PEEL WATERSHED
PLANNING COMMISSION
TOGETHER FOR THE PEEL • CHUU TL'TI GEENJIT KHETOK

Recommended Peel Watershed Regional Land Use Plan

December 2009
(revised January 2010)

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About the
Peel Watershed Planning Commission

The Peel Watershed Planning Commission is responsible for developing and recommending a regional land use plan for the Peel watershed planning region. The Commission is composed of six public members nominated by the Na-cho Nyak Dun, the Gwich'in Tribal Council, as a joint Yukon Government/Vuntut Gwitchin nominee, a joint Yukon Government/ Tr'ondëk Hwëch'in nominee and two Yukon Government nominees.

Commission Members

From left to right:

Marvin Frost
Steve Taylor
David Loeks
Peter Kaye
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Cover Photo

Goz Lake. Jimmy Johnny

Note: This revised version of the plan includes corrections described in Errata release #1, as well as a number of minor editorial corrections.

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Dec 2, 2009

Letter of Transmittal for Recommended Peel Watershed Regional Land Use Plan

To: Governments of Yukon, Na-Cho Nyak Dun, Tr'ondëk Hwëch'in, Gwich'in Tribal Council and Vuntut Gwitchin

Dear Sirs:

I am pleased to submit to you the Recommended Peel Watershed Regional Land Use Plan in fulfillment of the Peel Watershed Planning Commission's terms of reference. Every effort has been made to provide a Plan with clear recommendations grounded in both scientific fact and traditional or local knowledge, shaped by thorough public consultation and formed into a practical framework for implementation. Considerable attention was directed at building upon the Draft Plan and the considerable response it generated.

I am confident that the full suite of recommendations and management directions presented by the Commission are well substantiated. Our team and our predecessors employed the highest possible standard of professional planning practice in the research, analysis, and documentation phases of the work. Particular attention was directed at understanding both the spirit and intent for regional land use planning as set out in Chapters 11 and 12 of the Umbrella Final Agreement, the individual First Nation Settlement Agreements, and the Gwich'in Comprehensive Land Claim Agreement. This included several consultations with staff of all affected Yukon Government departments, the Land Claims Implementation Secretariat and various First Nation land-use offices. While respecting the distinct jurisdictions regarding Settlement and Non-Settlement lands in the region, this Plan has strived to clarify linkages to other key chapters of the UFA affecting the allocation and management of common resources including water, fish and wildlife. In this way, I believe that it can guide sustainable resource use well into the future for the Peel region.

In my tenure as Senior Planner since last fall, we successfully engaged all major stakeholder interests in three sets of round-table consultations with the goal of creating a better understanding of Peel region resources, issues, opportunities and challenges. On three occasions, meetings were held with the Yukon Government's Internal Working Group to gain a better understanding of regulatory issues and domain expertise. We employed both our Technical Working Group and Senior Liaison Committee as needed for advice on development of the Draft and Recommended Plans. I am satisfied that the Commission and our planning team strived to fully consider all submissions, research findings, public and Party input within the limits of available resources and time. I take great satisfaction in the level of engagement in our process, and trust that the lessons learned from our work will serve future regional land-use planning efforts in the Yukon.

The Commission welcomes the formal written response by the Parties to the Plan, and we trust that the findings will be effectively communicated through the next stage of Party and public review.

Sincerely,

Reginald C Whiten, P. Ag, RPP, MCIP
Senior Planner, Peel Watershed Planning Commission

Acknowledgements

On behalf of the Peel Watershed Planning Commission I gratefully acknowledge the contributions of many individuals and organizations for their assistance and advice in preparing this recommended land use plan. First, I wish to thank our Chair Albert Genier, and Commissioners Dave Loeks, Ray Hayes, Steve Taylor, Peter Kaye and Marvin Frost for all their patience and guidance to the planning team in developing the Recommended Plan. Thanks also to Brian Johnston who undertook much of the essential ground work in recent years. Special thanks to our land-use planning staff Sam Skinner and Nadele Flynn, for their superb skills and wonderful collaboration in shaping the Plan. Thanks as well to Heidi Faulds, our office administrator, for all the attention to details in supporting the process.

The Commission extends appreciation for the assistance of key Plan partners including the Yukon Government, representatives of the Internal Working Group and other agency staff for their review of Commission outputs. We thank the First Nation governments of Na-Cho Nyak Dun (NND), Tr'ondëk Hwëch'in (TH), Gwich'in Tribal Council (GTC) and Vuntut Gwitchin (VG) for their continual involvement and contributions. Special thanks to the Chief and Councils, Elders and community members who gave of their time to provide guidance and input on our work. Thanks also to the Gwich'in Land Use Planning Board and the North Yukon Planning Commission for sharing their experience, insights and advice.

An important source of guidance in the Commission's work was provided through the PWPC's Senior Liaison Committee, and it wishes to acknowledge contributions from Albert Peters – Chair (NND), Angus Robertson (YG), Hugh Monaghan (VG), Tim Gerberding (TH), and Chief Wilbert Firth (GTC). Significant effort was also put forward in reviewing and coordinating response by the Technical Working Group, and the PWPC thanks the following for their assistance: Jen Meurer (YG), Jeff Hamm (YLUPC), Dawna Hope (NND), Renee Mayes (TH), Mardy Semmler (GTC), Shel Graupe and Lance Nukon (VG).

The Commission appreciates the contribution of colleagues within the Yukon Land Use Planning Council (Ron Cruikshank, Jeff Hamm, Gerald Isaac and Megan Schneider) in providing valuable support for financial administration, mapping, technical reviews, First Nation community liaison, and general advice Thanks also to YLUPC Chair Doug Phillips, Ian Robertson and Steve Byck in their advisory roles in guiding the PWPC through from inception to delivery of the Recommended Plan.

Thanks goes also the many individuals from stakeholder organizations who have kindly given of their time and energy in reviewing preliminary outputs, providing written comment and participating in meetings. Finally, the general public of the Yukon is gratefully acknowledged for their continual engagement through attendance at public meetings, direct enquiries and considerable written response to our draft outputs.

Personal thanks to new friends and colleagues whom I have met during my tenure with the Commission, and for making me feel so welcome, encouraged and inspired in this work and place. My sincere hope is to see that this exercise generates not only new capacity for land-use management in the Peel region but new working relationships, and new ways of thinking on carrying out regional planning in other parts of the Yukon.

R.C.Whiten, PWPC

Recommended Plan Highlights

The Commission began with the following premises:

- The origin and the foundation for this Plan is the Umbrella Final Agreement. The UFA makes plain that the point of land use planning is for society as a whole to agree on how lands, water, and resources should be managed and protected, while recognizing and promoting "the cultural values of Yukon Indian People". The Commission therefore believes it is incumbent and proper to pay particular heed to the stated values and interests of all affected First Nations and their citizens.

- The UFA makes plain that it is an integrated document: that the Land Use Planning chapter should be understood in relation to other relevant chapters, including Development Assessment (12), Special Management Areas (10), Heritage (13), Water Management (14), and Fish and Wildlife (16). Therefore the Commission interprets its Terms of Reference broadly, as befits an integrating, synthesizing endeavor.

- The UFA's definition of Sustainable Development is a cornerstone of the Plan. Its definition is clear that the proper approach is to accommodate various forms of renewable and non-renewable land uses only if consistent with sustaining ecosystems and social systems.

Findings

1) Affected First Nations have stated clearly that their resource-use interests and rights depend upon intact regional ecosystems and landscapes in the Peel region;

2) Affected First Nations emphasized that a conservative and precautionary approach is necessary in this Plan to sustain current uses while maintaining future resource-use options for their citizens;

3) Year-round monitoring of water quality and flows is a dominant management consideration and winter low flows are a major limiting factor that may affect certain forms of industrial development in the planning region;

4) Large segments of the Yukon public have identified values and interests that are congruent with those of the affected First Nations, namely that ecosystem integrity and intact landscapes are the priority land-use management consideration in the planning region;

5) While aerial access to mineral claims may have generally been a manageable land-use activity, predominant Yukon public opinion indicates that surface access is likely to undermine the region's wilderness character outside of the immediate Dempster Highway Corridor; this wilderness character is considered essential to most renewable resource-use sectors in the planning region;

6) Current practices of consultation and site-level management for oil and gas development are considered adequate. However, the cumulative effects and their implications for this sector are not

yet understood by affected First Nations in the Tetłit Gwich'in Primary Use area;

7) The Plan cannot be viewed as a template for other future Yukon regional land-use planning processes. Its provisions result from the region's unique biophysical and socio-economic features and values.

8) The mechanisms provided in the UFA for evaluating conformity with the Plan (under Chapters 11 and 12) require that a Peel Regional Planning Commission is consulted to consider any Plan amendments and variances as part of YESAB's project review process;

9) Cumulative environmental and socio-economic effects are neither well understood nor evaluated in the current practice of project assessment in the Yukon;

10) Existing surface access routes, including off-trail ATV use, are impacting caribou populations. Existing voluntary conservation measures are not sufficient to sustain these herds.

11) Some resource conflicts are intractable and cannot be solved by on-site, management techniques.

Peel Watershed Planning Commission and staff:
(R-L) Ray Hayes, Chair Albert Genier, Senior Planner Reg Whiten,
Heidi Faulds, Administrator, Sam Skinner and Nadele Flynn, Land-Use Planners,
Dave Loeks, and Steve Taylor (absent Commission members Marvin Frost, Peter Kaye)

Key Recommendations

A. The Plan provides direction to all resource-users. It is imperative that all Parties to the Plan develop and implement the policy and legislation required to regulate their citizens' use of planning region resources, as contained in the Plan's recommendations;

B. The Plan Framework provides a well-substantiated foundation for ongoing land-use management, assessment and planning in the Peel Watershed region;

C. Given the unique and sensitive ecosystems of the Peel Watershed, application of the UFA-based definition of sustainable development and other key Plan principles requires that special emphasis be placed on environmental protection throughout the entire planning region in both Special Management and Integrated Management Areas;

D. Special Management Areas consist of Land Use Management Units where emphasis is placed on Heritage Management (2.1%), Fish and Wildlife Management (19.6%), Watershed Management (27.7%), and General Environmental Protection (31.2%);

E. Areas proposed as Special Management Areas should be immediately withdrawn from staking. However, continued aerial access to, and development of, existing mineral claims in SMA's will be allowed subject to specific management conditions;

F. New surface access development is prohibited within Special Management Areas. A Plan Amendment will be required to modify this recommendation;

G. The proposed set of "Primary Regulatory Designations" set out in Section 4.2 are proposed for all Special Management Areas based upon ecosystem sustainability considerations, minimizing land-use conflicts, and optimizing socio-economic benefit based upon the desired future-state and rationale for each relevant SMA;

H. Non renewable resource-use opportunities in Integrated Management Areas (19.4%) can be encouraged subject to key land-use and environmental management considerations, including enhanced community consultation where specified;

I. A sub-regional Plan should be developed for the Dempster Highway Corridor to ensure sustainable and compatible management of all resource uses;

J. The Wind River Trail should be no longer be classified as an access corridor to ensure compatibility with the management intent of this proposed SMA;

K. A comprehensive Water Management Plan should be undertaken for the planning region.

Message from the Commission

The Peel Watershed Planning Commission respectfully recommends this plan to the people of the Yukon and to the Parties which appointed us. We are not professional planners; we are your neighbours who were appointed to study, research, listen, and learn as much as we could about the Peel Watershed. We have tried to detect the public interest and design a way to manage land use with this in mind. We understand that no plan will please all people because not all resource conflicts can be solved to everyone's satisfaction. We believe, however, that this plan reflects what is good for this region, good for the public interest, and is faithful to our Terms of Reference. We do not see this Plan as a template for other regions of the Yukon – each region is unique.

This Recommended Plan differs considerably from the Draft Plan that was presented in April, 2009. An explanation is in order.

Throughout our planning process we listened closely to what people had to say about their interests and needs and concerns. We considered carefully the research and analyses of Yukon and First Nation government agencies and specialists. We paid meticulous attention to the statements of First Nation chiefs and councils, citizens, and elders. We engaged stakeholders and their associations to understand how their different land uses and values affected the land, and how they interacted with each other. We read letters from the public and listened to them at meetings.

