodiversity: The amount of variation of life forms within a given ecosystem or area. A simple measure of biodiversity is the number of species found in an area.

Category A: Settlement land owned fully by a Yukon First Nation, including both surface and subsurface (mines and minerals) rights.

Category B: Settlement land owned fully by a Yukon First Nation, not including subsurface (mines and minerals) rights.

Coal license: Under the Territorial Lands (Yukon) Act (Coal Regulations) a licence to explore for coal on territorial lands may be issued by a public officer designated by the Minister to perform the duties of the Chief under this Regulation. A licence is in force for three years commencing on the day of the application - an extension to this period may be granted.

Concentrated Use Area: A geographic area or habitat that is occupied at a higher density of animals (e.g., area where animals are congregated) compared to other areas within the animals' range. This term is specifically used in the plan to describe areas where satellite-collared Porcupine caribou herd cows congregate, for various seasons. Concentrated use areas are often referred to as core areas.

Conservation (principle of): The management of fish and wildlife populations and habitats, and the regulation of users to ensure the quality, diversity, and long-term optimum productivity of fish and wildlife populations, with the primary goal of ensuring a sustainable harvest and its proper utilization (Chapter 1, Umbrella Final Agreement).

Contaminated Site: An area of land in which the soil, including groundwater lying beneath it, or the water, including the sediment and bed below it, contain a contaminant in an amount, concentration, or level which is equal to or greater than that prescribed by the *Contaminated Sites Regulations*, Yukon O.I.C. 2002/171 *Yukon Environmental and Socio-economic Assessment Act* (YESAA).

Critical Threshold: The point where an indicator has reached or surpassed an acceptable limit of change.

Cultural Resources: Places and locations associated with events, stories, and legends. Cultural resources can include such things as the Porcupine caribou herd, moose, marten, wetlands, lakes and rivers, and locations associated with legends, traditional economic activities, and cultural activities.

Cumulative Effects: Changes to the environment and/or society that result from a land-use activity in combination with other past, present, and future activities. The changes can be positive or negative.

Cumulative Impacts: Negative consequences of cumulative effects; may involve both direct and indirect impacts.

Cultural Landscapes: A place valued by an Aboriginal group (or groups) because of their long and complex relationship with that land. It expresses their unity with the natural and spiritual environment. It embodies their traditional knowledge of spirits, places, land uses, and ecology. Material remains of the association may be prominent, but will often be minimal or absent (Parks Canada, *An Approach to Aboriginal Cultural Landscapes*)

Decommissioning: A general term for a formal process to remove something from active status.

Deposit (mineral): A mass of naturally occurring mineral material, usually of economic value.

Direct Impacts: Impacts that result directly from a land-use activity. Physical development footprints create direct habitat impacts.

Direct Surface Disturbance: Visible, human-caused disturbances that result in the physical disruption of soil or hydrology, or the clearing of trees and woody vegetation.

Disposition Process: A legal instrument (such as a sale, lease, license, or permit) that allows a government to give a benefit from public land to any person or company.

Ecodistrict: Part of an ecoregion characterized by a distinct assemblage of relief, geology, landforms, soils, and vegetation. Ecodistricts are sub-units of ecoregions and part of the National Ecological Framework.

Ecological Integrity: The degree to which the physical, chemical, and biological components, including composition, structure, and function, of an ecosystem and their relationships are present, functioning, and capable of self-renewal.

Ecoregion: An area of the earth surface characterized by distinctive physiography (geology and surface features) and ecological responses to climate as expressed by the development of vegetation, soil, water, fauna, etc. Under the National Ecological Framework, the planning region contains portions of six ecoregions.

Ecosystem: A community of organisms and their physical environment interacting as a distinct ecological unit at a range of spatial scales.

Ecotypes: Describes a genetically distinct geographic variety, population within species which is adapted to specific environmental conditions.

Ecozone: Very large areas of the earth's surface, representative of broad-scale and generalized ecological conditions. Major physiographic conditions (e.g., mountains versus plains) and climate are the primary basis for determining terrestrial ecozones. The planning region contains portions of six ecozones: Taiga Plain and Taiga Cordillera.

Endangered Species: Those species listed in Part 2 of Schedule 1 to the *Species at Risk Act*. *Yukon Environmental and Socio-economic Assessment Act* (YESAA).

Endemic: A species or organism that is only found in a particular region and that has a relatively restricted distribution, due to factors such as isolation or response to soil or climatic conditions.

Final Agreements: Is the outcome of successful negotiations of modern-day treaties between Aboriginal claimant groups, Canada and the relevant province or territory. While each one is unique, these agreements usually include such things as land ownership, money, wildlife harvesting rights, participation in land, resource, water, wildlife and environmental management as well as measures to promote economic development and protect Aboriginal culture. In the Yukon these agreements also included Aboriginal self-government.

Fish Habitat: Spawning grounds and nursery, rearing, food supply, and migration areas on which fish depend directly or indirectly in order to carry out their life processes *Yukon Environmental and Socio-economic Assessment Act* (YESAA).

Focal Species: The species of most value and interest, either socially or economically, to residents of a region.

Footprint: The area directly disturbed by a road, gravel pit, seismic line, or any other feature is considered the physical "footprint" of that feature.

Fragmentation: The disruption of large continuous areas of habitat into smaller, less continuous areas of habitat.

Free-entry system: Mineral tenure is granted under the free entry system in the Yukon. This system gives individuals exclusive right to publicly-owned mineral substances from the surface of their claim to an unlimited extension downward vertically from the boundary of the claim or lease. All Commissioner's lands are open for staking and mineral exploration unless they are expressly excluded or withdrawn by order-in-council (e.g. parks, interim protected lands, buildings, dwelling houses, cemeteries, agricultural lands, settlement lands).

Functional Disturbance(s): Physical land-use disturbances that result in disruption of soil or hydrology, or that require the cutting of trees. Activities considered exempt from functional disturbance creation are: (i) new linear features less than 1.5 m in width; (ii) land-use activities that occur on frozen water-bodies; (iii) winter work with no required clearing of trees; (iv) winter work that utilizes existing unreclaimed disturbances and linear features from previous activities.

Functional Integrity: Maintaining the functional capacity of an area or value in an adequate state to maintain ecological integrity and ecosystem function, even though the area or value may be altered from its pristine state.

General Management Direction: In this Plan, prescriptive resource management recommendations and approaches that address region-wide issues (e.g., caribou habitat or river valleys).

Habitat: The particular kind of environment in which a plant or animal lives. Habitats provide the necessary life needs for plants and animals.

Habitat Integrity: The ability or capacity of habitat to support wildlife or plant populations. For wildlife, a landscape with high habitat integrity contains habitat of adequate amount, composition, structure, and function to support the long-term persistence of healthy wildlife populations.

Heritage Resources: Sites and objects that are 45 years old or older and relate to human history, including archaeological and historic sites and artifacts. This definition also includes palaeontological resources.

Historic Site: A location at which is found a work or assembly of works of human endeavour or of nature that is of value for its archaeological, palaeontological, prehistoric, historic, scientific, or aesthetic features. Yukon historic sites are designated under the Yukon *Historic Resources Act* and Chapter 10 of the Umbrella Final Agreement. National Historic Sites are designated under the federal *Historic Sites and Monuments Act*.

Hydrologic system: The interconnected water system, including soil, surface water, groundwater, and atmosphere. Wetlands are complex hydrologic systems.

Impact(s): When a land-use activity or activities have a negative effect or influence on a value(s) and/or resource(s). Impacts may be direct or indirect.

Indicator: A signal, typically measurable, that can be used to assess performance of a system.

Indirect Impacts: Impacts that result indirectly from a land-use activity. Habitat avoidance of impacted features or increased hunting mortality around roads are examples of indirect impacts of road development.

Industrial Development: *Yukon Environmental and Socio-economic Assessment Act (YESAA)*

- a) mining and the development of an energy resource or of agricultural land;
- b) for commercial purposes, cutting standing or fallen trees or removing fallen or cut trees;
- c) the development of a townsite; and
- d) any land use or the construction, operation, modification, decommissioning or abandonment of a structure, facility or installation associated with any activity referred to in the paragraphs (a) to (c), above.

Integrated Management Area: In the Plan, a land-use category. These are areas where mineral and oil and gas disposition processes, other industrial activities, and other land uses are allowed, subject to the approved regional plan and existing legislation/regulations. This land category is also referred to as the working landscape.

Integrated Resource Management: A land management approach that uses and manages the environment and natural resources to achieve sustainable development. An integrated resource management approach considers environmental, social, and economic issues, and attempts to accommodate all uses with minimal conflict and impact.

Iron-mica claims: Iron and mica mining are dealt with separately from other minerals, as outlined in Sections 20 and 21 of the *Quartz Mining Act*. Grants for locations as outlined in Section 20 for iron and mica do not include the surface rights of the lands.

Landscape: A large, observable land unit that has identifiable and repeating patterns of landforms and vegetation. Landscapes may also have characteristic natural disturbance regimes and hydrologic patterns. Landscapes with similar properties are assumed to respond in a consistent manner to management prescriptions. In this Plan, individual landscape management units are intended to represent similar landscapes.

Landscape Management Unit (LMU): An observable land unit that has identifiable and repeating patterns of landforms and vegetation (i.e., a landscape) and that forms a logical land management unit for regional planning. In this Plan, LMUs form the primary land management units to which land-use designation categories or zones are applied. LMU borders are usually drawn around rivers, roads, existing SMAs, or other identifiable features.

Land Use Designation System: A land-use designation system consists of different land categories that describe either the type or intensity of land uses that are allowed or recommended for each specific landscape management unit. A land-use designation system may also be referred to as land-use zoning or resource-management zoning.

Land Withdrawal: A land area that is not available, either permanently or temporarily, for land disposition and oil and gas or mineral exploration activities. Land withdrawals are enacted or terminated by government Orders in Council. Permanent land withdrawals are required to create Protected Areas.

Laws of general application: means laws of general application as defined by common law.

Limits (or Levels) of Acceptable Change: A planning approach that establishes an acceptable limit or level of change for a specific value or resource. Under a results-based management system, limits of acceptable change for indicators are required to differentiate between acceptable and unacceptable conditions. The limits are based on a combination of science and social choice. *See* Threshold.

Linear (Access) Density: The total length of all linear features (measured in km) within a defined area (measured in km²). Linear density is expressed as km/km². Linear density provides a measure of landscape fragmentation and habitat integrity.

Linear Feature: A type of human-caused surface disturbance, including trails, survey lines, seismic lines, roads, power transmission lines, and any similar feature.