We heard that the Peel Watershed is unusual. Not just in the Yukon, but in Canada and in the world. Other places are beautiful, other places have animals, and other places have rivers and wetlands and mountains and tundra. Our planning area has these assets in abundance, but that's not what makes it so unique. The really important asset of the Peel country is that it is extensive, undeveloped, and largely devoid of roads. In short, it is beautiful, rich, and wild, and therefore both unusual and unusually valuable – *as it is*.

We also heard that the Peel country holds potential reserves of minerals, uranium, oil, and gas. And that developing these resources depends on open staking with the option to build roads to claims and leases. The stated belief is that industrial development and "opening the country" is best for society. Underlying this assumption is another, that economic worth (measured by dollars) is how lands and resources should be valued by society.

The Draft Plan attempted a compromise for balancing divergent values and interests, and for reducing conflicts, while respecting the convictions of First Nations. The Commission – and all concerned – knew that there was a conflict between preserving this unique landscape as it is, and industrial development. On one side were the cultural and spiritual values of First Nations, the wilderness business sectors, and people who valued wilderness. On the other side were the mining sector, the oil and gas sector, and people who believed that industrial development in this region was important. We knew that this conflict was undeniable. We hoped it was manageable.

Both "sides" have legitimate values. The Commission's conundrum was that nearly everyone who commented on the Draft Plan rejected compromise as fatal to their interests. The mining sector rejected limitations on staking and they rejected limitations on surface access along with the related restrictions proposed to manage potential adverse impacts or conflicts. First Nations governments and wilderness advocates insisted that the limitations on industry proposed in the Draft Plan were insufficient to protect their interests, and they maintained that in many areas, roads of any kind would destroy what they valued. As a Commission, we drew one important conclusion: not all resource conflicts are manageable by techniques – some conflicts are intractable.

The mining spokesmen assert that open staking and open access to minerals is a "right". The problem is that by its very nature, exercising this right undermines what is valued by others: the wildness, the biological richness, the roadlessness of the country. The Commission did not make this up; we were told this repeatedly by Yukon people who are affected by development: Elders, First Nation governments, hunters, trappers, renewable resource users, wilderness guides, recreationists, scientists. Adequately protecting these interests apparently means limiting options for the mineral industry.

Reviewing the responses to the Draft Plan, we concluded that there were no compromise solutions acceptable to all. We were at a fork in the trail and had to choose to manage for one cluster of interests or the other. We were told this in so many words by industry, by the First Nations, by the wilderness advocates, by people in general, and by the logic of the situation. As a result, we devised what we believe is a conservative, cautious plan that preserves society's future options.

As we were charged to do, this Plan focuses on "Sustainable Development". The UFA definition is clear that it is ecosystems and social systems that are to be sustained, and development is fostered insofar as it doesn't undermine them. We were also charged with recommending measures to minimize actual and potential land-use conflicts. And we were duty-bound to "recognize and promote the cultural values of Yukon Indian People" promote the well-being of Yukon Indian People, residents of the region, and the Yukon as a whole, and consider the interests of other Canadians. This Plan accomplishes these objectives.

What sets this region apart from other planning regions is its remoteness, and lack of development. The interests of the affected First Nations and the interests of many Yukoners in this landscape depend in large measure on this remoteness. So does the well-being of its fish and wildlife populations. At this stage of our history, opening the region to development is likely to undermine the qualities that are valued by much of society and that sustain the region's ecosystems.

Looking at it strategically, a conservative, cautious plan preserves society's options. We can always decide to develop in the future, but once this decision is made, we cannot return to a pristine ecosystem and landscape – not in our lifetimes and not in the lifetimes of our great-grandchildren. Better, in our view, to go slow. Going slow has many advantages, including the possibility that we may be able to do things better and with less expense in the future. Changes in techniques, knowledge, technology, and, perhaps, attitudes can open windows of opportunity for development. For example, in a few short years, Boeing will be commercially producing a dirigible designed to transport heavy loads (40 tons) for the mining industry and other users. If this is successful, the very need for roads (and their expense and permanent scars) may become obsolete. For this reason, to be cautious and to preserve options, the Commission did not call for existing claims to be extinguished.

We invite the Parties and the people of the Yukon to consider this plan as if they intended to explain their decisions to their grandchildren.

We thank you for the privilege of serving the Yukon.

The Peel Watershed Planning Commission

Albert Genier	Marvin Frost	Ray Hayes
Peter Kaye	Steve Taylor	David Loeks

December 2nd, 2009

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ANWR	Arctic National Wildlife Refuge
BMPs	Best Management Practices
CA	Community Area
COSEWIC	Committee on the Status of Endangered Wildlife in Canada
FNFA	First Nation Final Agreement
GLUPB	Gwich'in Land Use Planning Board
GYTA	Gwich'in Yukon Transboundary Agreement
IMA	Integrated Management Area
ISR	Inuvialuit Settlement Region
LMU	Landscape Management Unit
NND	First Nation of Na-Cho Nyak Dun
NYPC	North Yukon Planning Commission
NYRRC	North Yukon Renewable Resources Council
PA	Protected Area
PCMB	Porcupine Caribou Management Board
PWPC	Peel Watershed Planning Commission
PWPR	Peel Watershed Planning Region
PWRLUP	Peel Watershed Regional Land Use Plan
RLUP	Regional Land Use Plan
SARA	Species at Risk Act
SMA	Special Management Area
TG	Tetłit Gwich'in
TGFN	Tetłit 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	Yukon Environmental and Socio-Economic Assessment Act
YESAB	Yukon Environmental and Socio-Economic Assessment Board
YG	Yukon Government
YLUPC	Yukon Land Use Planning Council

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1. Introduction

1.1. Mandate and Context

1.1.1. About the Umbrella Final Agreement and Regional Land-Use Planning

Under Chapter 11 of the Umbrella Final Agreement ("UFA", 1993), the Peel Watershed Planning Commission (PWPC) is responsible for developing and recommending a regional land use plan for the Peel Watershed Planning Region – hereafter referred to as the Peel Watershed Regional Land Use Plan (PWRLUP). The PWPC is an arm's-length, independent commission with members who are jointly nominated by the Yukon Government, Na-Cho Nyak Dun, Tr'ondëk Hwëch'in, Gwich'in Tribal Council, and Vuntut Gwitchin governments ("Parties to the Plan"). The Commission works under financial agreement with the Yukon Land Use Planning Council.

Figure 1.1 below shows the working relationships that were put in place under the Terms of Reference. These relationships provided administrative, technical, and policy level support as the Commission worked through the planning and consultation process with the Parties, the affected communities, and the general public.

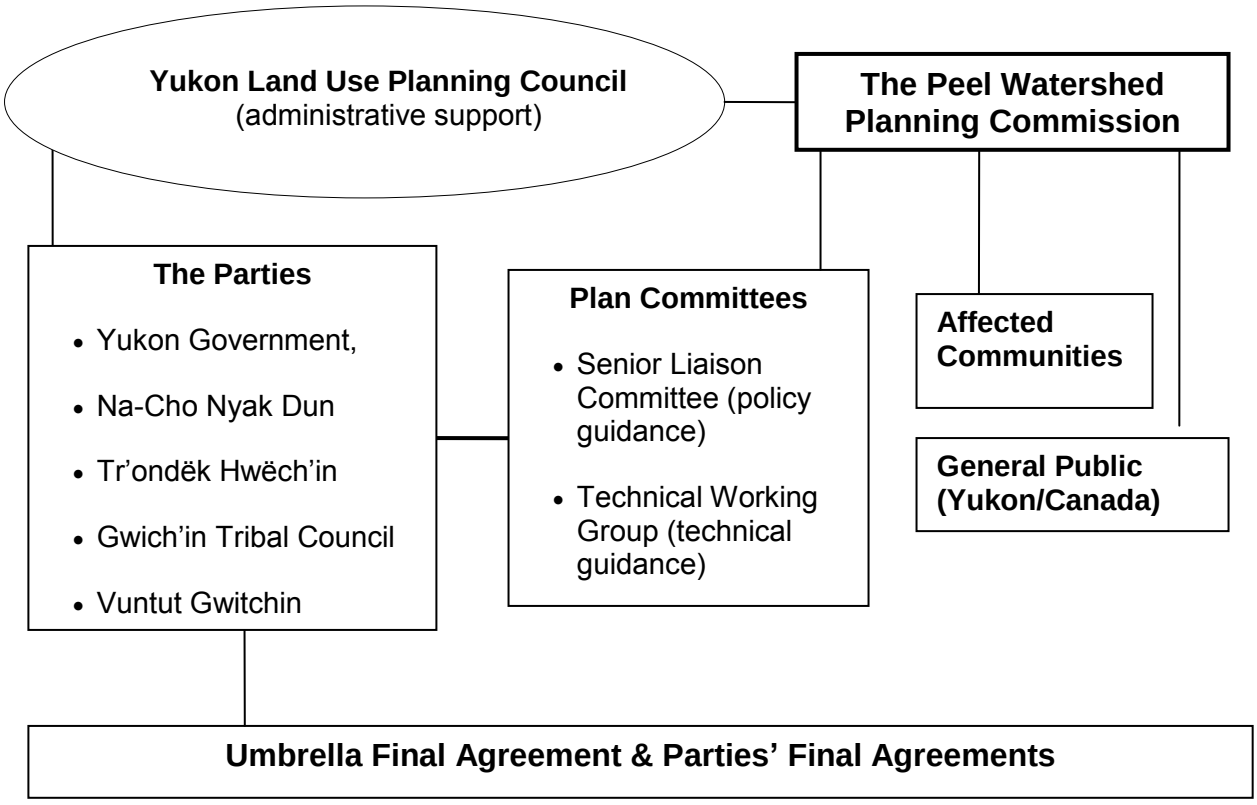

Figure 1.1: Working Relationships in Plan Development

The primary purpose of the Plan is to achieve sustainable development and provide a higher level of land-use certainty for all resource users. The Commission believes that this higher level of certainty does not exist under the current regime of site-specific, land-use management. Most importantly, the existing system does not necessarily consider the cumulative environmental and social effects created by multiple uses in a region.

The Plan will apply to all (settlement and non-settlement) lands in the planning region. The target period of application for the Plan is approximately 10-15 years, with at least one opportunity for review during this period. The Commission has also offered various recommendations for Plan implementation, including new special management area designations, supplementary environmental and socio-economic research, and enhanced decision-making mechanisms. Table 1.1 below shows how the UFA governs the functions of regional planning in the Yukon.

Table 1.1: Regional Planning Functions in the Yukon

Plan Components	Chapter 11 Linkages (UFA)
Commission Roles, Composition, and Plan Development	• 11.4.0: specifies how members are appointed and how the Plan should be developed, including public participation, addressing land-use conflicts, integrating local and traditional knowledge, and promoting sustainable development and integrated resource management • 11.5.0 : outlines mandate of Commission to make land and resource use recommendations • 11.8.0: specifies terms of how YG and First Nations can develop sub-regional or district land-use plans in relation to the approved Plan
Land-use Planning Process	• 11.2.0: indicates minimum requirements for Plan content, process to be followed, what the process does not apply to, and conducting Plan review or amendment
Setting of Plan Objectives	• 11.1.0: indicates broad goals and purpose for planning
Approval Process	• 11.6.0: outlines how the Plan moves from Recommended Plan to Approved Regional Plan, including First Nation and public consultation
Plan Implementation	• 11.7.0: sets out what the YG and affected Yukon First Nations must do to conform with the Plan in exercising authority over resources on settlement and non-settlement lands
Plan Monitoring for Compliance and Amendment	• 11.2.1.3 – 6 incl, 11.4.5.10: indicates mandate and role of Commission in monitoring compliance with and assessing need for Plan amendment

1.1.2 Terms of Reference/Objectives of the Commission

Terms of Reference with specific objectives were prepared by the Parties for the Commission to guide the development of the Plan. The clauses below and Table 1.1 indicate how these objectives were derived from the UFA.

- 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 11.4.5.7);
- Recommend measures to minimize actual or potential land-use conflicts throughout the planning region (UFA 11.4.5.4);

- Recognize and promote the cultural values of the affected First Nations and other affected Yukon Indian People (UFA 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 coordinated manner so as to ensure sustainable development (UFA 11.1.1.6);
- Promote sustainable development (UFA 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 11.4.5.8);
- Provide for enhanced opportunities to have ongoing co-operative land-use planning activities between the Peel Watershed Planning Commission and the Gwich'in Land Use Planning Board (7.1.3, GYTA). Any Regional Land Use Planning Commission (or other planning agency described in 7.1.1, GYTA), shall consult with the Gwich'in Land Use Planning Board about planning for the Peel River watershed carried out by the Mackenzie Delta Beaufort Sea Land Use Planning Commission, and to discuss ongoing co-operative land-use planning activities;
- Recognize all economic potential of the planning region, including but not limited to subsurface resources.