Major River Corridor: The large navigable rivers in the region, outside of Wild River Parks, that have high ecological values and support tourism and recreation. In this Plan, Major River Corridors are the Ogilvie, Blackstone and Upper Peel Rivers.

Mitigate: Decrease the impact or effect of an action or land-use activity. Mitigation of the potential effects of land-use activities is a central role of the Yukon Environmental and Socio-economic Assessment Board (YESAB) during project assessments.

Mixed Economy: An economy where both traditional subsistence harvesting and wage-based (or market-based) activities co-exist.

Mixed-wood: Forests composed of a mixture of deciduous (trees with leaves) and coniferous (trees with needles) species.

Non-Settlement Land: all land and water in the Yukon other than Settlement Land and includes Mines and Minerals in Category B Settlement Land and Fee Simple Settlement Land, other than Specified Substances (UFA, Chapter 1).

Occurrence (mineral): Mineral occurrences are generally the least important and least economic. They included are all known occurrences of minerals of economic interest, including outcrops and manifestations. Often, such occurrences of mineralisation are the peripheral manifestations of nearby ore deposits

Outfitting concessions: In 1958 the current system of outfitting concessions in Yukon was set up, with assistance from famous guide Johnny Johns, who drew many of the concession area boundaries (Yukon Outfitters' Association website). At the moment there are 18 active concession areas in the Yukon operated by registered Yukon outfitters.

Paleontological resources: Animal and plant remains from long ago.

Pediment: Broad, gently sloping land surfaces with low relief at the base of a steeper slope. Pediments are usually covered with unconsolidated sediments resulting from the transport and deposition of materials by gravity over very long time periods. North Ogilvie Mountains Ecoregion contains extensive pediments.

Perched wetlands: Perched Wetland occur where an impervious layer lies within the aeration zone and, consequently, lies above the water table. Surface runoff infiltrates the soils above the impervious layer creating a “perched water table” that can produce wetland conditions. Often an impervious layer beneath the surface but above the water table, such as permafrost can lead to the formation of perched wetlands.

Permafrost: Ground in which a temperature below 0°C has existed continuously for two or more years. Permafrost is defined exclusively on the basis of temperature; ground ice does not need to be present.

Porcupine Caribou Herd: A tundra (barren-ground) herd of Grant's caribou that ranges from northeastern Alaska to the Yukon/Northwest Territories border (west to east), and from the Beaufort Sea to the Ogilvie Mountains (north to south).

Precautionary Principle: A lack of conclusive scientific evidence does not justify inaction on managing the environment, particularly when the consequences of inaction may be undesirable or when the costs of action are negligible.

Prescriptive: Stipulation(s) applied to a land-use activity, with specific requirements as to how that activity should proceed or be conducted.

Primary Use Area: Primary Use Area as defined in s. 1.1.1 of the GYTBA, means the Fort McPherson Group Trapping Area, which was established by the Trapping Concession Boundary Regulation, Order-in-Council 1989/94, made pursuant to the Wildlife Act, R.S.Y. 1986, c. 178, ss. 153 and 178. Subject to laws of general application, a Tetlit Gwich'in shall have the right to use water for a traditional use in the primary and secondary use areas. A Tetlit Gwich'in shall have the right to harvest for subsistence, within the primary use area, the secondary use area and those areas of the traditional territory of the First Nation of Na-cho Nyak Dun which are not subject to any overlap with the traditional territory of another Yukon First Nation, all species of fish and wildlife for themselves and their families at all seasons of the year and in any numbers on Crown land within such areas to which they have a right of access pursuant to 4.2 (GYTBA), subject only to limitations prescribed pursuant to this appendix.

Protected Area: A land-use designation category that removes an area from oil and gas and mineral disposition, and prohibits exploration activities. Protection of ecological and cultural resources is the management goal. Protected Areas are intended to meet International Union for Conservation of Nature (IUCN) Protected Area Categories I, II, or III conservation criteria for “full protection.” *See* Special Management Areas.

Quartz claim: A quartz claim is a parcel of land located or granted for hard rock mining. A quartz claim also includes any ditches or water rights used for mining the claim, and all other things belonging to or used in the working of the claim for mining purposes.

R-Block or Rural Block: Rural Yukon First Nation settlement lands. Generally, these are parcels of land larger than S-Sites, and are of heritage, cultural, or traditional economic significance to the First Nation. *See* also “S-Sites”, “Category A” and “Category B”.

Reclamation: Focused and deliberate actions that attempt to restore or return disturbed lands to a pre-disturbed state or to a former productive capacity.

Regional Land Use Plan: A collective statement about how to use and manage land and resources within a geographic area.

Regional Sustainable Development Indicators: General signals or information about the status and health of the region’s economy, society, and environment.

Remediation (environmental): Environmental remediation deals with the removal of pollution or contaminants from environmental media such as soil, groundwater, sediment, or surface water for the general protection of human health and the environment.

Renewable Energy: The generation of heat or electricity from natural resources that are not depleted over time.

Results-Based Management Framework: A structured process to link a plan’s goals and objectives, tools, approaches, and monitoring needs into one cohesive strategy. Monitoring and tracking progress toward meeting various plan goals and objectives is an important outcome in the delivery of results-based management.

Riparian Zone (or area): Flowing water (lotic) environments and their adjacent terrestrial surroundings influenced by the moving water (fluvial) processes of erosion and deposition, commonly referred to as river or stream valleys. In northern Yukon, riparian zones typically support the most productive vegetation and tree growth due to warmer and better drained soil conditions.

Rubber tire tourism: Generally refers to a tourism industry individuals or groups experience an area within close proximity to a vehicle travelling by road.

S-Sites: Site-specific Yukon First Nation settlement lands. Generally, these are parcels of land smaller than Category A and B land selections, and are of heritage, cultural, or traditional economic significance to the First Nation.

Scenarios (land use scenarios): In land use planning, the development of an outline or model of plausible land uses that may occur, including possible time-lines, benefits, and impacts of those land uses. The development of land-use scenarios differs from discrete options. Scenarios are used to explore potential alternative futures. They are considered to be more appropriate for a consensus-based planning model, such as the Chapter 11 process in Yukon.

Secondary Use Area: Secondary Use Area as defined in s. 1.1.1 of the GYTBA, means the lands described in Annex A to the YTBA, and for which rights concerning government notice, consultation, use of water, harvesting, trapping, and forest harvesting are granted. (See GYTBA sections 9.4.2, 9.4.3, 10.3, 12.3.1, 12.3.13, 13.2.2). Subject to laws of general application, a Tetlit Gwich'in shall have the right to use water for a traditional use in the primary and secondary use areas. A Tetlit Gwich'in shall have the right to harvest for subsistence, within the primary use area, the secondary use area and those areas of the traditional territory of the First Nation of Na-cho Nyak Dun which are not subject to any overlap with the traditional territory of another Yukon First Nation, all species of fish and wildlife for themselves and their families at all seasons of the year and in any numbers on Crown land within such areas to which they have a right of access pursuant to 4.2 (GYTBA), subject only to limitations prescribed pursuant to this appendix.

Settlement Land: All land in Yukon owned by a Yukon First Nation with a Final Agreement. Settlement land may be Category A or B.

Significant Discovery License: A tenure for Oil and Gas Rights Disposition - based on the discovery of oil or gas deposit – that is granted for has an indefinite term in recognition that some discoveries may not be immediately economic to produce.

Significant Adverse Effect: A significant effect means an effect which will likely diminish or harm the stock of or the quality of the land and water or any renewable resource in the region.

Site-specific (S-Site): *see* S-Sites

Special concern: Under COSEWIC a species of special concern is a species with characteristics that make it particularly sensitive to human activities or natural events.

Special Management Area (SMA): A conservation area identified and established within a Traditional Territory of a Yukon First Nation under a Final Agreement. SMAs can be Yukon Parks, Habitat Protection Areas, National Parks or Wildlife Areas, or other types. The level of protection is defined in a management plan developed for each particular area, with management shared among the Yukon

government, First Nation governments, and Renewable Resource Councils, depending on the area and jurisdiction (Chapter 10, Final Agreements).

Subsistence Harvesting: The use of edible fish or wildlife products, or edible plant products, by for sustenance and for food for traditional ceremonial purposes and the use of non-edible by-products of harvests of fish or wildlife for such domestic purposes as clothing, shelter or medicine, and for domestic, spiritual and cultural purposes.

Sustainable Development: Beneficial socio-economic change that does not undermine the ecological and social systems upon which communities and societies are dependent (Chapter 1, Final Agreements).

Target: A point where an indicator is reaching, or has reached, a desired level. The target is a desired condition related to a specific management goal or objective.

Tetlit Gwich'in Yukon Land or Tetlit Gwich'in Fee-Simple Lands: Land where the Tetlit Gwich'in have the same fee simple title as other land registered in the Land Titles Office.

Threatened Species: Those species listed in Part 3 of Schedule 1 to the *Species at Risk Act*. *Yukon Environmental and Socio-economic Assessment Act* (YESAA)

Threshold: A point where an indicator is reaching, or has reached, a level such that undesired impacts to ecological, social/cultural, or economic resources may begin to occur. Thresholds can be applied in a results-based management framework.

Timing Windows: The practice of conducting land-use activities during specific time periods with the purpose of minimizing potential impacts on a valued ecological or cultural resource.

Traditional Economy: An economy based on hunting, trapping, gathering, and fishing activities, for household use or barter; also called a subsistence or land-based economy.

Traditional Territory: The geographic area within the Yukon identified as that Yukon First Nation's traditional territory as outlined on a map in the Umbrella Final Agreement.

Ungulate: A four-legged, plant eating mammal with hoofs. Caribou, moose, deer, and musk-oxen are ungulates.

Viewshed: The area of land visible from a vantage point or from a road or river.

Wage-Based Economy: An economic system in which goods and services are produced and exchanged for money.

Water Body: An inland water body, up to its ordinary high-water mark, in a liquid or frozen state, including a swamp, marsh, bog, fen, reservoir, and any other land that is covered by water during at least three consecutive months of the year, but does not include a sewage or waste treatment lagoon, a dugout to hold water for livestock, and a mine tailings pond *Yukon Environmental and Socio-economic Assessment Act* (YESAA).

Watercourse: A natural waterway, water body or water supply, including one that contains water intermittently, and includes groundwater, springs, swamps, and gulches *Yukon Environmental and Socio-economic Assessment Act* (YESAA).

Watershed: The region or area drained by a river or stream system, divided from adjacent drainage basins by a height of land.

Wetland: For this Plan, wetlands are defined as all open-water aquatic environments, both still water (lentic) and moving water (lotic) features, or concentrations of those features, and their adjacent environments.

Wetland Complex: A concentrated geographic grouping of individual wetlands. Wetland complexes may include both wetland and non-wetland biophysical landscape types. Wetland complexes function as integrated hydrologic systems.

Wilderness or wilderness character: Any area in a largely natural condition in which ecosystem processes are largely unaltered by human activity or in which human activity has been limited to developments or activities that do not significantly modify the environment, and includes an area restored to a largely natural condition. (*Yukon Environment Act*).

Wilderness tourism: A commercial enterprise where clients engage in activities that are based on wilderness landscapes, parks and special areas, significant wildlife features and wilderness-based historical sites and events.

Wildlife Key Areas: Locations used by wildlife for critical, seasonal life functions. Loss or disturbance of these habitats may result in wildlife population decreases.

Winter Road: A temporary road constructed during the winter period without the use of gravel or other soil materials. Packed snow typically forms the roadbed.

Working Landscape: *See* Integrated Management Area.

Yukon First Nations: As stated in the Yukon Umbrella Final Agreement, any one of the following: Carcross/Tagish First Nation; Champagne and Aishihik First Nations; Tr'ondëk Hwëch'in First Nation; Kluane First Nation; Kwanlin Dun First Nation; Liard First Nation; Little Salmon/Carmacks First Nation; First Nation of Na-cho Nyak Dun; Ross River Dena Council; Selkirk First Nation; Ta'an Kwach'an Council; Teslin Tlingit Council; Vuntut Gwitchin First Nation; or White River First Nation.

Yukon Indian People: A term used in the Yukon First Nations Final Agreements referring to people of aboriginal ancestry. A person enrolled under one of the Yukon First Nation Final Agreements in accordance with criteria established in Chapter 3, Eligibility and Enrolment.

Appendix A: Maps

Map 1 – Current Status

Map 2 – Landscape Management Units and Land Use Categories

Map 3 – Ecologically Important Areas

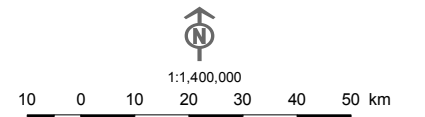
Map 4 – First Nation Land Use and Heritage and Cultural Resources

Map 5 – Economic Development Potential and Interests: Renewable Resources

Map 6 – Economic Development Potential and Interests: Non-Renewable Resources

MAP 1 Current Status

PEEL WATERSHED PLANNING REGION, YUKON



Yukon Albers Projection, NAD83

LEGEND

First Nation Traditional Territory Boundary

- Na-Cho Nyak Dun
- Vuntut Gwitchin First Nation
- Tr'ondek Hwëch'in Han Nation
- Tetlit Gwich'in Primary Use
- Tetlit Gwich'in Secondary Use
- Tr'ondek Hwëch'in/Na-Cho Nyak Dun Contiguous Boundary

First Nation Settlement and Tetlit Gwich'in Yukon Lands

- R-blocks
- Site selection

Parks/SMA

- Yukon territorial park

Transportation

- Major road/highway
- Winter Road
- Dempster Hwy Development Area

Mineral Claims

- Active quartz claim
- Active coal licence

Oil and Gas Dispositions

- Significant discovery licence
- Oil and gas permit

Land Use Planning Zones

- Landscape management unit
- Dempster Hwy Corridor
- Major river corridor

Adjacent Land Use Planning Zones

- North Yukon Regional Land Use Plan
- Gwich'in Land Use Plan Zones (NWT)

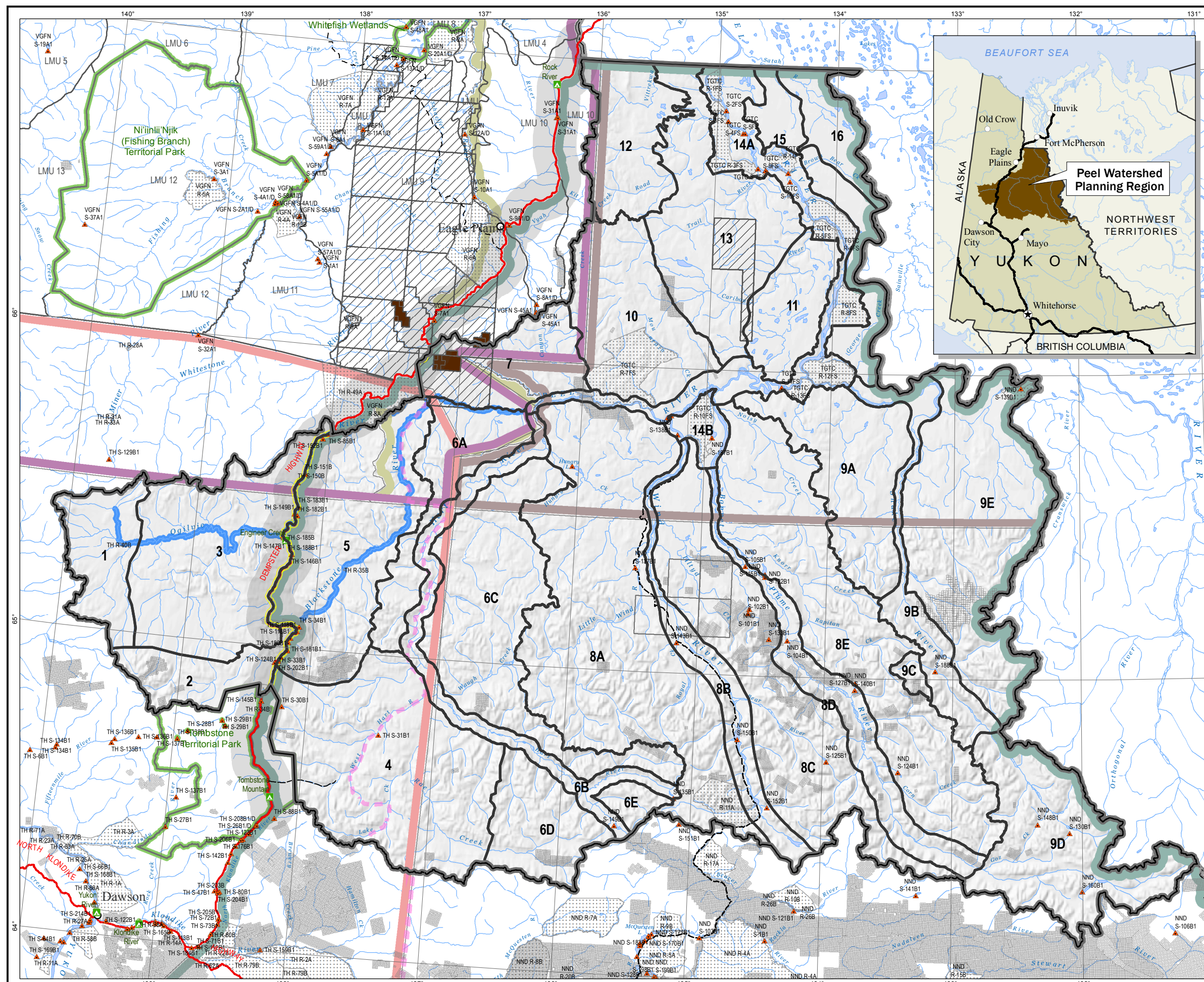
DATA SOURCES

Base data: 1:1M hydrology (Digital Chart of the World); 1:250,000 National Topographic Database (NRCAN); 1:1M toponomy, 90m and 300m shaded relief, 1:250,000 territorial boundaries, 1:1M Yukon First Nation Traditional Territory Boundary, Gwich'in Primary & Secondary Use Areas, 1:250,000 territorial parks and campgrounds (Yukon Environment); 1:250,000 Dempster Hwy (Yukon Highways); 1:250,000 Yukon First Nation R-Block and TG Yukon Lands, 1:250,000 S-Sites (adapted from Geomatics Yukon); 1:250,000 TH/NND Contiguous Boundary (Tr'ondek Hwëch'in).

Thematic data: 1:1M Gwich'in land use planning zones (Gwich'in Land Use Planning Board); 1:250,000 land management units (NYPG, PWPC); 1:250,000 planning regions (YLUPC); 1:250,000 territorial boundaries, 1:250,000 territorial parks and campgrounds (Yukon Environment); 1:50,000 oil dispositions (current to Sept 16, 2013), mineral claims (current to September 16, 2013) (Geomatics Yukon).

DATA DISCLAIMER

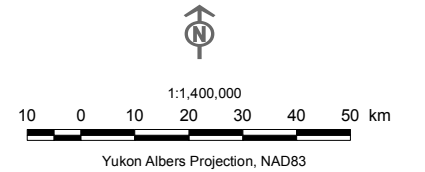
This map is a graphical representation, which depicts the approximate size, configuration and spatial relationship of known geographic features. While great care has been taken to ensure the best possible quality, this document is not intended for legal descriptions and/or to calculate precise areas, dimensions or distances. We do not accept any responsibility for errors, omissions or inaccuracies.



January 2014

MAP 2 Landscape Management Units & Land Use Categories

PEEL WATERSHED PLANNING REGION, YUKON



LEGEND

Landscape Management Units & Land Use Categories

- Protected Area (PA)
- Restricted Use Wilderness Area (RUWA)
- Integrated Management Area Zone II
- Integrated Management Area Zone III
- Integrated Management Area Zone IV

Overlay Zones

- Dempster Hwy Corridor
- Major river corridor

First Nation Settlement and Tetlit Gwich'in Yukon Lands

- R-blocks
- Site selection

Adjacent Land Use Planning Zones

- North Yukon Regional Land Use Plan
- Gwich'in Land Use Plan Zones (NWT)

Parks/SMA

- Yukon territorial park

Transportation

- Major road/highway
- Winter Road
- Yukon territorial campground
- Territorial boundary

Base data: 1:1M hydrology (Digital Chart of the World); 1:250,000 National Topographic Database (NRCAN); 1:1M topography, 90m and 300m shaded relief, 1:250,000 territorial boundaries, 1:1M Yukon First Nation Traditional Territory Boundary, Gwich'in Primary & Secondary Use Areas, 1:250,000 territorial parks and campgrounds (Yukon Environment); 1:250,000 Dempster Hwy (Yukon Highways); 1:250,000 Yukon First Nation R-Block and TG Yukon Lands, 1:250,000 S-Sites (adapted from Geomatics Yukon).