1.1.3. Scope of the Regional Land Use Plan

It is important to understand both what a regional land use plan is and what it is not.

- A regional land use plan is a collective statement about how we want land and resources to be managed within a given area. It provides guidance for land and resource decision-making and helps us achieve the kind of future we want.
- The Peel Watershed Regional Land Use Plan, however, is not a legal document. It does not replace existing legislation. Neither does it affect First Nation rights as established by land claim agreements and constitutional law.
- The Plan applies only to the Peel Watershed Planning Region. It provides management direction for all Yukon non-settlement lands and all First Nation settlement lands within the planning region. The planning framework employed is not necessarily a template for land use plans in other regions of the Yukon

1.2. Vision, Statement of Intent, and Approach of the Planning Commission

The Peel Watershed Planning Commission has made a concerted effort to solicit the widest possible range of input in creating its Recommended Plan. Since its formation in 2004, it has carried out various types of research and consultation with the Parties, the public, and directly affected communities. It had also conducted a thorough research and planning process to determine resource values, land-use activities, resource potentials, and environmental sensitivities.

The Commission gained insight through documenting traditional and local knowledge from people with history and experience in the planning region. With the aid of scientists, resource specialists, Elders, users of the land, and other informed people, a picture of the Peel region emerged during the first few years of the Commission's work. The Commission also learned about the region's ecosystem processes, its vegetation, animals, and fish, its landforms and waterways, its minerals, its human uses and activities,

and its heritage. Equally important, the Commission gained important understanding about certain limits or sensitivities concerning the land and waters of the Peel region. It also came to appreciate the major challenge of land-use conflicts among resource users (or their interactions with sensitive ecological values), in the past, present, and very likely in the future.

The result of the Commission's early planning and research was the PWPC's Statement of Intent, which was made public in the fall of 2005.

Statement of Intent

The goal of the Peel Watershed Regional Land Use Plan is to ensure wilderness[1] 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 integrity[2]. The long-term objective is to return all lands to their natural state[3].

Over the next three years, the Commission put considerable work into documenting as much resource value information about the region as possible (PWPC, 2008a & b). In fall 2008, with input from its advisory committees, stakeholder groups, and the public, the Commission developed land-use management scenarios (PWPC, 2009a). It based these scenarios on a set of criteria that was carefully designed to fulfill its terms of reference. In spring 2009 the Commission produced a Draft Plan that focused on ways to accommodate existing and future resource uses, while also considering potential land-use conflicts in specific areas or the region as a whole (PWPC, 2009b).

The Draft Plan attempted to create an "integrated land-use management plan" that employed the Yukon land-use planning framework. It included (i) specified access development corridors and core protection areas; (ii) a broad range of detailed management strategies to assist both renewable and non-renewable resource uses over time; and (iii) an emphasis on using results-based management indicators to monitor Plan implementation. In submitting its Draft Plan, the Commissioners said: *"We acknowledge the land as it is – a wild assembly of landscapes, ecosystems, wildlife, vegetation, and cultural history is infinitely valuable and should be maintained. We also acknowledge that humans have a place in this region and that somehow their uses should be accommodated – encouraged, even – but not at the permanent expense of the land as wild, ecologically intact country"* (PWPC, 2009b).

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[1] **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)

[2] **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)

[3] **Natural state** in this context refers to terrestrial conditions and is elaborated in the surface disturbances discussion in Section 5.2.1. 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.

During the review of the Draft Plan, a number of First Nations, government agencies, and members of the public challenged the conceptual framework. They did so on the grounds that it provided for surface access (e.g., winter roads) without adequate rationale, and that it provided for industrial subsurface development (although of existing claims, with strict conditions) without adequately considering whether these land uses were compatible in key areas. The Commission concluded that the Draft Plan approach of achieving a balance of resource use in the Peel region was unacceptable to most First Nations, many government agencies, and a large segment of the public. Its approach was criticized because:

(a) The Plan did not propose enough area for immediate high-level preservation to support the integrated use of land for either First Nation traditional use or existing renewable uses;

(b) The Plan's designation of surface access corridors to assist in potential industrial development was seen as forever precluding the option of wilderness protection in existing roadless areas. The designation would require a high level of monitoring by government (compliance) or industry (self-regulation) to minimize land-use conflicts, or to prevent or mitigate effects.

(c) The range of mitigation measures was considered too prescriptive, uneconomical, scientifically unfeasible, or unenforceable.

(d) Not enough certainty or clarity was provided to enable long-term industrial development access, to protect First Nation resource values/uses, or to guide renewable resource activities and tenures.

Figure 1.2: Developing scenarios with the Planning Commission (Photo: PWPC)

Following this substantive review, the Commission concluded that it could not create a Recommended Plan that would satisfy all interests and all resource users at all times throughout the Peel region. The Commission could not justify emphasizing a "results-based working landscape" model that endeavours to accommodate all forms of the planning region through impact mitigation and regulatory compliance. Instead, the Commission focused upon an "ecosystem-based and compatible land use" approach that considers allowable uses and enabling an ongoing process of reviewing for Plan conformity. Further impetus for its approach is drawn from the Commission's review of the UFA's definition of sustainable development:

> ***"Sustainable Development" means beneficial socio-economic change that does not undermine the ecological and social systems upon which communities and societies are dependent.*** (Source: p 7, Chapter 1 – Definitions, Umbrella Final Agreement.)

Sustain ecosystem integrity first. Conserving the land, its living things, and its processes is the fundamental priority: lose this and all else crumbles. Ecosystem integrity involves maintaining a state of harmony between people and the land.

Sustain communities and cultures next. Preserving communities and cultures relies on achieving success with the first priority. Sustainable communities and sustainable ecosystems are intertwined.

Foster sustainable economic activities third. There are two kinds of sustainability here: activities that do not degrade the land or undermine communities and can be sustained indefinitely; and activities that deplete resources, but from which the land can recover. Not all economic activities fit in this region.

- A few other key directions informed the development of the Recommended Plan. These key directions flow from the Commission's deliberations and its foundation documents, including its Terms of Reference (1.1.2), Statement of Intent (1.2.1), and Guiding Principles (1.3). A future Commission must monitor the integrity of the Plan and its core recommendations during implementation. It must evaluate conformity with the Plan, consider implications of a Plan amendment, and enable thorough periodic reviews.
- The Peel Watershed could sustain only a very limited "working landscape" that includes subsurface industrial development. It would still be subject to rigorous advance consultation with affected First Nations to identify area-specific concerns, along with appropriate management, monitoring, and restoration measures.
- The Commission considers that it is premature to permit new ground access routes for subsurface industrial activity where the economic viability of extracting the subsurface resource is undetermined. Such permits would foster uncertainty for surface resource users in the foreseeable future, and would foreclose management options for renewable and cultural uses.
- Certain key environments, such as riparian corridors, key wildlife habitats and wetlands, and culturally important areas require strong protection and clear land-use restrictions;
- Maintaining ecosystem integrity, conserving migratory species, keeping wilderness character, and respecting First Nation values, all requires large, adjoining special management areas, with appropriate regulatory tools to address land-use objectives;
- Existing mineral claims in special management areas will be respected. Subject to compliance with regulatory processes and relevant management conditions set out in this Plan, further exploration of these claims can continue using air access. However, since surface access is a

non-conforming use, any proposed development of those claims would require a Plan Amendment to determine whether or not a project can be brought into conformance.

- Certain areas should be immediately withdrawn from staking to provide a foundation for renewable resource use as well as conservation and protection objectives in core areas (e.g., wilderness or ecological preserve). In areas that are withdrawn from staking, any existing claims that are relinquished should be withdrawn from future staking.

In summary, the constant aim of the Commission has been to achieve its Statement of Intent and fulfill its Terms of Reference. The Commission believes that the Recommended Plan largely accomplishes this goal. It provides for sustainable regional economic development with emphasis on renewable resource industries, while seeking to preserve wilderness character throughout a large part of the planning region. The management regime the Commission is recommending places high priority on resource protection for the planning region. It also provides guidance for allowable resource use, with essential conditions for management in both Integrated Management Areas (IMAs), and Special Management Areas (SMAs). Within SMAs, the Commission has proposed a preferred regulatory designation(s) that it considers the most appropriate in achieving the desired future land-use state for each landscape unit. The Commission emphasizes its conviction that a cautious, conservative plan that preserves future options is most appropriate in a highly valuable, largely pristine landscape.

1.3. Goals and Principles of the Regional Plan

Through its deliberations, the Commission established three major goals to achieve the interrelated components of its Terms of Reference, its Statement of Intent, and its Principles and Plan Framework, as well as the Umbrella Final Agreement.

- Enable stewardship of Peel region ecosystems including aquatic, fish, wildlife, plant, and terrain resources.
- Provide for the social well-being of affected First Nations and other Yukoners through consideration of heritage, culture, employment, and quality of life objectives.
- Realize sustainable development opportunities while maintaining traditional First Nation livelihoods.

There are six guiding principles that underlie development and recommendations of the Peel Watershed Regional Land Use Plan:

Independence and Impartiality

As an independent, public agency appointed to represent the best interests of Yukon people, the Commission will carefully consider any and all information, advice, or recommendations provided to it by any government, agency, or the public in a balanced and neutral manner. The Commission will make use of such advice in preparing its Recommended Plan, consistent with its Terms of Reference and expectations of the UFA (11.4.0 to 11.7.0 incl.)

Sustainable Development

The core principle that guides the Plan is sustainable development, as defined in the UFA: "Beneficial socio-economic change that does not undermine the ecological and social systems upon which communities and societies are dependent" (UFA, p.7, 11.4.5.9).

This includes a commitment to the practice of integrated resource management (UFA, 11.4.5.8, 11.2.1.2), so that the Plan "…ensures that social, cultural, economic and environmental policies are applied to the management, protection and use of land, water and resources in an integrated and coordinated manner so as to ensure sustainable development" (UFA, 11.1.1.6).

First Nations Traditional and Community Resource Use

The Plan will promote the interests, rights, and responsibilities of the Tetłit Gwich'in, Na-Cho Nyak Dun, Tr'ondëk Hwëch'in, and Vuntut Gwitchin concerning the conservation and use of their traditional territories for country food harvest, promotion of a renewable resource economy, or other purpose as they may decide for settlement lands (UFA, 16.1.1.1, 5.4.9, 12.1.1.1).

Conservation

The Plan proposes to manage fish and wildlife, their habitats, and water resources using the conservation principle as defined in the Umbrella Final Agreement: *"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"* (UFA, p.1).

Adaptive Management

The Plan is a living document. In accordance with UFA 11.2.1.3 – 11.2.1.5, the Plan will be reviewed, monitored, and updated in response to changing land use and/or environmental conditions, or as better information becomes available. Adaptive management means that those implementing the plan learn and adapt as their information improves.

Precautionary Principle

The Plan recognizes that the Peel Watershed is an intact ecosystem. It recognizes the need to consider potential effects before making resource decisions – in particular, the need to recognize and enhance, as far as practicable, the livelihood of First Nations and their relationship to the wilderness environment (12.1.1.1). 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.

…some further elaboration on the Precautionary Principle:

The Precautionary Principle has been accepted by the Rio Declaration of the United Nations and has certain commonly occurring themes): (1) a willingness to take action in advance of formal justification of proof; (2) proportionality of response; (3) a preparedness to provide ecological space and margins for error; (4) a recognition of the well-being and interests of non-human entities; (5) a shift in the onus of proof onto those who propose change; (6) a greater concern for impacts on future generations; and (7) a recognition of the need to address ecological debts.

The rationale for the *Precautionary Principle* is fairly straightforward:

> *Decisions to take action to restrict potentially dangerous activities are often taken after science has established a causal association between a substance or activity and a well-defined, singular adverse impact. Proving causality takes both extensive time and resources. During this research period, action to prevent potentially irreversible human and environmental harm is often delayed in the name of uncertainty and the harmful activity continues. For a variety of reasons, it may not even be possible to demonstrate a causal association in complex human/ecological systems.*

Raffensperger & Tickner, 1999 pp.2-3.24

1.4. Plan Consultations and Ongoing Relationships

1.4.1 Consultation Activities

Consultation activities have formed an integral part of the process in developing the Peel Regional Land Use Plan. This work began at the outset as the PWPC consulted with the Parties, public and affected communities during its Interests and Issues identification research in 2005. It was followed by presentations and meetings with public agencies and stakeholder organizations throughout the planning process. The most intensive engagement in consultation started in the fall of 2008 during the Scenarios Development, and lasted until the fall of 2009 as part of the Draft Plan preparation and review phase.