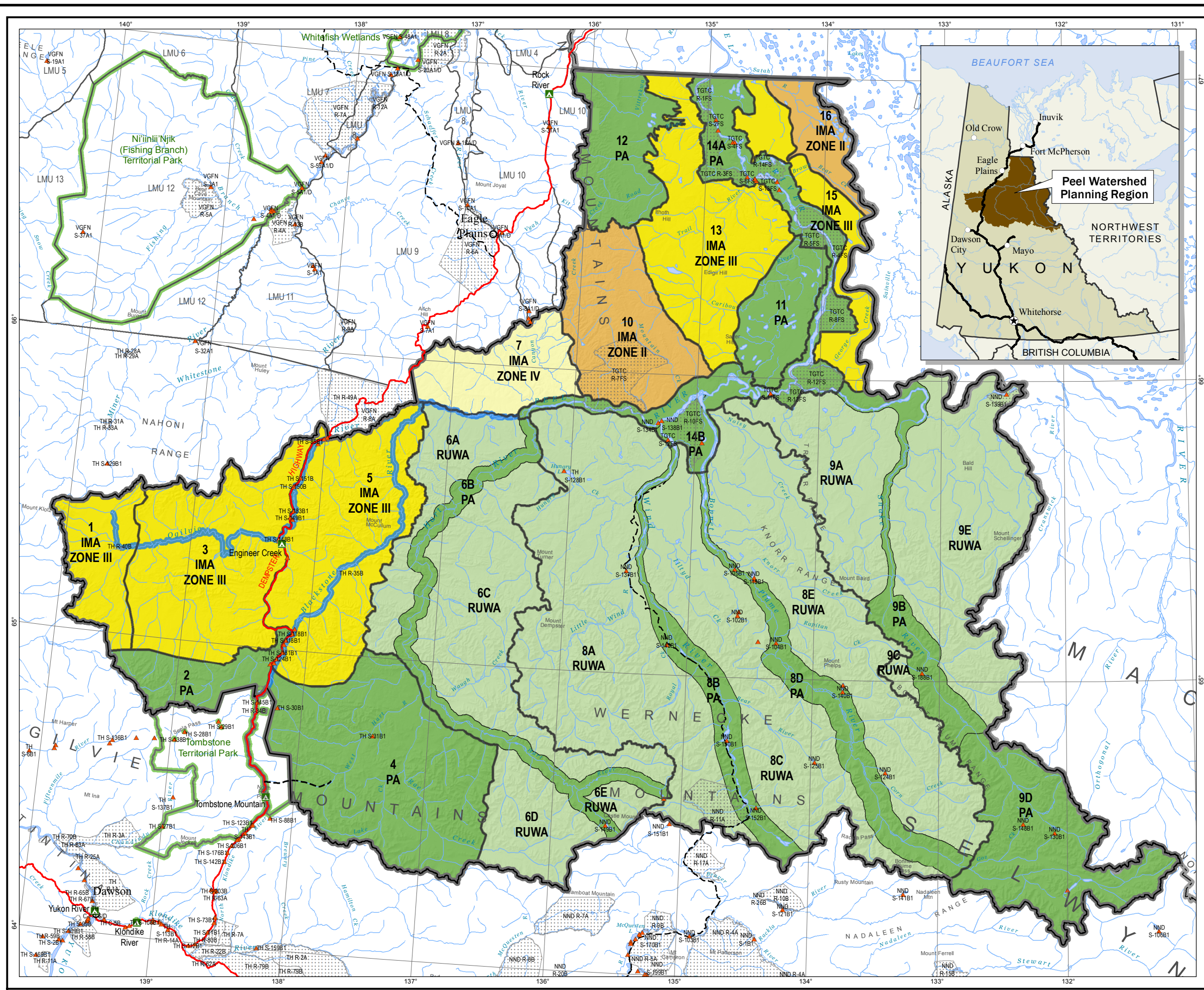
Thematic data: 1:1M Gwich'in land use planning zones (Gwich'in Land Use Planning Board); 1:250,000 land management units (NYPC, PWPC); 1:250,000 planning regions (YLUPC).

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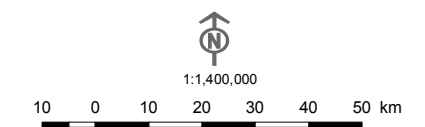
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MAP 3 Ecologically Important Areas

PEEL WATERSHED PLANNING REGION, YUKON



Yukon Albers Projection, NAD83
LEGEND

- | | |
|---|---|
| <p>Porcupine Caribou Herd</p> <ul style="list-style-type: none"> Winter concentrated use area Winter moderate use area | <p>Dall's Sheep Key Areas</p> <ul style="list-style-type: none"> Breeding Lambing Winter |
| <p>Hart River Caribou Herd</p> <ul style="list-style-type: none"> Winter use Fall use | <p>Local/Public Knowledge</p> <ul style="list-style-type: none"> High quality sheep habitat |
| <p>Bonnet Plume Caribou Herd</p> <ul style="list-style-type: none"> Winter use Fall use | <p>Wetlands/ Waterbird Habitat Suitability</p> <ul style="list-style-type: none"> High <p>Fish</p> <ul style="list-style-type: none"> Spawning and overwintering potential |

- Land Use Planning Zones**
- Landscape management unit
 - Dempster Hwy Corridor
 - Major river corridor
- First Nation Settlement and Tetlit Gwich'in Yukon Lands**
- R-blocks
 - Site selection
- Adjacent Land Use Planning Zones**
- North Yukon Regional Land Use Plan
 - Gwich'in Land Use Plan Zones (NWT)
- Parks/SMA**
- Yukon territorial park
- Transportation**
- Major road/highway
 - Winter Road

DATA SOURCES

Base data: 1:1M hydrology (Digital Chart of the World); 1:250,000 National Topographic Database (NRCAN); 1:1M topography, 90m and 300m shaded relief; 1:250,000 territorial boundaries; 1:250,000 territorial parks and campgrounds (Yukon Environment); 1:250,000 Dempster Hwy (Yukon Highways); 1:250,000 Yukon First Nation R-Block and TG Yukon Lands; 1:250,000 S-Sites (adapted from Geomatics Yukon).

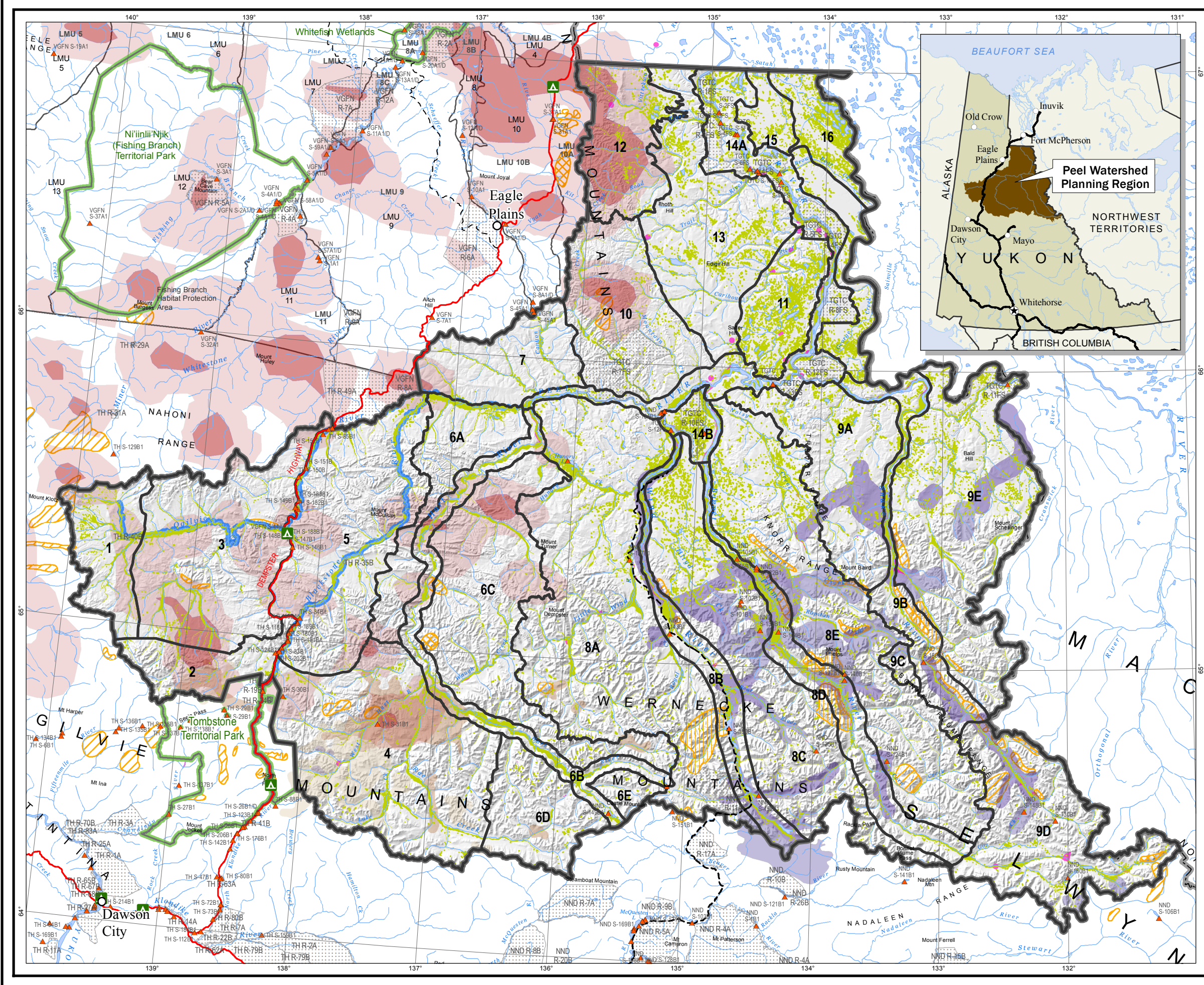
Thematic data: 1:1M Gwich'in land use planning zones (Gwich'in Land Use Planning Board); 1:250,000 land management units (NYPC, PWPC); 1:250,000 planning regions (YLUPC); Porcupine caribou winter concentrated and general use areas (NYPC, CWS analysis 1985-2004); 1:250,000 Hart River & Bonnet Plume caribou and Dall's sheep key areas derived from wildlife key areas database (Yukon Environment); Traditional and local knowledge (PWPC Community Interviews); 25m waterbird habitat/wetlands derived from 25m terrain mapping and 1:50,000 base data (PWPC); 1:50,000 fish areas (PWPC Expert & Community Interviews).

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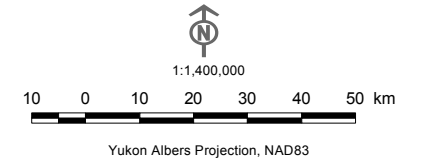
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MAP: 4 First Nations Land Use and Heritage & Cultural Resources

PEEL WATERSHED PLANNING REGION, YUKON



- Legend**
- | | |
|------------------------------|------------------------------------|
| Tr'ondëk Hwëch'in | Tet'it Gwich'in |
| ■ Cabin/camp | ■ Cabin; Cabin/Camp |
| ▲ Archaeological site | ▲ Archaeological Site |
| ● Culturally important place | ● Culturally Important place |
| ◆ General harvesting | ◆ General Harvesting |
| ■ General land use* | ■ General land use* |
| — Travel route | ■ Proposed National Historic Sites |
| --- Trapline | — Travel route |
| | --- Trapline |
| Vuntut Gwich'in | Na-Cho Nyak Dun |
| ■ Cabin/camp | ● Cabin/camp |
| ▲ Archaeological site | ◆ General Harvesting |
| ● Culturally important place | ■ General land use* |
| ◆ General harvesting | |
| ■ General land use* | |
- *hunting, fishing, trapping & travel
- Land Use Planning Zones**
- Landscape management unit
 - Dempster Hwy Corridor
 - Major river corridor
- First Nation Settlement and Tetlit Gwich'in Yukon Lands**
- R-blocks
 - ▲ Site selection
- Adjacent Land Use Planning Zones**
- North Yukon Regional Land Use Plan
 - Gwich'in Land Use Plan Zones (NWT)
- Parks/SMA**
- Yukon territorial park
- Transportation**
- Major road/highway
 - Winter Road

DATA SOURCES

Base data: 1:1M hydrology (Digital Chart of the World); 1:250,000 National Topographic Database (NRCAN); 1:1M topography, 90m and 300m shaded relief, 1:250,000 territorial boundaries, 1:250,000 territorial parks and campgrounds (Yukon Environment); 1:250,000 Dempster Hwy (Yukon Highways); 1:250,000 Yukon First Nation R-Block and TG Yukon Lands, 1:250,000 S-Sites (adapted from Geomatics Yukon).

Thematic data: 1:1M Gwich'in land use planning zones (Gwich'in Land Use Planning Board); 1:250,000 land management units (NYPC, PWPC); 1:250,000 planning regions (YLUPC); Na-Cho Nyak Dun camps and cabins, routes, traplines, big game/fur-bearing locations, fish locations and wildlife areas (NND); Tr'ondëk Hwëch'in camps and cabins, routes, traplines and wildlife areas (TH); Tet'it Gwich'in camps and wildlife areas, historic use area (TGC/MDBSMA); Tet'it Gwich'in NHS proposal (GSCI/PWPC); Vuntut Gwich'in harvest locations and areas (VGFN).

DATA DISCLAIMER

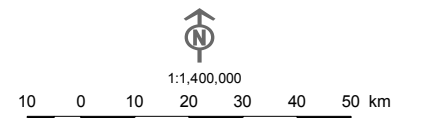
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MAP: 5 Economic Development Potential and Interests: Renewable Resources

PEEL WATERSHED PLANNING REGION, YUKON



Yukon Albers Projection, NAD83

LEGEND

- Tourism Activity**
- Canoeing
 - Climbing
 - Horseback tour
 - Snowmobiling
 - Driving tour
 - Viewpoint
 - Wildlife viewing
 - Interpretive centre
 - Primitive campsite
 - Outfitting camp

- Tourism Potential**
- High recreation potential
 - High value hiking
 - River activity corridor
 - Dempster Highway activity corridor

- Outfitter and Trapping Concessions**
- Outfitting concession
 - Registered trapping concession

- Land Use Planning Zones**
- Landscape management unit
 - Dempster Hwy Corridor
 - Major river corridor

- First Nation Settlement and Tettlit Gwich'in Yukon Lands**
- R-blocks
 - Site selection

- Adjacent Land Use Planning Zones**
- North Yukon Regional Land Use Plan
 - Gwich'in Land Use Plan Zones (NWT)

- Parks/SMA**
- Yukon territorial park
- Transportation**
- Major road/highway
 - Winter Road

DATA SOURCES

Base data: 1:1M hydrology (Digital Chart of the World); 1:250,000 National Topographic Database (NRCAN); 1:1M topography, 90m and 300m shaded relief; 1:250,000 territorial boundaries, 1:250,000 territorial parks and campgrounds (Yukon Environment); 1:250,000 Dempster Hwy (Yukon Highways); 1:250,000 Yukon First Nation R-Block and TG Yukon Lands; 1:250,000 S-Sites (adapted from Geomatics Yukon).

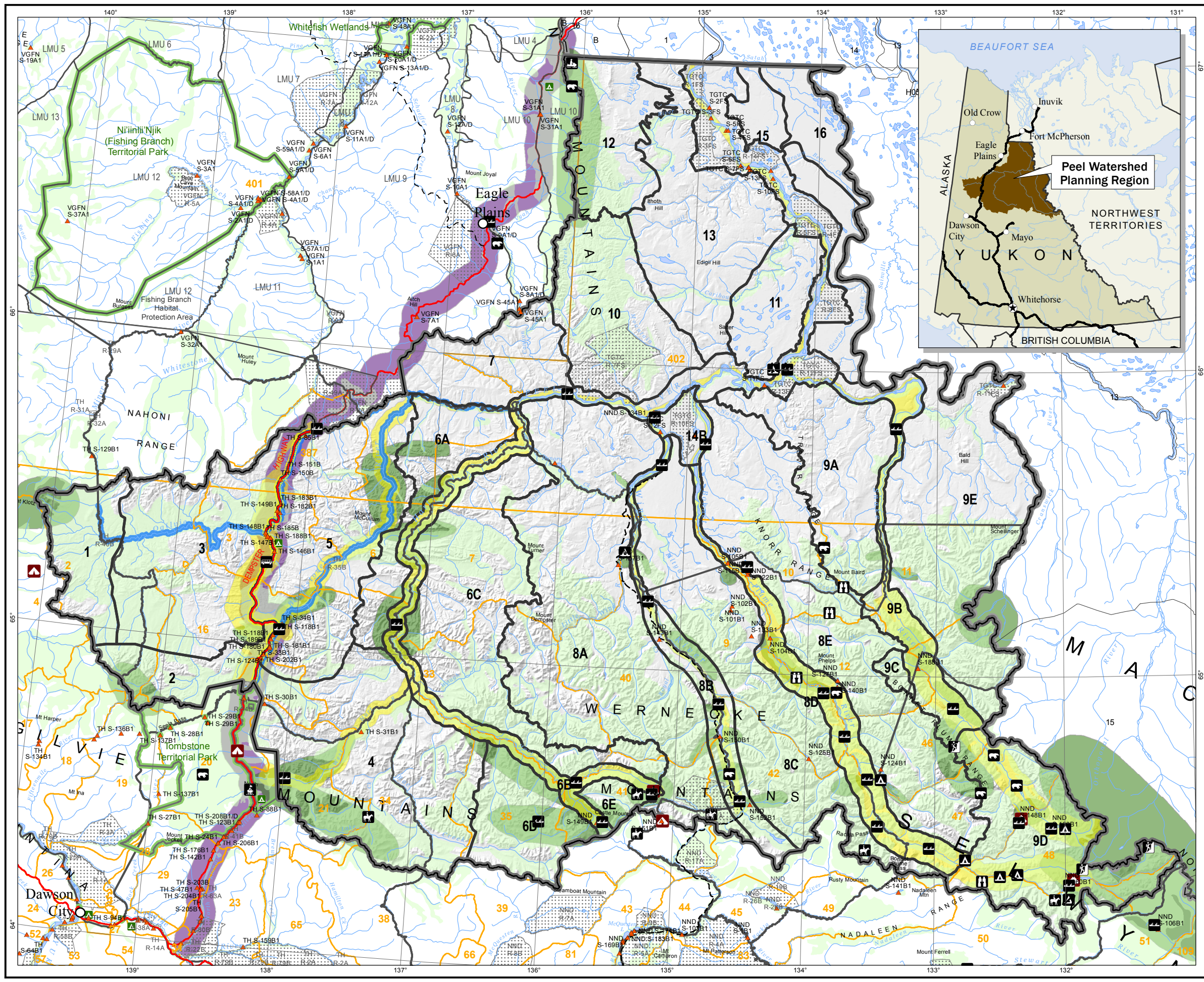
Thematic data: 1:1M Gwich'in land use planning zones (Gwich'in Land Use Planning Board); 1:250,000 land management units (NYPC, PWPC); 1:250,000 planning regions (YLUPC); 1:250,000 Tourism activity and potential (Heritage and Culture Yukon); 1:250,000 Outfitter and trapping concessions (Geomatics Yukon).

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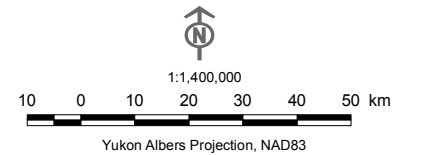
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MAP 6 Economic Development Potential and Interests: Non-Renewable Resources

PEEL WATERSHED PLANNING REGION, YUKON



LEGEND

- | | |
|--|---|
| Oil and Gas Basin Potential
Higher
Lower | Mineral Potential
Higher
Lower |
| Oil and Gas Dispositions
Significant discovery licence
Oil and gas permit
Dempster proposed gas pipeline | Mineral Claims
Active quartz claim
Active coal license |
| Land Use Planning Zones
Landscape management unit
Dempster Hwy Corridor
Major river corridor | |
| First Nation Settlement and Tetlit Gwich'in Yukon Lands
R-blocks
Site selection | |
| Adjacent Land Use Planning Zones
North Yukon Regional Land Use Plan
Gwich'in Land Use Plan Zones (NWT) | |
| Parks/SMA
Yukon territorial park | Transportation
Major road/highway
Winter Road |

DATA SOURCES

Base data: 1:1M hydrology (Digital Chart of the World); 1:250,000 National Topographic Database (NRCAN); 1:1M toponomy, 90m and 300m shaded relief, 1:250,000 territorial boundaries, 1:250,000 territorial parks and campgrounds (Yukon Environment); 1:250,000 Dempster Hwy (Yukon Highways); 1:250,000 Yukon First Nation R-Block and TG Yukon Lands, 1:250,000 S-Sites (adapted from Geomatics Yukon).