In Table 1.2, we highlight those consultation activities which were carried out in conformance with Chapter 11 provisions of the Umbrella Final Agreement. The Table outlines how the Commission believes it has fulfilled the requirements of its guiding documents (Statement of Intent, Terms of Reference, Principles, and Final Agreements) with links clearly made to UFA Chapter 11, Section 11.4.5.


Figure 1.3: Consultations in Mayo (left) and Dawson (right) (Photo: PWPC)

Table 1.2: Linkage between Umbrella and FN Final Agreements and PWPC Consultation Activities

Umbrella & FN Final Agreements		Recommended Plan
11.4.5.3	Shall ensure adequate opportunity for public participation	• PWPC held numerous workshops, presentations and open houses during the planning process. • PWPC consulted widely on the Draft & Rec Plan; comments have been incorporated into this document. • PWPC has solicited public input on numerous internal reports and technical products including Issues and Interests, CPAR, RAR
11.4.5.4	Shall recommend measures to minimize actual and potential land-use conflicts throughout the planning region	• PWPC examined various commissioned studies, independent industry reports, and developed future land-use scenarios to understand potential land-use conflicts. • PWPC recommended a number of tools and approaches to minimize land-use conflicts, including various forms of Land-use designation/management corridors (Special Mgt Areas, Integrated Management Areas and Dempster Hwy Sub-regional Plan)
11.4.5.5	Shall use the knowledge and traditional experience of Yukon Indian People, and the knowledge and experience of other residents of the planning region	• A number of heritage and traditional knowledge workshops were held during the planning process • Traditional knowledge was utilized equally with science-based knowledge (e.g., habitat suitability mapping). • Special meetings were held with Elder Councils and/or individual Elder representatives (TH, NND and TG) • Field reconnaissance trips were undertaken with Elder representatives (NND, TG) to identify land-use issues and resources
11.4.5.6	Shall take into account oral forms of communication and traditional land management practices of Yukon Indian People	
11.4.5.7	Shall promote the well-being of Yukon Indian People, other residents for the planning region, the communities, and the Yukon as a whole, while having regard to the interests of other Canadians	• The Plan conforms fairly closely to the expressed interests of the majority of public input; • The Plan is balanced and reflects the social and economic well-being of residents and Yukoners, both by providing for continued economic activity, sustaining resources for future use, undertaking ongoing environmental monitoring and restoration, and encouraging socio-economic studies. • Applies sustainability principles to ensure conservation, social, cultural and economic objectives can be achieved. • Interests and management regimes in adjacent jurisdictions have been considered.
11.4.5.8	Shall take into account that the management of land, water and resources, including Fish, Wildlife and their habitats, is to be integrated	• The tools and approaches of this Plan facilitate integrated management where deemed possible across the region • The Plan considers cumulative impacts to land and water from multiple land-use activities within Integrated Mgt Areas
11.4.5.9	Shall promote Sustainable Development	• The Plan addresses ecological, social and economic themes through understanding of ecosystem function and processes • The Plan recommends measures to manage cumulative impacts of multiple land-use activities.
11.4.5.10	May monitor the implementation of the approved regional land-use plan, in order to monitor compliance with the plan and to assess the need for amendment of the plan	• PWPC has recommended implementation tasks and methods for monitoring plan effectiveness • Potential processes and time-lines for revising the Plan have been suggested.

1.4.2. Relationship to Existing Management Processes

Various plan partners and agencies undertake resource monitoring and research activities according to responsibilities outlined in their mandates or business plans. Much of the information-sharing benefits the planning process by contributing new information on resource distribution, status, and/or trend. Additionally, new information can be used for updating/revising the Plan framework, and for applying an adaptive management approach.

There are important working relationships that can affect implementation of the Peel RLUP. These include but are not limited to government agencies (Territorial, Federal and First Nations), UFA advisory and regulatory Boards or Committees and the Yukon Land Use Planning Council. The handling of existing and new resource information may be managed through an on-line Resource Data Atlas being developed by YLUPC.

1.4.3. Anticipated Future Roles and Responsibilities

The Peel Watershed Planning Commission

The PWPC has established the importance of having an independent body to consider a range of public policy, interests and objectives. With a growing demand on resources in the years to come, and potential new demands for land use, it is appropriate that an independent Commission can be called upon to fulfill its intended function for Plan implementation as articulated in the UFA – particularly as it relates to Plan project assessment and conformity evaluations as required by YESAB (12.17.0), and to conduct periodic Plan reviews. It does not imply, however, that there exists a permanently staffed Commission, but rather some capacity to convene and support this function.

Such Plan implementation functions are presented in Section 5 on Implementation. These roles are considered vital and appropriate for a public Commission to undertake. As a neutral body reporting to the Parties, it is in the best position to consider new resource information, review of public interests and conflicts of interests, consideration of all relevant sections of the UFA and individual FNFA's as well as inter-jurisdictional matters (i.e. down-stream impacts in transboundary waters or management issues flowing from the Gwich'in Comprehensive Land Claims Agreement per Schedule C, or a consideration under UFA 12.16.0).

Role of Yukon Government

The Yukon Government's role in plan implementation is identified under UFA/FNFA Sections 11.7.1 and 11.7.3, as they relate to Non-Settlement Lands, and in various sections of Schedule C Yukon Transboundary Agreement of the Gwich'in Comprehensive Land Claim Agreement (GCLCA) with respect to various consultation, recommending bodies and approval processes (e.g. Appendix C: 12,6.1, 8.2.5, 14.2.4)

Na-Cho Nyak Dun, Tr'ondëk Hwëch'in, Gwich'in Tribal Council and Vuntut Gwitchin Governments

The four affected government roles in plan implementation are identified under UFA/FNFA Sections 11.7.2 and 11.7.4, and Schedule C of GCLCA. Implementation activities which apply to R-blocks and S-Sites, and to Tetłit Gwich'in Fee Simple Lands, and to Primary

Use/Secondary Use areas, are also subject to the development of legislation to support resource management and planning activities on those lands.

Yukon Environmental & Socio-economic Assessment Board (YESAB)

The YESAB role in plan implementation is identified under UFA/FNFA Section 12.17.0.

Canada

The Federal Government role in plan implementation is per existing mandates and legislative requirements (e.g. Fisheries Act, National Parks Act, Migratory Birds Convention Act, Species at Risk Act, etc.).

1.5. Key Land-Use Management Issues in the Planning Region

Affected First Nations and the general public expressed strong desire for a land use plan that will ensure a high level of environmental protection in the region, while allowing for future sustainable and compatible-use opportunities. Governments and industry asked for a plan that would ensure certainty and flexibility with respect to broad societal goals for sustainable development. This Plan aims to satisfy those desires by shaping land use in the region within a framework of ecosystem sustainability that protects valued cultural and ecological resources while facilitating some degree of new economic development activity in both renewable and non-renewable resource sectors.

Supporting the Final Agreements of the First Nations, and the Umbrella Final Agreement, this Plan makes an important contribution to ensuring that regional conservation measures are in place prior to permitting increased land-use activities. A number of existing economic development plans, land disposition systems (e.g., Yukon oil and gas disposition process), and the Territory's project assessment process (YESAB) will benefit from guidance provided by this Plan.

Land-use interests in the Peel region span a history from pre-contact to modern day. Research has shown that First Nations people of the Peel Watershed region have long utilized the water, wildlife, fish, and plant resources of the region and they continue to rely on these resources. They have also indicated that their culture and traditional economy in the future depends upon a healthy environment, ecologically intact landscapes, and people's connection with the land.

Renewable resource businesses have also long utilized the area for a range of tourism-related activities. This sector places special emphasis on maintaining the Peel's existing landscapes for their ecological, cultural, and aesthetic values, which many tourism industry representatives claim are essential to maintain both present, and long-term economic certainty. Similar perspectives have been expressed by the general public, recreational users, the conservation community and various government agencies and UFA-Boards who also regard a large part of the Peel region as a globally significant ecosystem with intrinsic value and function.

The non-renewable industry sector (oil & gas, mining) similarly regards the Peel from a landscape perspective – a working landscape - throughout which there is need to ensure access for resource exploration and development. The sector has expressed confidence this can be done through existing regulatory processes, and by applying best management practices in a way that does not compromise ecological, social, or cultural values. While this Plan does envision a

limited degree of sub-surface industrial use under strict ***conditions***, it outlines the challenges faced in accommodating this concept. Based upon considerable consultations the Commission undertook with the public, First Nation, government, and stakeholder consultations, combining a working landscape with roadless wilderness was considered by the Commission to be irreconcilable land-use goals for this unique region. In fact, one of the Commission's greatest challenges has been to determine just how and where the ecological integrity of this landscape could accommodate industrial development based upon the information it has been presented.

In analyzing the consultation input along with specialized expertise across land-use sectors, the Commission has emphasized *a precautionary approach* in this Recommended Plan. Applying this principle takes into account current understanding of resource values, public interests, legal considerations, and capacity to accommodate a mix of renewable and non-renewable resource use.

Through its iterative process of planning and consultation, the Commission is confident that the proposed Land Use Plan framework (including the land-use designation/zoning system, land-use management units, management directions/strategies, and plan conformity system) provides an effective and objective foundation for enabling both ongoing land-use management and future Plan review/adaptation. Given the status of ecosystem knowledge (e.g., focal fish and wildlife species distributions, hydrology) and understanding of potential risk to key resource values, the Commission recognizes that the proposed results-based monitoring tools and indicators presented in this Plan will evolve and improve their utility for determining acceptable limits to change. Research and experience gained by monitoring development in adjacent areas (i.e. in the North Yukon Regional Plan's Eagle Plains area), has found that surface disturbance effects created by linear oil & gas development has limited applicability as a land management indicator when applied to the mountain and valley landscapes of the Peel region.

Plan partners and stakeholders identified six major planning issues of both short-term and long-term importance to the Peel Watershed Planning Region:

Land-use Environmental and Socio-Economic Risk Assessment

While other regions of the Yukon may have a higher degree of resilience for adapting to change, the general body of research indicates that the Peel Watershed as an arctic border region has sensitive ecosystem features (hydrology, fish & wildlife habitats/corridors, terrain features) that must drive decisions about acceptable land-use change. These conclusions are held by experts from First Nations, government, and non-government sectors both within the Yukon, and beyond the Territory. Simply put, in scaling up from low-impact activities to industrial resource extraction, considerable due diligence for assessing risks and likely impacts would be required. This implies a thorough understanding of both local and landscape level ecosystem functions and features.

PWPC research indicates that considerable gaps of knowledge remain about key Peel resources that affect all sectors, including First Nation resource-use (e.g. hydrology, fish, terrain stability, wildlife populations). Much research remains to be done. Assessment methodologies currently

emphasize project site-level analysis, but the Commission has concluded that there is presently little experience or ability to consider potential long-term cumulative effects across a range of

inter-related social, cultural, ecological and economic values as called for in the UFA. Following the review of its Draft Plan, the PWPC was reluctant to place confidence in Results-Based Management which enables increasing land-use intensities in given resource regions. Perhaps, as resource development and access technologies evolve, along with assessment and field level monitoring capabilities, it may be possible that some LMU's may be able to accommodate increased industrial sub-surface resource use in an adaptive management regime. Such considerations would flow from YESAB, and through its relationship with a future Peel Regional Planning Commission or as a result of a periodic Plan Review.

Coordinated Management for Land-use Certainty

A priority issue for land-use management in the planning region is lack of certainty for resource use. The Plan strives to provide this certainty, first in applying key planning concepts such as sustainable development and the precautionary principle, and then by recommending key regulatory tools, land-use management conditions, and criteria to evaluate Plan conformity. Future Plan reviews may also reveal new research, opportunities and other trends that may influence future regional land-use management and economic development. For example, a better understanding of costs and benefits of all major economic projects on local communities, various affected sectors, and the Yukon society in general, would profoundly affect future decisions about land use in the Peel region.

Management of Aquatic Resources

The entire planning region is defined by the watershed boundary of the upper Peel River basin. Managing aquatic resources, therefore, became a priority issue and special emphasis was placed on protecting water quality and supply. Wetlands, lakes, rivers, and riparian environments are biologically productive areas that hold many of the heritage, cultural, and ecological values of the region, but the entire basin is characterized by low-flows. Future land-use activities, particularly industrial uses, require special management to minimize impacts on these values and to ensure maintenance of ecosystem function.

Management of Terrestrial Resources

First Nation communities of the Peel region are particularly concerned about immediate and long-term conservation of the Porcupine Caribou Herd over its entire seasonal range, particularly in the light of the Herd's declining population and perceived changes to habitat from climate change. The Commission has been told that First Nations' culture, traditional values, and subsistence economies depend upon continued harvest of a healthy Porcupine Caribou Herd. Others have expressed concerns about northern mountain caribou species (Bonnet Plume, Hart River, and Red Stone populations), migratory fish, and other focal species that require special management. Addressing these issues requires effective and practical resource policies, land-use designations, and management strategies that are also consistent with the fish and wildlife management plans of all relevant governments, and agencies.

Access Planning for Responsible Resource Development

Preserving the wilderness character and ecosystem integrity of the Peel Watershed requires thorough and effective planning to manage both existing access, and any designation of future access to surface and subsurface resources. Central to this issue is whether or not wilderness management intent and renewable resource use can be sustained with surface access. The Commission notes significantly that virtually all cases of wildlife population declines in the Yukon are linked to increased access. Significant information gaps exist with respect to engineering feasibility, ability to manage access-related environmental risks, and public/private cost assessment. Understanding of current public interests, and information gap analysis have combined to guide the Commission towards a high emphasis on the precautionary principle in considering future industrial land use throughout the Peel region.

Current and Potential Economic Activity

Resource Assessments for the Peel region indicate significant economic flows from well-established renewable resource industries and non-renewable resource exploration. In addition, the region supports a subsistence economy for First Nations and other local resource harvesters. A key issue has been to determine how to manage the greatest possible range of commercial activity in an environmentally sustainable manner that supports existing business operations, considers legal interests of resource tenure, and provides some degree of certainty to capture potential economic benefits. Much remains to be learned about opportunities for economic benefits from the renewable resource sector, from potential Dempster Corridor development, and from various forms of environmental research and education programs in this remote northern region.

1.6. Linkages to Other Regional and Land Use Plans

Every effort has been made in the Plan to achieve consistency with the goals and objectives of other land use and resource management bodies which may have responsibility for resource use or management within the Peel region (Appendix C). These include the work of the North Yukon Planning Commission, the Mackenzie River Basin Board, the Gwich'in Planning Board, and certain UFA boards including the Porcupine Caribou Management Board, Renewable Resource Councils, and the Yukon Fish and Wildlife Management Board. The Commission has undertaken the following with respect to key plans:

- Reviewed the plan concepts and land-use designation framework developed in the North Yukon Regional Plan to achieve consistency in land-use management objectives and applicability of planning approaches and tools. This includes use of select cumulative-effects indicators for application in the Peel region (e.g., managing surface disturbance impacts on Porcupine caribou in the Richardson Mountains, Eagle Plains, Peel Plateau, and common land-use strategies in the Dempster Corridor).

- Reviewed the plan concepts and land-use designation framework used in the Gwich'in Land Use Plan and, based upon the advice of the Gwich'in Planning Board, proposed complementary zoning for linking shared-boundary landscape units:

    - Richardson Mountains link to Conservation Zones (James Creek-Vittrekwa River) for both Porcupine caribou, and critical fish habitat (char), respectively;

- Protected and conservation areas designation in the headwaters of the Snake River to complement the objectives for water quality protection, and sheep habitat management in the Arctic Red River Headwaters Special Management Zone;

- Designation of an Integrated Management Area (comparable to adjacent General Use Zone), which provides for a sustainable level of industrial activity, such as oil & gas exploration and drilling, and possible north access to the Crest iron-ore deposit.

- Reviewed the Yukon-Northwest Territories River Basin Transboundary Water Management Agreement and recommendations of the Peel River Watershed Advisory Committee and the Mackenzie Basin Board regarding land-use planning, transboundary water management, and special management of water resources. The Plan seeks to achieve consistency on water management indicators, including:

- Need to sustain existing in-stream uses to appropriate level of activity, including river tourism, outfitting, subsistence fish harvest, and river crossings;

  - Support the role of Renewable Resource Boards and the federal Department of Fisheries and Oceans in undertaking traditional knowledge research of aquatic species and habitats, and in setting allowable harvests, licensing of sport and commercial fishers, and other studies of fish stocks;

  - Continued water monitoring for sustained flow and quality (to maintain natural conditions for sediment load and associated bound metals);

  - Support for Tetłit Gwich'in subsistence fish harvest, including char and Rat River Dolly Varden.

Figure 1.4 Engaging Tr'ondëk Hwëch'in Elders in community resource interest mapping (Photo: PWPC)

- Considered Tombstone Park Management Plan objectives and directions provided for lands bordering the Peel Region to emphasize community cultural-use priorities, access management controls for off-road vehicles along the Hart Winter Trail, and community development linkages to support Tr'ondëk Hwëch'in economic development objectives for tourism.

- Reviewed Silver Trail Region Tourism Plan (1998) with its goals to improve and expand regional tourism attractions, products, and services (adventure, cultural, and historical tourism) within the Silver Trail tourism region, which encompasses the Hart, Wind, Bonnet Plume, Snake, and Peel river watersheds, and includes involvement of the Na-Cho Nyak Dun, the Village of Mayo, and the communities of Elsa/Keno City and Stewart Crossing. Additional reference is made in the Klondike Region Tourism Marketing Strategy to wilderness and other fly-drive tourism opportunities within the Peel region, including the Dempster Highway.

1.7. Review Process for the Recommended Regional Land Use Plan

The review process for the Recommended Plan by the Parties is set out in 11.6.0 of the UFA as presented in the following text box. Providing the Plan is considered for modification and or approval, the current existing Peel Watershed Planning Commission will be reconvened to consider any and all proposed changes. This work will then lead to preparation of a Final Recommended Plan.

Steps for Approval of a Recommended Regional Plan in the Umbrella Final Agreement

11.6.0 Approval Process for Land Use Plans

11.6.1 A Regional Land Use Planning Commission shall forward its recommended regional land use plan to Government and each affected Yukon First Nation.

11.6.2 Government, after Consultation with any affected Yukon First Nation and any affected Yukon community, shall approve, reject or propose modifications to that part of the recommended regional land use plan applying on Non-Settlement Land.

11.6.3 If Government rejects or proposes modifications to the recommended plan, it shall forward either the proposed modifications with written reasons, or written reasons for rejecting the recommended plan to the Regional Land Use Planning Commission, and thereupon:

> **11.6.3.1** The Regional Land Use Planning Commission shall reconsider the plan and make a final recommendation for a regional land use plan to Government, with written reasons; and
>
> **11.6.3.2** Government shall then approve, reject or modify that part of the plan recommended under 11.6.3.1 applying on Non-Settlement Land, after Consultation with any affected Yukon First Nation and any affected Yukon community.

11.6.4 Each affected Yukon First Nation, after Consultation with Government, shall approve, reject or propose modifications to that part of the recommended regional land use plan applying to the Settlement Land of that Yukon First Nation.

11.6.5 If an affected Yukon First Nation rejects or proposes modifications to the recommended plan, it shall forward either the proposed modifications with written reasons or written reasons for rejecting the recommended plan to the Regional Land Use Planning Commission, and thereupon:

> **11.6.5.1** The Regional Land Use Planning Commission shall reconsider the plan and make a final recommendation for a regional land use plan to that affected Yukon First Nation, with written reasons; and
>
> **11.6.5.2** The affected Yukon First Nation shall then approve, reject or modify the plan recommended under 11.6.5.1, after Consultation with Government.

1.8. Using the Peel Regional Land Use Plan

Determine Zone

- **Check fold out Map 2 (Appendix A) to see what zone(s) the proposed land use is in**

- Is the project location or area of interest in the planning region?
- If in region, in what landscape management unit (LMU) does it occur?
- What can you learn more about the region's resources as described in Section 2?

Refer to Section 3 to learn about the Land Use Management Framework

In Special Management Area?	In Integrated Management Area?
• What is the management emphasis (watershed, fish & wildlife, heritage, or general protection)?	• What are the general conditions that apply for development to proceed in IMA's?

Now refer to Sections 4 and 5 to learn about the Landscape Management Unit, what land-uses can occur and how they are to be managed

- Review the preamble to Section 4.1 to understand general recommendations affecting each renewable and non-renewable resource sector
- Continue through Section 4.2 for description of land use categories and zones (identify land use designation, proposed primary regulatory designation tool, desired future state, and rationale for management intent)
- Read on 4.2. to understand what specific management objectives have been identified, what conditions are set out to achieve the LMU's management intent, along with any special mgt considerations that may be important, and what linkages may exist to the UFA/FNFA's
- Refer to Section 4.3 for general management directions on important topics of interest, possible monitoring tools, and recommendations for further research or policy development
- Refer to Appendix B to gain further input on best management practices, and strategies

Does YESAB consider your proposed land-use capable of conforming to the Plan (4.1-4.3)? Refer to Section 5 on Plan Implementation and Section 3 on Changing the Plan

Yes….proposed land-use will conform to Plan:	No, proposal is referred by YESAB to Commission:
• Proceed with regulatory system under laws of general application, respecting key management conditions and directions	**OPTIONS:** - Amend use to conform - Seek Plan variance (minor change) – see 3.5.1 - Seek Plan amendment (major change) – see 3.5.2

2. Description of Planning Region

Unless otherwise noted, the information presented in this chapter is derived from the "Resource Assessment Report," (PWPC, 2008b). This report also contains maps that illustrate the distribution of many of the values described below. See also Maps 3-6 in Appendix A of this document.

2.1. Setting

The Peel Watershed Planning Region, shown in Figure 2-1, makes up about14% of the Yukon. At about 68,000 square kilometres, the region is almost as large as New Brunswick. Despite its name, the Peel Watershed Planning Region is not exactly the same area as the Peel Watershed itself. With a few very small exceptions in the Richardson Mountains, the entire region is within the Yukon portion of the Peel Watershed. As well, two notable portions of the Peel Watershed are outside the planning region: a portion of Tombstone Territorial Park, and a Rural Block (VG R-08A) where the Dempster Highway leaves the Ogilvie River, heading north. This planning region is the only one in the Yukon without any permanent settlements, though there is a seasonal population base. Commercial or residential facilities are connected to Dempster Highway maintenance operations, big game outfitting base-camps, trapping concessions, or temporary mineral exploration camps. There is one major all-season road, the Dempster Highway.

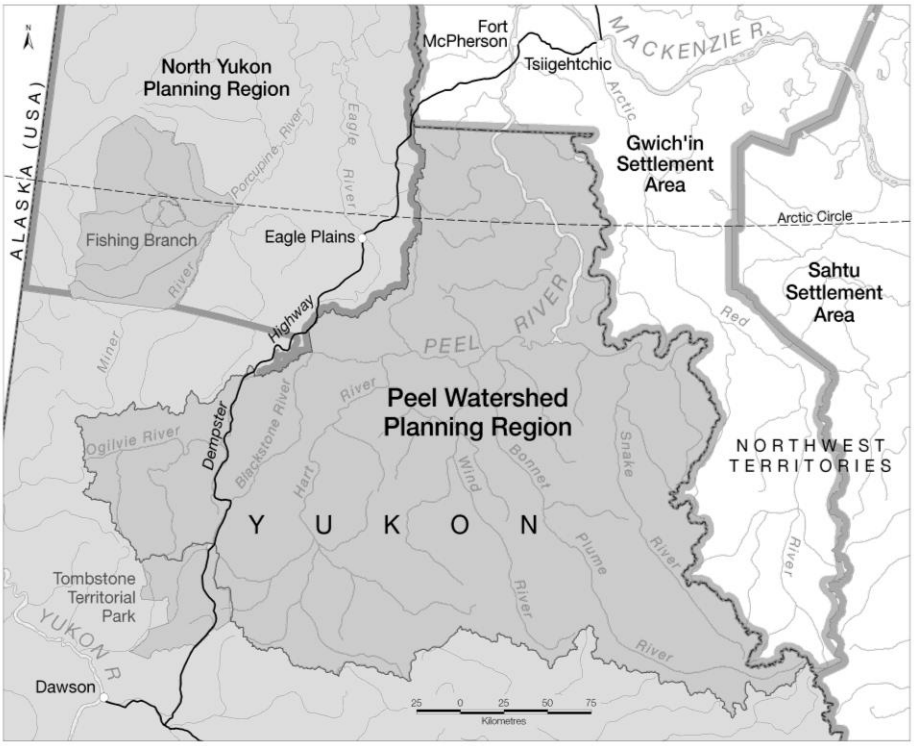

Figure 2.1: Overview of Peel Watershed Planning Region.