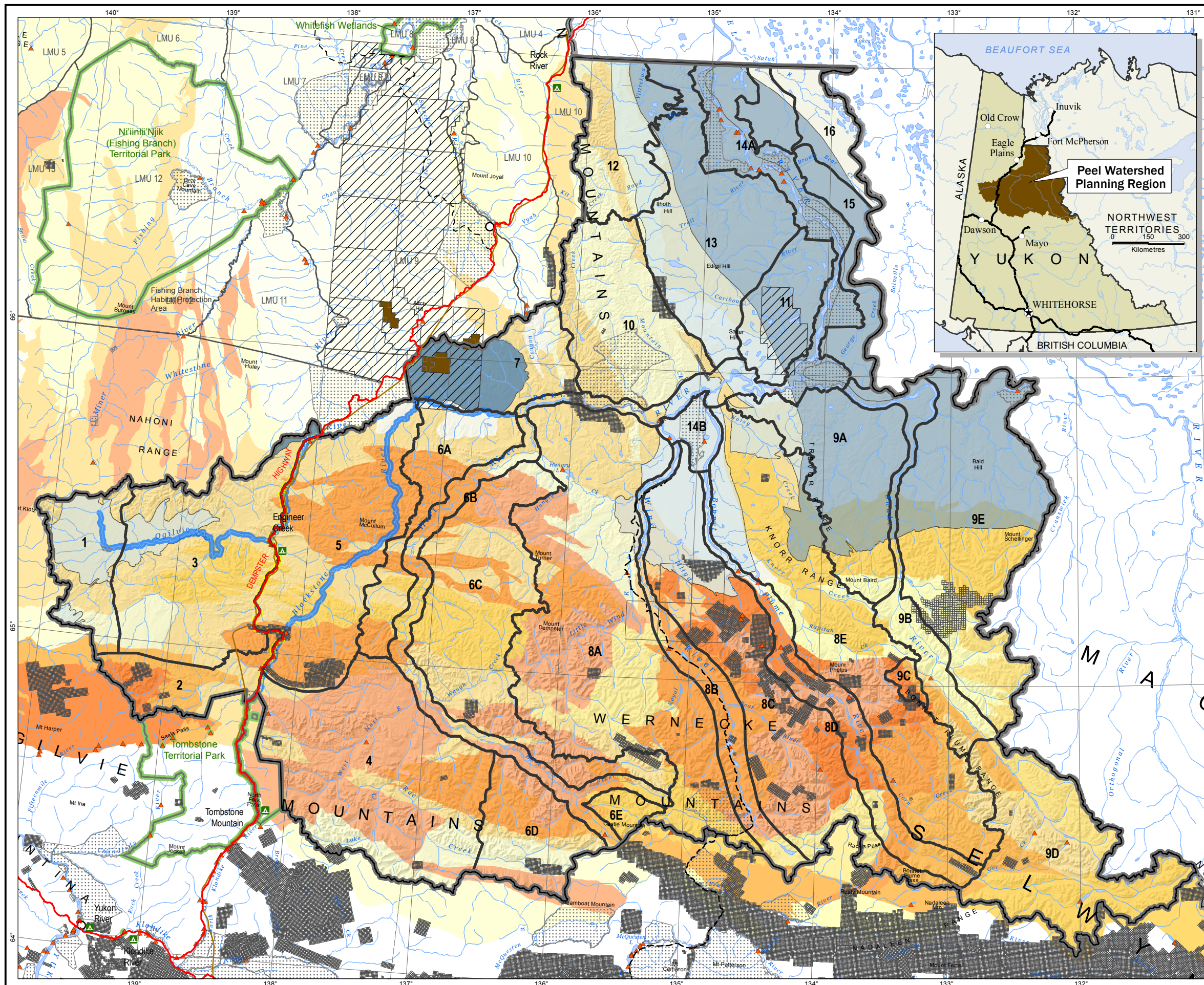
Thematic data: 1:1M Gwich'in land use planning zones (Gwich'in Land Use Planning Board); 1:250,000 land management units (NYPC, PWPC); 1:250,000 planning regions (YLUPC); 1:250,000 mineral potential (YGS); 1:250,000 oil & gas basins, 1:50,000 oil dispositions (current to May 13, 2011), mineral claims (current to June 27, 2011) (Geomatics Yukon).

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Appendix B: Summary of Plan Goals, Strategies and Best Management Practices

Table B.1 summarizes the goals and management strategies of the Final Recommended Peel Watershed Regional Land Use Plan. For detailed discussion and explanation of goals and strategies, see appropriate sections in the Plan. A list of references describing best management practices to minimize impacts of land use activity on wildlife, fish, ecosystems and other land uses is provided in Table B.2.

Table B.1: Plan goal and management strategy summary table.

Plan Goals	Management Strategies
ENVIRONMENT	
<p>Goal 1 Maintain the wilderness character of much of the planning region.</p>	<p>Land use designation, recommendations, management strategies and best management practices are designed to achieve maintenance of wilderness character.</p>
<p>Goal 2 Maintain ecological integrity by ensuring terrestrial and aquatic habitats remain in a suitable condition to sustain healthy native wildlife and fish populations and communities within their natural ranges.</p> <p>Goal 3 Maintain the quantity, quality, and rate of flow of water within its natural range.</p> <p>Goal 4 Ensure that any lands disturbed by human activities are reclaimed or restored to their natural state.</p>	<p>Many environmental strategies achieve multiple goals related to minimizing development impacts, and maintaining ecological integrity, wildlife and fish habitats, and water quality and quantity.</p> <p>WILDLIFE and TERRESTRIAL HABITATS</p> <ol style="list-style-type: none"> 1. Reduce size, intensity and duration of human-caused physical surface disturbances (e.g. utilize low impact seismic, winter roads and principle of full reclamation). 2. Coordinate, manage and minimize new road and trail access. <ul style="list-style-type: none"> • To the extent possible, avoid routing new roads and trails through concentrated seasonal use areas and significant habitats (see Map 3, Appendix A for locations). • Avoid using or crossing seasonal migration corridors with new access routes. 3. Avoid or reduce activities in significant wildlife habitats during important biological periods (e.g. utilize timing windows). <ul style="list-style-type: none"> • Avoid sensitive sheep habitats and key areas, with emphasis on winter range avoidance (see Map 3, Appendix A for locations).

Plan Goals	Management Strategies
	<ul style="list-style-type: none"> • Porcupine Caribou are typically in the region during winter period (December – March) • Avoid concentrated woodland caribou use areas (see Map 3, Appendix A for locations) <p>4. Reduce other human land use-related disturbances such as noise, smell and light.</p> <p>HYDROLOGY and AQUATIC HABITATS</p> <ol style="list-style-type: none"> 1. Minimize surface and vegetation disturbance in riparian areas. 2. Avoid or minimize industrial land use activities in wetlands and riparian areas. <ul style="list-style-type: none"> • Activities in the vicinity of wetlands and wetland complexes should be carried out during the winter period. • Locations of all-season infrastructure should maintain a minimum distance of 100m from wetlands and lakes¹. 3. Prohibit significant levels of winter in-stream water withdrawals in sensitive over-wintering fish habitat². 4. Avoid large-scale industrial and/or infrastructure projects within Major River Corridors. 5. Avoid in-stream aggregate (gravel) extraction. 6. Prohibit direct disturbance to sensitive over-wintering and spawning habitats. 7. Minimize stream crossings; if stream crossings are required ensure proper bridge and crossing structures are used, and are designed for ease of removal (i.e. temporary structures). 8. Avoid direct or indirect blocking of identified fish migration routes.

¹ Source: Petrula (1994).

² Department of Fisheries and Oceans, or other relevant management authority, to determine acceptable level of water withdrawals.

Plan Goals	Management Strategies
SOCIAL (HERITAGE and CULTURE)	
<p>Goal 5 Recognize, conserve, and promote the heritage and cultural resources and values, and traditional land use practices, of affected First Nations and the Yukon.</p>	<p>Management strategies related to heritage and culture focus on avoiding or reducing other land use activities near identified resources and places:</p> <ol style="list-style-type: none"> 1. Avoid or minimize land use impacts in the vicinity of identified heritage and historic resources. 2. Avoid or minimize land use conflicts by avoiding or reducing the level of land use activities in important subsistence harvesting and current community use areas. 3. Avoid or reduce activities in significant heritage and current community use areas during important seasonal use periods (e.g. utilize timing windows). 4. Where impacts to identified heritage and cultural sites and resources may occur, implement the following appropriate mitigation practices. <ul style="list-style-type: none"> • Work camps associated with resource exploration and development activity should be sited near areas of resource production, and away from identified heritage routes, historic sites, and current community use areas. • Implement immediate stop work orders if evidence of heritage or cultural values is detected, to assess significance.

Plan Goals	Management Strategies
ECONOMY	
<p>Goal 6 Facilitate economic opportunities and activities that result in benefits to surrounding communities, affected First Nations, and Yukon as a whole, and that contribute to achieving the goals established by this Plan.</p> <p>Goal 7 Provide land use certainty and minimize land use conflicts throughout the region.</p> <p>Goal 8 Maintain future land use options by adopting a cautious but flexible approach to land and resource decision-making.</p>	<p>This Plan does not identify detailed management strategies for Economic goals. Land use designation system and zoning are key strategy to provide land use certainty, minimize land use conflicts, and maintain future land use options.</p> <p>Management strategies that support Environment and Social (Heritage and Culture) goals are used as means to reduce potential negative impacts of economic development activities on ecological and social values and resources.</p>

Table B.2: Best Management Practice references.

Wildlife and Fish
<p>Flying in Sheep Country. How to minimize disturbance from aircraft. MPERG Report 2002-6. Available online: www.geology.gov.yk.ca/pdf/MPERG_2002_6.pdf</p> <p>Flying in Caribou Country. How to minimize disturbance from aircraft. MPERG Report 2008-1. Available online: www.geology.gov.yk.ca/pdf/2008_1.pdf</p> <p>Guidelines for Industrial Activity in Bear Country. For the mineral exploration, placer mining and oil and gas industries. MPERG Report 2008-2. Available online: http://www.geology.gov.yk.ca/pdf/Guidelines_for_Industrial_Activity_in_Bear_Country-web.pdf</p>
Water
<p>Best Management Practices for Works Affecting Water in Yukon. Water Resources Branch, Yukon Environment. May 2011. Available online: http://www.env.gov.yk.ca/publications-maps/documents/bestpractces_water.pdf</p>
Heritage and Historic Resources
<p>Best Management Practices for Historic Resources. Yukon Energy, Mines and Resources. August 2006. Available online: http://www.emr.gov.yk.ca/oilandgas/pdf/bmp_historic_resources_web.pdf</p>
Wilderness Tourism and Recreation
<p>Best Management Practices for Wilderness Tourism. Yukon Energy, Mines and Resources. Available online: http://www.emr.gov.yk.ca/oilandgas/pdf/bmp_wilderness_tourism.pdf</p> <p>Into the Wilderness. Yukon Environment. Available online: http://www.env.gov.yk.ca/publications-maps/documents/intothe_yukonwilderness.pdf</p> <p>Leave no Trace. Yukon Environment. Available online: http://www.env.gov.yk.ca/camping/leavenotrace.php</p>

Table B.2: continued.