2.2. Land Ownership, Regulation, and Management

2.2.1. Land Ownership and Governance

Land and resource management in the planning region is shared among governments, land claim boards, and other agencies. All the settlement lands of the regional Yukon First Nations were agreed to in their respective Final Agreements, under the Umbrella Final Agreement. With the exception of the Tetłit Gwich'in lands, there is no private land ownership in the Peel Watershed Planning Region.

Public or Non-settlement Land

The Yukon Government manages non-settlement lands (both surface and subsurface rights) totaling 97.3% of the region. This is done under the terms of the Yukon First Nations land claim agreements, the Gwich'in Comprehensive Land Claim agreement, and the lands and resources acts of the Yukon and Canada (See Table 7.1 for a comprehensive list). Traditional territories of settled First Nations overlap with one another and with all of the non-settlement lands in the region. Under the land claim agreements, various trapping and hunting rights are given to Yukon First Nation citizens in their traditional territories. Those rights can also be exercised on non-settlement (public) lands. Jurisdictions of Renewable Resource Councils are limited to the non-overlapping portions of these territories.

Tetłit Gwich'in

As a result of the Gwich'in Comprehensive Land Claim agreement, the Tetłit Gwich'in First Nation of the Northwest Territories was granted ownership of eleven blocks of fee-simple settlement land – with surface rights only – as well as fourteen smaller site-specific settlement lands (Figure 2.2, see also Map 1 in Appendix A for more detail). These lands represent 2.32% of the planning region, and were agreed to in the Yukon Transboundary Agreement. These Tetłit Gwich'in Yukon lands are the only privately owned land in the Peel Watershed Planning Region.

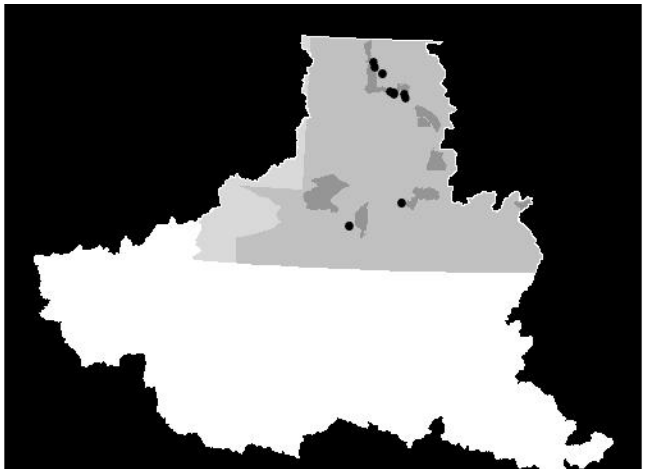

Figure 2.2: Tetłit Gwich'in site selections (black dots), settlement lands (dark gray), primary use area (mid-gray), and secondary use area (light gray)

The Gwich'in Comprehensive Land Claim agreement also described primary and secondary use areas for the Tetłit Gwich'in. As with the traditional territories of Yukon First Nations, various trapping and hunting rights are granted to the Tetłit Gwich'in people in these primary and secondary use areas. Subsistence harvesting rights are also granted to them in those areas of the traditional territory of the Na-Cho Nyak Dun First Nation 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 Plains.

Na-Cho Nyak Dun

The Na-Cho Nyak Dun First Nation holds 25 site-specific settlement lands and one category-A R-Block – with surface and subsurface rights – accounting for 0.38% of the region. The traditional territory of the Na-Cho Nyak Dun includes the entire region east of the Dempster Highway (Figure 2.3). The Na-Cho Nyak Dun and the Tr'ondëk Hwëch'in have agreed to a contiguous (i.e., not overlapping) boundary that runs through the Hart River watershed.

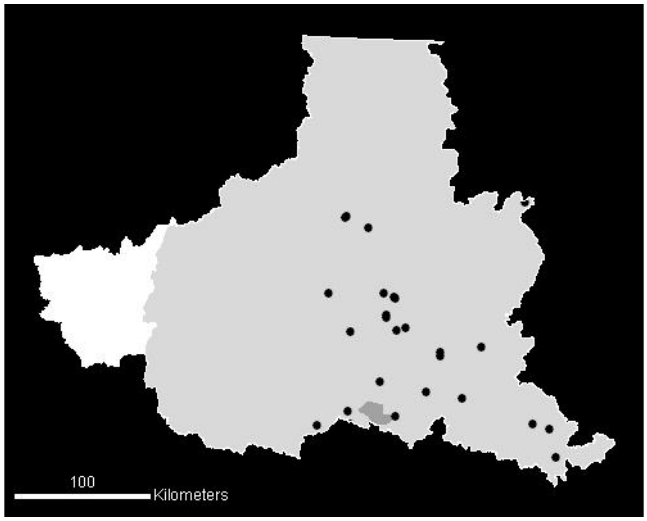

Figure 2.3: Na-Cho Nyak Dun site selections (black dots), rural blocks (dark gray), and traditional territory (light gray)

Tr'ondëk Hwëch'in

The Tr'ondëk Hwëch'in have eight site-specific blocks and two category-B R-Blocks (surface rights only) totaling less than 0.01% of the region. The traditional territory of the Tr'ondëk Hwëch'in includes all of the Ogilvie and Blackstone drainages, and part of the Hart watershed (Figure 2.4). The Tr'ondëk Hwëch'in and the Na-Cho Nyak Dun have agreed to a contiguous (i.e., not overlapping) boundary that runs through the Hart River watershed.

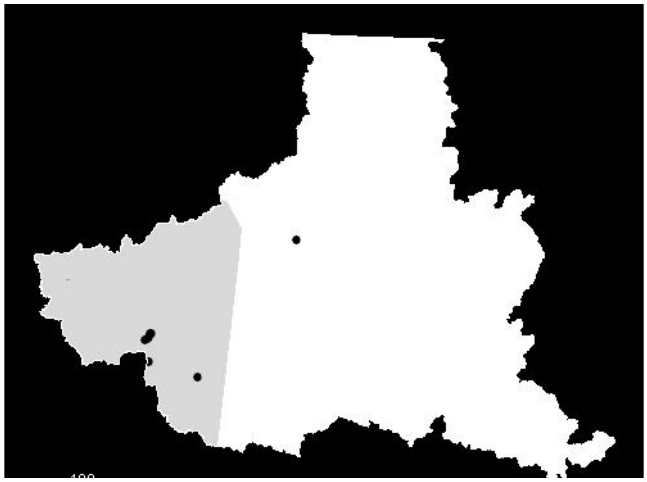

Figure 2.4: Tr'ondëk Hwëch'in site selections (black dots), rural blocks (dark gray), and traditional territory (light gray)

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 2.5).

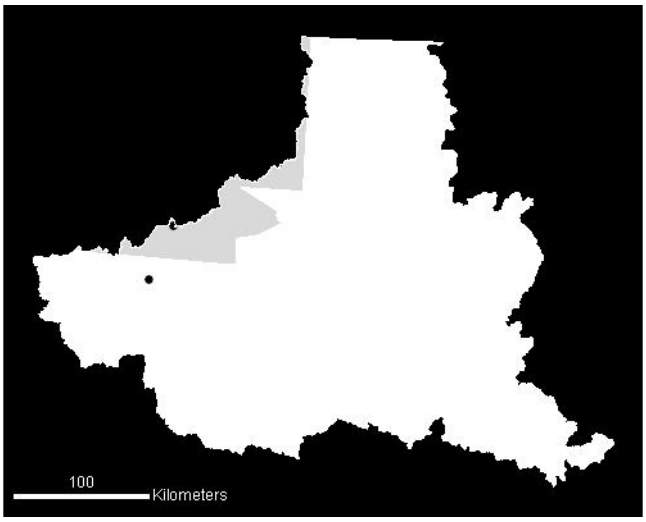

Figure 2.5: Vuntut Gwitchin site selections (black dots), rural blocks (dark gray), and traditional territory (light gray)

2.2.2. Designated Areas in the Peel Watershed Planning Region

See Figure 2.6 for locations of Designated Areas in the Peel Watershed Planning Region.

Bonnet Plume Heritage River

The Peel Watershed Planning Region includes the Bonnet Plume River, a Canadian Heritage River. The process that led to this designation was mandated by 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 Government of Yukon, the Government of Canada, and the Mayo District Renewable Resource Council prepared a management plan for the entire watershed.

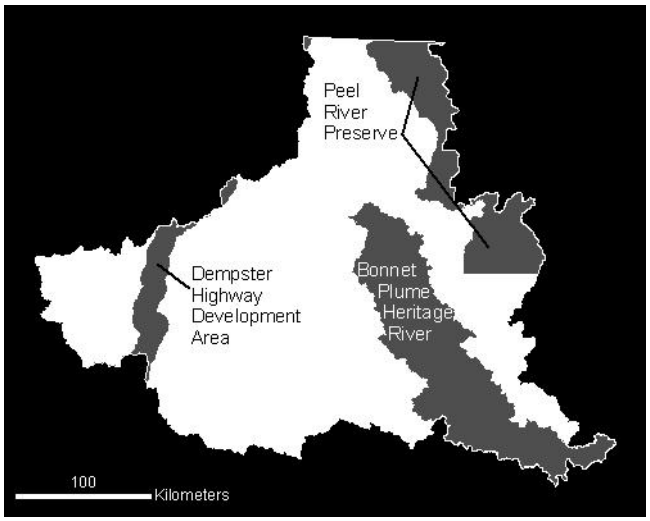

Figure 2.6: Designated Areas in the Region

Peel River Preserve

The Peel River Preserve includes much of the land between the Peel and Arctic Red rivers below the mountains and above their confluences with the Mackenzie River. It was established in 1923 to give exclusive hunting and trapping rights to the Gwich'in.

Dempster Highway Development Area

The Dempster Highway Development Area includes all the lands within eight kilometres of the Dempster Highway's centre line. This development area's regulations fall under the Area

Development Act, and are intended to provide a higher level of environmental assessment and regulation of activities, including the development of new road access.

2.2.3. Surrounding Designations in the Yukon

Tombstone Territorial Park lies adjacent to the southwest of the planning region. The South Richardson Mountains and Foothills Integrated Management Zones of the North Yukon Planning Commission, adjoining the region along the Richardson Mountains, carry a recommendation for a low level of development only (NYPC, 2009). Other zones within the North Yukon Regional Plan allow higher levels of resource development (Class III & IV Integrated Management Areas) for areas to the northwest of the Peel planning region. The laws of general application apply for most lands to the immediate south of the region (Figure 2.7).

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 south-east of the region. These zones are described in the Gwich'in Land Use Plan (GLUPB, 2003). Outside these areas is the Gwich'in General Management Area, which allows for a range of industrial development activities (e.g., oil and gas, mining) (Figure 2.7).

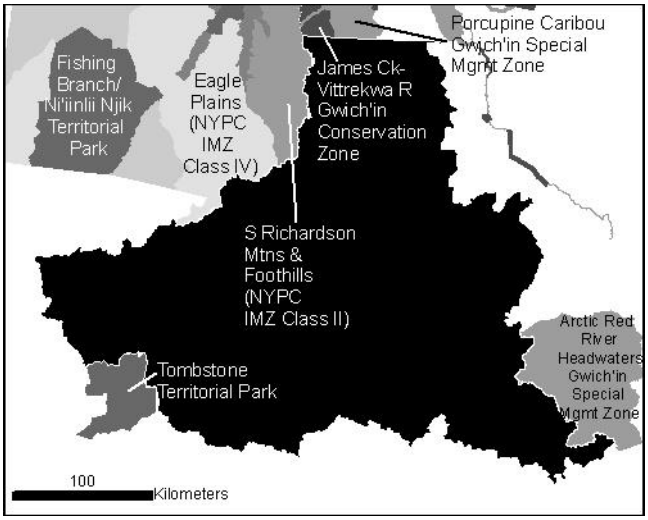

Figure 2.7: Designated Areas around the region

2.3. Environment

The Peel Watershed Planning Region lies at the eastern-most 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 owing to its northerly latitude and to the rain-shadow effect of the Ogilvie, Wernecke, and Selwyn mountains on its southern limit. Low-stature spruce forests, shrub and tundra vegetation underlain with permafrost, and scattered wetlands characterize low-to-mid-elevation areas of low relief. 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.

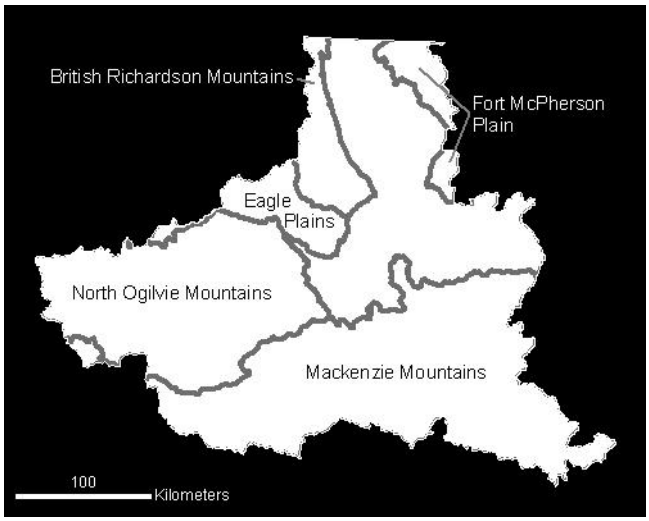

Figure 2.8: Ecoregions of the region

The region contains portions of six distinct ecoregions (Figure 2.8), including Fort McPherson Plain, Peel River Plateau, Eagle Plains, North Ogilvie Mountains, British-Richardson Mountains, and Mackenzie Mountains. Elevation ranges from almost 0 to 2,700 metres above sea level.

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 what they describe as homelands. There are no settlements in the region today, but it 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

Although there are currently no settlements in the planning region, the Tr'ondëk Hwëch'in, Na-Cho Nyak Dun, and Vuntut Gwitchin of the Yukon, and the Tetł'it Gwich'in of the Northwest Territories, have traditionally occupied, traveled, or harvested in virtually every corner. This 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.

Much of the region has yet to be systematically surveyed by archaeologists or palaeontologists. 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 a number of locations around the region. The numerous archaeological sites and artifacts within the watershed include gravesites, tent rings, caribou fences, caches, adze-cut stumps, abandoned settlements, and trading posts. Where known, these localized features are generally protected from disturbance through tools outlined in the Yukon Historic Resources Act and/or the Umbrella Final Agreement, Chapter 13 - Heritage.

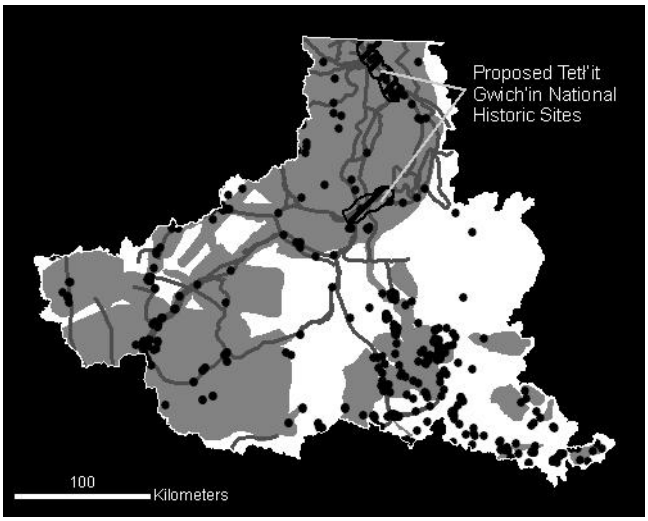

Figure 2.9: Selected landscapes, routes, and sites with cultural and subsistence importance

Traditional use of medicinal plants, edible plants, fish, furbearers, and big game continue to have cultural importance. These features are conserved or managed to varying degrees by the Yukon Fish and Wildlife Management Board, a number of Renewable Resource Councils, and federal and territorial legislation. Some heritage trails and routes are still used to travel between communities and to reach hunting, trapping, and fishing areas, while spring water and sulfur sources remain culturally important. At a much broader scale, expansive natural features – such as mountains, mountain ranges, lakes, and rivers, and the stories embedded in these places – are also an integral part of First Nations heritage and culture (Figure 2.9). The values within many of these cultural landscapes are rarely considered adequately in most land-use decisions to date, given the emphasis on site-specific management in the Umbrella Final Agreement. In 2003, the Tetł'it Gwich'in recognized the cultural values of larger landscapes in their application for National Historic Site designation of two large blocks of land along the Peel River.

2.6. Economy

Historically, the Peel region has been a key source of the traditional subsistence economy of the region's First Nation people. Although there is less reliance today on the harvest of wild game, plants, and medicines, this Plan gives special consideration to First Nations' long-term interest in maintaining these traditional harvest activities throughout the Peel region. Many elders have told the Commission that this region is regarded 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 economy, 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. These communities also express interest in maintaining a viable degree of participation in the wage economy.

While there is some data showing significant economic flows in the Peel region, there are no concrete figures on the total economic impact (direct, indirect, and induced), including benefits 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, including tourism ("rubber tire tourism" on the Dempster Highway, and backcountry "wilderness tourism" elsewhere), mineral exploration, oil and gas exploration, trapping, and big-game outfitting. There is no agriculture or commercial forestry, although some limited, community-based forestry occurs 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

A number of economic activities in the region are based on renewable resources, and have provided a source of seasonal employment to local people.

Subsistence Harvesting

In the Peel region, a limited level of economic activity is based on subsistence harvesting. Residents from all four neighbouring First Nation communities spend varying amounts of time on the land, participating in traditional economic pursuits such as hunting, fishing, and berry harvesting in order to provide staple food items for themselves. 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. The Peel region is also valued for hunting and fishing by non-aboriginal residents of Dawson City, Mayo, and Keno City, and by other Yukoners. 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 are regulated under the Wildlife Act.

Trapping

Trapping provides self-employment opportunities for area residents and is a cultural tradition valued by First Nations. Trapping concessions occur throughout the entire Peel Watershed Planning Region (Figure 2.10). There are 28 individual concessions permitting the exclusive rights to commercially harvest furbearing animals. Not all these concessions may be active. In addition, Tetłit Gwich'in and Vuntut Gwitchin First Nations each have their own larger

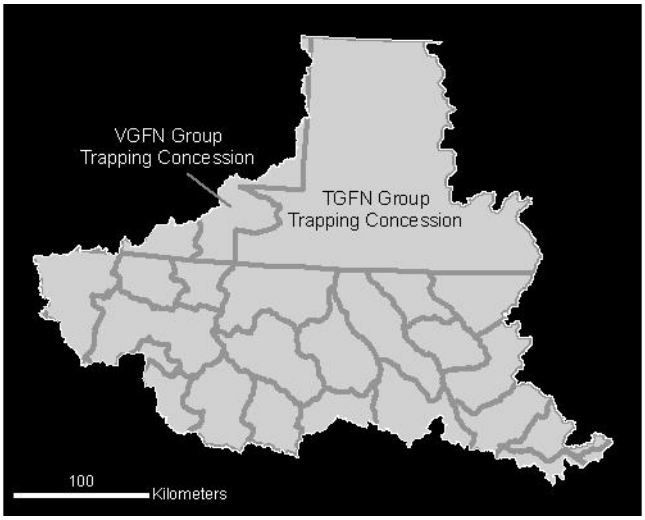

Figure 2.10: Trapping concessions in the region

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. In order to be economically viable and ecologically sustainable, the industry requires large intact wilderness and healthy wildlife populations. The Peel watershed offers some of North America's highest quality big game hunting opportunities. There are six outfitting concessions in the region (Figure 2.11). Sport hunting species are primarily Dall's sheep, grizzly bear, caribou, and moose. Other activities offered by guide outfitters include horseback riding, bird watching, and wildlife viewing. Most excursions are accessed 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 estimate of $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.

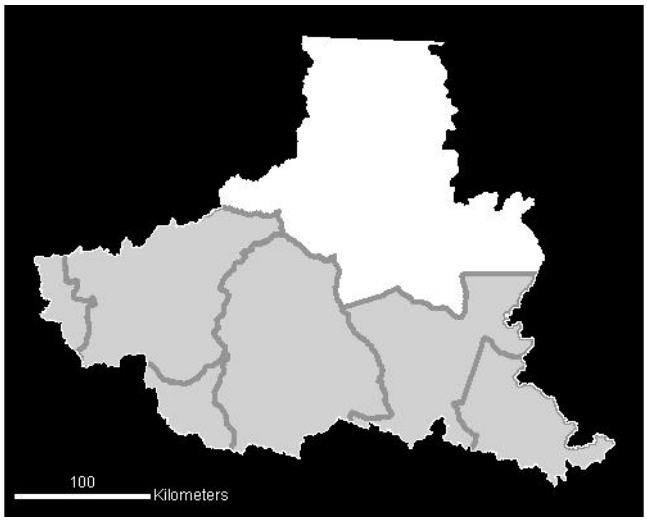

Figure 2.11: Outfitting concessions occupy the southern half of the region

Tourism

The Peel watershed is a valuable region for Yukon tourism (Figure 2.12), 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, draws increasing numbers of tourists interested in road-accessible activities and scenery. These visitors are drawn to the unique landscapes, wildlife viewing, photography, hiking, bird watching, and road-accessible wilderness rivers (e.g., the Blackstone and Ogilvie rivers) of the region. These more accessible portions receive more visits than the remainder, and are therefore important to the overall tourism economy of the region. 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 expediters) that are mostly Yukon-based. According to both government and industry sources, the Snake, 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 recreational features of the Yukon shows a concentration of high tourist potential in the region (Earle, 2008). This landscape is traversed by challenging but navigable rivers with an international reputation for world-class river travel. They are mainly reached by float planes that typically land on

headwater lakes. Other popular activities related to wilderness travel are hiking, horseback riding, wildlife viewing, bird watching, fishing, photography and nature study.

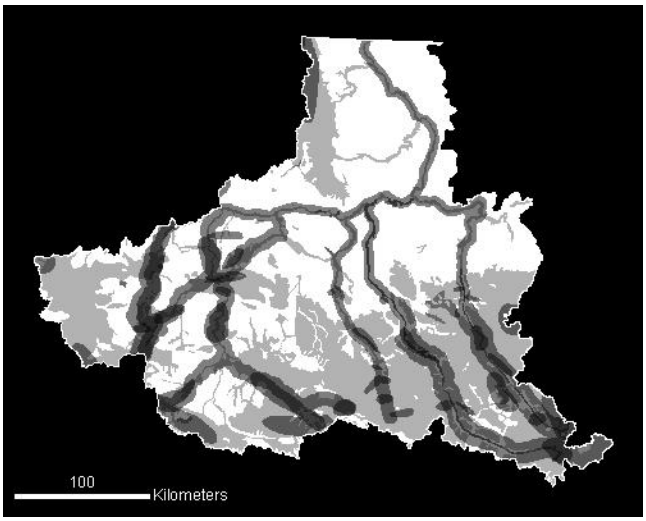

Figure 2.12: Overlapping tourism values (darker shades indicate higher value and/or number of overlaps)

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 Nation cultural tourism. According to industry and government, high quality, sustainable tourism activities, both now and in the future, depend on maintaining wilderness and wildlife values. Tourism in this region is sensitive to most land-use activities because of its focus on wilderness experience and wildlife. For example, roads, industrial activities, and even too many tourists may diminish the touristic value of the area where they occur. Tourism is also sensitive to the general state of the economy and the cost of travel.