Off-road Vehicles
Best Management Practices for Off-road Vehicle Use on Forestlands. A guide for designating and managing off-road vehicle routes. 2007. Wildlands CPR and Wild Utah Project. Available online: http://www.wildearthguardians.org/site/DocServer/SixStrategiesReport.pdf?docID=9963&AddInterest=1304
General Industry
Yukon Mineral and Coal Exploration Best Management Practices and Regulatory Guide. Yukon Chamber of Mines. August 2010. Available online: http://yukonminers.ca/images/memberinfo/bmp_rg_october28_final_webfile.small.pdf
Best Management Practices for Seismic Exploration. Yukon Energy, Mines and Resources. August 2006. Available online: http://www.emr.gov.yk.ca/oilandgas/pdf/bmp_seismic.pdf

Appendix C: Summary of Recommendations

The following tables summarize policy and research recommendations from the Peel Watershed Regional Land Use Plan. For detailed discussion and explanation of recommendations, see appropriate sections in the Plan.

Table C.1: Policy recommendations summary table.

Topic	Policy Recommendation #	Policy Recommendation
Environment		
Cumulative Effects Management (Section 4.1.1)	1	In the IMA and RUWA, the amount of surface disturbance in a landscape management unit or sub-unit should be maintained below the cumulative effects indicator levels recommended in the Plan.
Disturbance to Wildlife and Terrestrial Habitats (Section 4.1.2)	2	Ensure adequate wildlife and habitat baseline data collection is completed prior to any development activities occurring in the Peel Watershed Planning Region.
Disturbance to Fish, Aquatic Habitats and Hydrology (Section 4.1.3)	3	Ensure adequate fish, waterbird, aquatic habitat and water quality baseline data collection is completed prior to any development activities occurring in the Peel Watershed Planning Region.
Contaminated Sites (Section 4.1.4)	4	Contaminated sites should be remediated, with the priority being those sites with the highest potential to negatively affect water quality and/or tourism and big game outfitting.
Social (Heritage and Culture)		
Heritage and Historic Resources (Section 4.2.1)	5	Ensure adequate heritage and historic resource surveys and data collection are completed prior to any development activities occurring in the Peel Watershed Planning Region.
	6	Heritage and historic resource education materials should be developed for tourism operators and clients, big game outfitters and clients, and other workers to help understand and identify potential heritage resources, sites and artifacts in the Peel Watershed Planning Region.

Topic	Policy Recommendation #	Policy Recommendation
	7	<p>The Gwich'in Social and Cultural Institute (GSCI 2003) has proposed that two sites in LMU #14 (Peel River), Tshuu tr'adaojich'uu and Teet'it njik, be recommended for National Historic Site designation (these two areas are shown in Figure 4.1, below). Based on agreement between the Gwich'in Tribal Council and Parks Canada, a National Historic Site designation should be considered for designating these culturally important sites. A National Historic Site designation would be consistent with the PA designation for this LMU.</p>
Economy		
<p>Existing Surface Access: Dempster Highway (Section 4.3.1.1)</p>	8	<p>A sub-regional plan for the Dempster Highway Corridor should be developed through co-operation of the Yukon government and affected First Nations. The sub-regional plan should consider the following:</p> <ul style="list-style-type: none"> ○ The corridor planning area should be defined jointly by the Yukon government and affected First Nations; ○ Where the Dempster Highway passes through PA land use designations (LMU #2 and #4), the corridor should be managed with a higher level of conservation focus. This may include limits on aggregate extraction and new above-ground infrastructure; ○ Harvesting activities and concerns; ○ Commercial wildlife viewing and concerns; ○ The scenic integrity of the entire highway corridor should be maintained at all times; ○ Unregulated backcountry access, particularly for off-road vehicles, should not be allowed; and ○ As with all human-caused disturbances, high standards of restoration should apply to all new surface disturbances within the corridor (e.g. gravel pits).
<p>Existing Surface Access: Wind River Trail (Section 4.3.1.1)</p>	9	<p>Within the Peel Watershed Planning Region, the Wind River Trail should no longer be recognized as an existing route under the Yukon Highways Act. If the Wind River Trail is used for new future surface access, the RUWA New Surface Access additional rules and management restrictions, as described in Table 3.4, will apply.</p>

Topic	Policy Recommendation #	Policy Recommendation
Existing Surface Access: Off-road Vehicle Access (Section 4.3.1.1)	10	To prevent impacts on wildlife, soil damage and land-user conflicts, the use of wheeled off-road vehicles (quads, motorbikes and Argo-like vehicles) for any purpose should be restricted to the Hart River Trail, existing trails in areas immediately adjacent to the Dempster Highway, licensed camps, and existing facilities.
	11	In areas of allowed use (see Policy Recommendation # 10, above), off-road vehicle use should not occur in sensitive habitats. In this Plan sensitive habitats are defined as wetlands and alpine areas in the spring, summer and fall seasons.
New Surface Access (Section 4.3.1.2)	12	In the PA, outside of existing dispositions, new surface access should not be allowed unless required for reasonable access to existing mineral claims and permit areas. In this Plan, reasonable access is defined as: <ul style="list-style-type: none"> ○ Air only for exploration type activity; ○ Temporary surface access may be considered for advanced exploration or development of a mine on a case-by-case basis. If temporary surface access is permitted, consideration must be given to winter only access; and ○ If all season surface access is required, the access route must be designed and managed to minimize impact on the key values of the LMU, and to facilitate abandonment and reclamation of the road right-of- way.
	13	In the IMA and RUWA, where new surface access is allowed, all proponents of new surface access routes should be required to provide adequate bonding to ensure that full-reclamation is achieved.
	14	In the PA, if new surface access is required for reasonable access to existing mineral claims and permit areas, the same rules and restrictions should apply as in the RUWA (see Section 3.2.2.2).
	15	The use of all new surface transportation features should be carefully managed and controlled. Public access on all new roads and surface transportation features should not be allowed. This action will decrease the potential for over-harvesting and un-regulated off-road vehicle use.

Topic	Policy Recommendation #	Policy Recommendation
Air Access Section 4.3.1.3	16	In the PA, outside of existing dispositions, new airstrips should not be allowed unless required for reasonable access to existing claims and permit areas (see Policy Recommendation #13) or to eliminate the need for new surface access. Existing airstrips and landing locations may continue to be used, however.
	17	To minimize potential conflicts between different user groups, an Air Access Coordination process should be established to better coordinate the timing and location of all aircraft supported activities in the RUWA and PA. See Section 3.2.2.2 (Table 3.4), for additional details.
	18	An air access management plan may be required for LMU #8 (Wind and Bonnet Plume watershed), LMU #9 (Snake River) and LMU #6 (Hart River). The need for an air access plan should be addressed during PA planning, and should be considered as part of the RUWA Air Access Coordination (see above). An air access management plan may be required to avoid the “bunching up” of parties at well-used airstrips and landing locations, which affects both groups of tourists/recreationalists and resource exploration programs. Lakes and landing locations that require special attention include: <ul style="list-style-type: none"> o Hart and Elliot lakes (in LMU #6); o McClusky, Quartet, Margaret and Fairchild lakes (in LMU #8); and o Bonnet Plume, Goz and Duo lakes (in LMU #9).
Mineral Resources (Section 4.3.2)	19	The PA of the Peel Watershed Planning Region should be withdrawn from the issuance of new mineral claims.
Oil and Gas Resources (Section 4.3.3)	20	The PA of the Peel Watershed Planning Region should be withdrawn from the issuance of new oil and gas exploration permits and leases.
	21	At this time, oil and gas exploration and development activities should be considered a prohibited land use in the RUWA of the Peel Watershed Planning Region unless allowed by special management direction at a defined location. As technology changes and improves, this recommendation may be revisited during future Plan reviews.

Topic	Policy Recommendation #	Policy Recommendation
Tourism and Recreation (Section 4.3.4)	22	A wilderness tourism management plan should be developed for the following areas: <ul style="list-style-type: none"> ○ The Wind, Bonnet Plume, Snake and Hart Wild River PA corridors; and ○ the Source Peaks PA in LMU #9 Such a plan should be completed as part of the PA planning process for these areas. The wilderness tourism plan should address the following: <ul style="list-style-type: none"> ○ Wilderness tourism carrying capacity (number of allowable tourism activity days in different areas, party size, and spacing); ○ Air access management (see also Policy Recommendations # 16, 17 and 18 in Section 4.3.1.3); and ○ Develop policy on commercial wilderness tourism land tenure.
	23	Management guidelines for commercial wildlife viewing along the Dempster Highway should be developed as part of the Dempster Highway Corridor management plan (see also Recommendation # 8 in Section 4.3.1.1).
Aggregate Resources (Section 4.3.5)	24	Aggregate extraction should be considered a prohibited land use in PA and RUWA, except as required by allowable land uses such as development of a mine site and associated infrastructure.
Subsistence Harvesting (Section 4.3.7)	25	First Nation subsistence harvesting activities and the pursuit of treaty rights as recognized by the Final Agreements should be respected in the Peel Watershed Planning region, subject to the following: <ul style="list-style-type: none"> ○ The use of off-road vehicles for any purpose should be limited to certain locations and specific trails (see Policy Recommendations # 10 and 11, in Section 4.3.1.1).
Big Game Outfitting (Section 4.3.9)	26	Big game guiding and outfitting should be accommodated in the Peel Watershed Planning Region, subject to the following: <ul style="list-style-type: none"> ○ The use of off-road vehicles for any purpose should be limited to certain locations and specific trails (see Policy Recommendations # 10 and 11, in Section 4.3.1.1).

Table C.2: Research recommendations summary table.

Topic	Research Recommendation #	Research Recommendation
Environment		
Cumulative Effects Management: Surface Disturbance (Section 4.1.1)	1	To provide a benchmark for the monitoring of cumulative effects indicator levels, the status of existing surface disturbances should be documented.
	2	The effectiveness of the Plans' definition of "surface disturbance recovery" in dealing with water run-off and sediment loading should be evaluated, especially in non-forested/shrubby areas.
Disturbance to Fish, Aquatic Habitats and Hydrology (Section 4.1.3)	3	Confirm overwintering and spawning locations of important fish species, with an initial priority on the Integrated Management Area, prior to any new major developments occurring.
	4	Support and, if possible, expand current water quality and flow monitoring programs to the Major River Corridors of the IMA (Ogilvie, Blackstone and Upper Peel). This will provide benchmarks for the monitoring of potential cumulative effects indicators. Monitoring should include benthic invertebrate communities and water chemistry.
	5	A survey of wetlands in the Peel region, with initial emphasis on the IMA and RUWA, should be completed prior to any new major developments occurring. These surveys should include relevant indicators of wetland health.
Economy		
New Surface Access (Section 4.3.1.2)	6	The suitability of large airlift technology now being developed and tested in the marketplace to enable remote access for industrial activities should be examined in advance of any new road or rail construction.

Topic	Research Recommendation #	Research Recommendation
Air Access (Section 4.3.1.3)	7	The number of parties and people arriving at common landing locations should be recorded as part of commercial tourism and outdoor recreation use tracking (see Tourism recommendations in Section 4.3.4), and to inform future versions of this Plan.
Water Access (Section 4.3.1.4)	8	On a periodic basis and where necessary, assess the ecological and social impacts of motorized watercraft use on lakes and rivers in order to inform future Plan revisions and management of the PA and RUWA.
Aggregate Resources (Section 4.3.5)	9	In the vicinity of the Dempster Highway, aggregate assessments should be conducted in advance of any significant development activity. Such aggregate assessments should be completed as part of the Dempster Highway Corridor management plan (see also Recommendation # 8 in Section 4.3.1.1).
Trapping (Section 4.3.8)	10	Land use patterns of trappers, including but not limited to the location of cabins and trails, should be documented in order to facilitate improved project assessment and future resource planning.
Big Game Outfitting (Section 4.3.9)	11	Land use patterns of big game outfitters, including but not limited to the location of camps and trails, should be documented in order to facilitate improved project assessment and future resource planning.

Appendix D: Land Use Designation and Landscape Management Unit Summary

Table D.1: Land use designation summary table.

Land Use Category	Area (km ²)	Area (% region)
Protected Area (PA)		
Natural Environment Park or Wilderness Preserve	14,190	21%
Wild River Park	5,610	8%
Total	19,800	29%
Restricted Use Wilderness Area (RUWA)		
Total	29,702	44%
Integrated Management Area (IMA)		
Zone I	0	0%
Zone II	3,214	5%
Zone III	13,155	20%
Zone IV	1,559	2%
Total	17,928	27%
Peel Watershed Planning Region		
Totals	67,430	100%

Table D.2: Landscape Management Unit (LMU) summary table. Colors match land use designation theme shown in Appendix A, Map 2.

LMU#	LMU Name	LMU Sub-Unit	Land Use Category	Land Use Sub-Category	Area (km ²) *	% (of Region) *
1	Ogilvie River Headwaters	none	IMA	Zone III	1,274	2
2	Kit Range / North Cache Creek	none	PA	Natural Environment Park	973	1
3	Central Ogilvie	none	IMA	Zone III	3,676	5
4	West Hart River	none	PA	Natural Environment Park	4,686	7
5	Blackstone River	none	IMA	Zone III	3,775	6
6	Hart River	A	RUWA	none	1,505	2
		B	PA	Wild River Park	1,494	2
		C	RUWA	none	3,634	5
		D	RUWA	none	1,410	2
		E	RUWA	none	276	<1
					LMU Total	8,318
7	DalGLISH Creek	none	IMA	Zone IV	1,559	2
8	Wind and Bonnet Plume Watersheds	A	RUWA	none	6,851	10
		B	PA	Wild River Park	1,238	2
		C	RUWA	none	4,129	6
		D	PA	Wild River Park	1,567	2
		E	RUWA	none	4,974	7
					LMU Total	18,759

Table D.2: continued.

LMU#	LMU Name	LMU Sub-Unit	Land Use Category	Land Use Sub-Category	Area (km ²)*	% (of Region)*
9	Snake River	A	RUWA	none	2,363	4
		B	PA	Wild River Park	1,311	2
		C	RUWA	none	135	<1
		D	PA	Natural Environment Park	2,946	4
		E	RUWA	none	4,427	7
					LMU Total	11,181
10	Richardson Mountains – South	none	IMA	Zone II	2,442	4
11	Turner Lake Wetlands	none	PA	Wild River Park (to be managed as part of LMU 14, Peel River)	1,185	2
12	Richardson Mountains and Vittrekwa River	none	PA	Wilderness Preserve	1,622	2
13	Peel Plateau West	none	IMA	Zone III	3,133	4
14	Peel River	A	PA	Wild River Park	2,424	4
		B	PA	Wild River Park	355	<1
				LMU Total	2,778	4
15	Peel Plateau East	none	IMA	Zone III	1,297	2
16	Jackfish Lakes	none	IMA	Zone II	772	1
Totals					67,430	100

*Note: Area (km²) and % of Region may not sum correctly (+/- 1) due to rounding of values.

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Appendix E: Other Management Plans

Table E.1: Existing management plans, agreements and planning processes within or adjacent to the Peel Watershed Planning Region.

Plan or Planning Process	Agency	Description	Relationship to the Peel Watershed Regional Land Use Plan
North Yukon Regional Land Use Plan	<ul style="list-style-type: none"> • YG • VGFN 	Provides land use management recommendations for the North Yukon Planning Region.	<ul style="list-style-type: none"> • Presents information on resource values, land use zoning and landscape management units, and management directions and recommendations of direct relevance to the northwestern part of the Peel region.
Gwich'in Land Use Plan	<ul style="list-style-type: none"> • GTC • TG 	Provides land use management guidance for the Gwich'in Land Claim area.	<ul style="list-style-type: none"> • Presents information on resource values, land use zoning and management units, and management directions and recommendations of direct relevance to the northern part of the Peel region.
Tombstone Park Management Plan	<ul style="list-style-type: none"> • YG • THN 	Provides land-use management direction for Tombstone Territorial Park.	<ul style="list-style-type: none"> • Provides direction to manage land use activities along the southwestern border of the Peel watershed.
North Yukon Tourism Strategy (2004) * Approved in 2006	<ul style="list-style-type: none"> • VGG • YG 	Tourism strategy for northern Yukon (Vuntut Gwitchin Traditional Territory).	<ul style="list-style-type: none"> • Identifies current and future potential tourism opportunities in the areas of interest within the Tourism region. Richardson Mountains and Dempster Highway are shared areas of interest with Peel region.
Silver Trail Region Tourism Plan	<ul style="list-style-type: none"> • YG • NNDFN • THN 	Tourism strategy for the Silver Trail Tourism Region.	<ul style="list-style-type: none"> • Identifies current and future potential tourism opportunities in a large portion of the Peel region.
Klondike Region Tourism Marketing Strategy	<ul style="list-style-type: none"> • YG • THN 	Tourism strategy for the Klondike Region.	<ul style="list-style-type: none"> • Identifies current and future strategic goals for tourism with implications for the Dempster Highway Corridor.
Yukon Parks System Plan (YPSP) Implementation Project for the Porcupine-Peel Landscape #17	<ul style="list-style-type: none"> • YG 	Report provides recommendations for implementation of the YPSP for Landscape #17 (Porcupine-Peel).	<ul style="list-style-type: none"> • Describes the natural and cultural features of Ecoregions 18-20 and 22, with emphasis on ecoregion representation, and identification of potential natural environment and historic parks.
Dempster Highway Economic Development Agreement	<ul style="list-style-type: none"> • VGFN • YG • NND • THHN 	YG/FNs Development Partnership Agreement.	<ul style="list-style-type: none"> • Scoping document that may lead to detailed study of economic opportunities within 50km of the Dempster Highway in Yukon (will be relevant to future Dempster Highway sub-regional plan).
Porcupine Caribou Herd Management Plan	<ul style="list-style-type: none"> • PCMB 	Transboundary harvest and habitat management plan for Porcupine caribou herd (PCH).	<ul style="list-style-type: none"> • Management objectives, recommendations and strategies for PCH inform the Peel Watershed Land Use Plan. • Important PCH habitats identified by PCMB are considered in the Peel Watershed Regional Land Use Plan.

Table E.1 continued.

Plan or Planning Process	Agency	Description	Relationship to the Peel Watershed Regional Land Use Plan
Harvest Management Plan for the Porcupine Caribou Herd in Canada	<ul style="list-style-type: none"> • PCMB • RRC's • NWT Gov't • YG 	PCH management plan recommends different harvest management strategies based on different herd population levels	<ul style="list-style-type: none"> • Management issues, objectives and recommendations inform Peel Watershed Regional Land Use Plan.
Mayo Fish and Wildlife Management Plan (plan reviewed on 5-year cycle)	<ul style="list-style-type: none"> • Mayo RRC • NND • YG 	Management plan for fish and wildlife resources in Na-Cho Nyak Dun Traditional Territory (see Chapter 16 of NND Final Agreement)	<ul style="list-style-type: none"> • Fish and wildlife management objectives and recommendations inform Peel Watershed Regional Land Use Plan • Important fish and wildlife habitats identified in management plan are considered in Peel Watershed Regional Land Use Plan • Informs Peel Watershed Regional Land Use Plan regarding species of concern.
North Yukon Fish and Wildlife Management Plan (plan reviewed on 5-year cycle)	<ul style="list-style-type: none"> • North Yukon RRC • VGFN • YG 	Management plan for fish and wildlife resources in Vuntut Gwitchin Traditional Territory (see Chapter 16 of VGFN Final Agreement)	<ul style="list-style-type: none"> • Fish and wildlife management objectives and recommendations inform Peel Watershed Regional Land Use Plan • Important fish and wildlife habitats identified in management plan are considered in Peel Watershed Regional Land Use Plan • Informs Peel Watershed Regional Land Use Plan regarding species of concern.
Management Plan for Dall's Sheep in the Northern Richardson Mountains	<ul style="list-style-type: none"> • YG • VGG, NND, THN, TG • RRC's • NWT Gov't • Others 	Sheep management plan for North Richardson Mountains	<ul style="list-style-type: none"> • Management issues, objectives and recommendations inform Peel Watershed Regional Land Use Plan.