Forest Resources

Due to the sub-arctic location of the Peel watershed, 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 forest resources of this region are not considered valuable for timber production due to their remoteness and low productivity. The southwestern portion of the planning region is in the Dawson Forest Resources Management Area (as set out in the Umbrella Final Agreement, Chap. 17). The draft Dawson Forest Resources Management Plan identified this part of the region as a Hinterland Forest Zone. As such, 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 this land use plan. Further planning could be done with Na-Cho Nyak Dun or the Vuntut Gwitchin First Nation, 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 backcountry activities (i.e., outfitting, trapping, recreation). Much of the timber use, therefore, is for individual subsistence purposes, but the potential exists for industrial uses such as bridge timbers, tourism lodge construction, or the needs of the oil and gas or mining sectors. Currently, the main forest products are domestic fuelwood, cabin logs, and wood used for other traditional or cultural purposes. To date, only a small number of commercial fuelwood permits have been issued in the region, concentrated around Km 286 of the Dempster Highway. The 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, and it

may be necessary in the future to carry out forest management planning in these parts of the region as well.

2.6.2. Non-Renewable Resource Use

Other economic activities in the region are based on non-renewable resources. There are three phases of these activities: exploration, development, and shut-down. Exploration has provided an important source of seasonal employment for local people. It also generally has less intense, but more dispersed, effects on other regional values, compared to development. If exploration finds a significant resource, development or extraction of that resource may follow, as long as market and regulatory conditions are favourable. Apart from aggregates, no non-renewable resource extraction has occurred in the region. In the Peel watershed, 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 development proposals contain information about the intended decommissioning process for the eventual mine closure stage. Infrastructure may remain in place (if re-opening or re-use is expected) or dismantled. Affected lands may then recover through natural vegetation and/or active reclamation.

Oil and Gas

Oil and gas exploration activity in the Peel watershed 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 potential in four petroleum basins (Figure 2.13). The Eagle Plains basin (Figure 2.14), which contains proven reserves, lies to the north of the Ogilvie River and west of the Richardson Mountains. This basin is the most likely to be developed first in northern Yukon because of its location near the Dempster Highway and the proposed Dempster Highway Lateral pipeline, and because of its geologic potential. In the small part of this basin that is inside the planning region, there are two exploration permits and two significant discovery licenses held by Northern Cross (Yukon) Ltd. Industry believes that this basin has substantial natural gas potential and moderate oil potential.

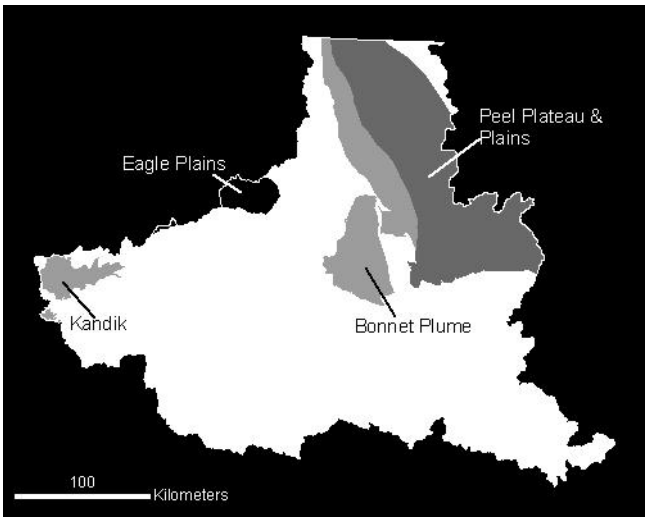

Figure 2.13: Oil and gas basins of the region, with darker tones indicating higher development potential. (Note: such development potential considers geological potential together with infrastructure needs)

The Peel Plateau and Plain Basin, lying to the east of the Richardson Mountains and north of the Mackenzie Mountains, has economic potential for natural gas development. Such development would probably begin well after Eagle Plains. Only one exploration permit, belonging to AustroCan Petroleum Corp., exists in the Yukon part of this basin, though another one belonging

Figure 2.14: Winter exploration in Eagle Plains: setting up a portable drilling rig. (Photo: Yukon Energy, Mines, and Resources)

to the Hunt Oil Co. recently expired. Recent research by the Yukon Geological Service added credence to the development potential of this basin. The remaining two basins, the Kandik and Bonnet Plume, are unlikely to be developed in the foreseeable future because of their limited exploration history and remoteness. These basins are at the headwaters of the Ogilvie River and between the lower reaches of the Wind and Bonnet Plume rivers, respectively. Lack of pipeline infrastructure is a major barrier to developing the natural gas resource of this region. Any development will depend on the result of current Alaska Highway and/or Mackenzie Pipeline proposals.

Oil and gas exploration generally takes place in winter, when it may coincide with caribou movements and habitat use but usually not 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.

Mining

Though mineral development has not yet happened, interest in mineral exploration has increased in the last few years. 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 2.15 and 2.16). Both would require significant transportation infrastructure (e.g., railway and/or slurry pipeline) for them to be exploited.

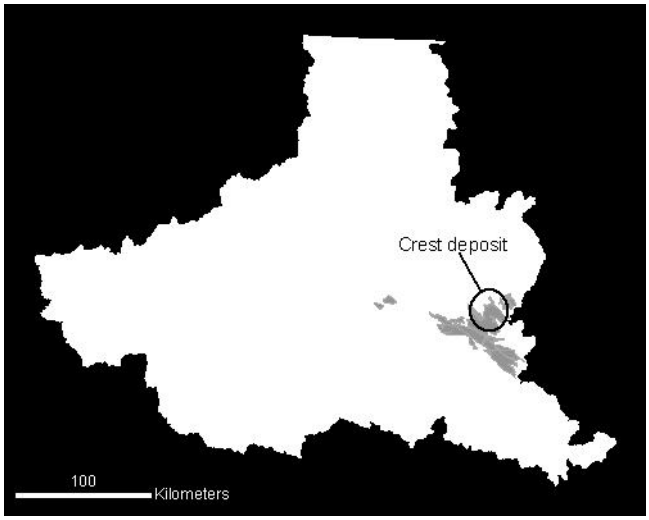

Figure 2.15: Higher iron potential and the Crest iron deposit

Mineral development in the planning region would face many challenges. These include lack of existing infrastructure, the cost of construction, remote location, rugged terrain, and lack of water at upper elevations and during the winter period. However, these challenges may not be insurmountable if there is a sufficiently high market price for the particular resource. 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.

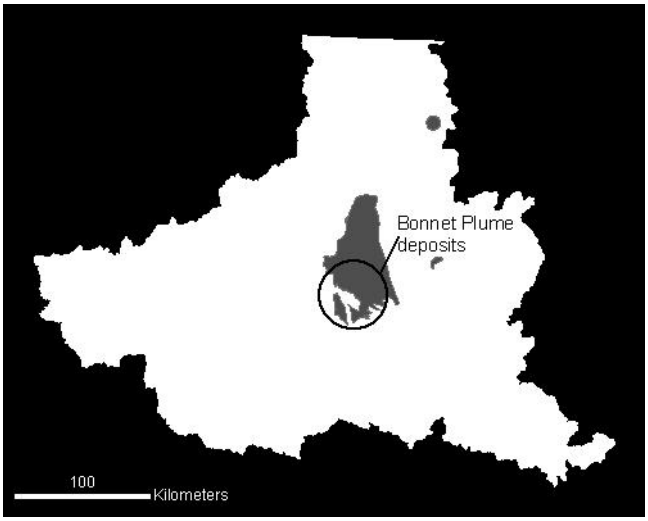

Figure 2.16: Coal potential and the Bonnet Plume deposit

Geologists believe that a large part of the region has high mineral potential, and exploration companies have shown increasing interest in recent years. 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 2.17). Carbonate hosted lead-zinc deposits, including the Mississippi Valley Type (MVT) and the "Blende" type, are targeted for their lead and zinc potential (Figure 2.18). These deposits are often smaller and occur in clusters, and, because they occur in carbonate rocks, do not have the significant acid-rock drainage problems that Faro has[1]. There has been no interest in placer mining in the region.

A total of 8,460 active quartz claims and 525 active iron-mica claims exist in the region as of October 20th, 2009. This is a four-fold increase since the Commission first noted claims in the region in spring 2005 (PWPC, 2005). Before the establishment of the Commission[2], there were 1,658 active claims in the region. There are nine active coal licenses. Based on government analyses, the industry spent

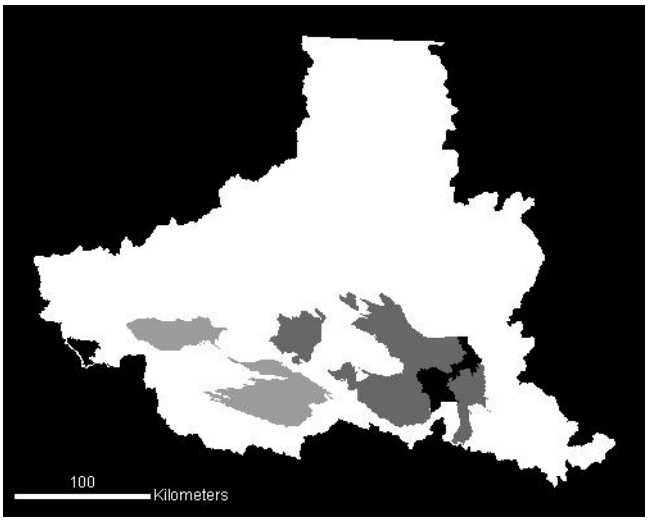

Figure 2.17: Wernecke Breccia potential in the region

[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 October 20th, 2009) using October 15th, 2004 as the PWPC start date.

an average of $6 million per year in mineral exploration from 2000-2008[3]. Exploration generally happens in the summer months, when its activities and related air traffic can affect summer animal behavior, as well as the wilderness experience of traditional 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.

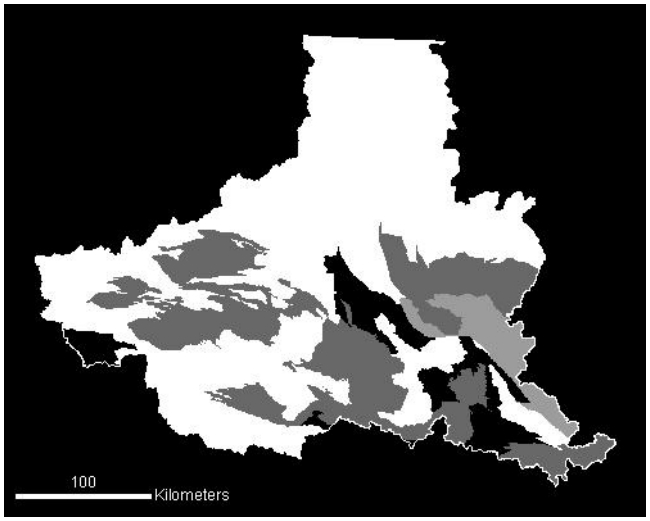

Figure 2.18: Mississippi Valley Type potential in the region

Aggregate (gravel)

Aggregate 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, development of aggregate generally happens because of other industrial developments. In Beringian portions of the Peel Watershed Planning Region, geologists believe there are relatively few gravel deposits compared to other areas of western Canada, largely due to lack of glaciation. An early analysis of much of the region's aggregate potential is nearly 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.

2.7. Transportation

Because transportation is a necessary part of all human activities in the region, it has great importance to the regional 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

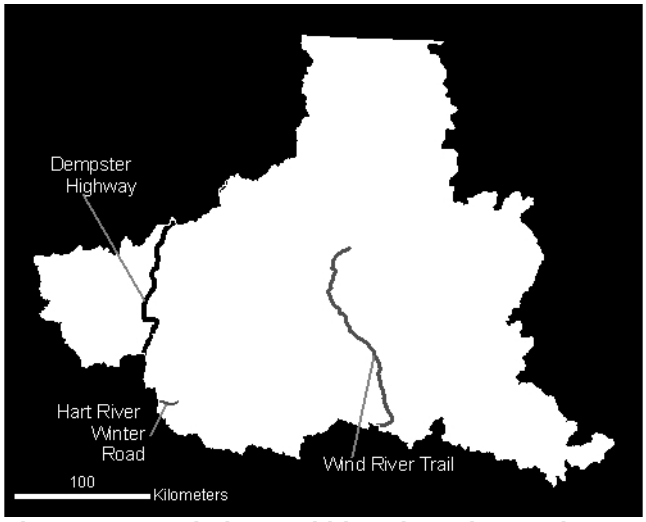

Figure 2.19: Existing and historic major roads or trails

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

back-country tourists. On the Peel River, barges were used to haul equipment and supplies at least as far as the Trail River to support petroleum exploration. 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, for travel between communities, and for 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 Ft McPherson and Mayo. Big game outfitters usually fly to their base-camps and then travel on foot or by horseback along trail networks.

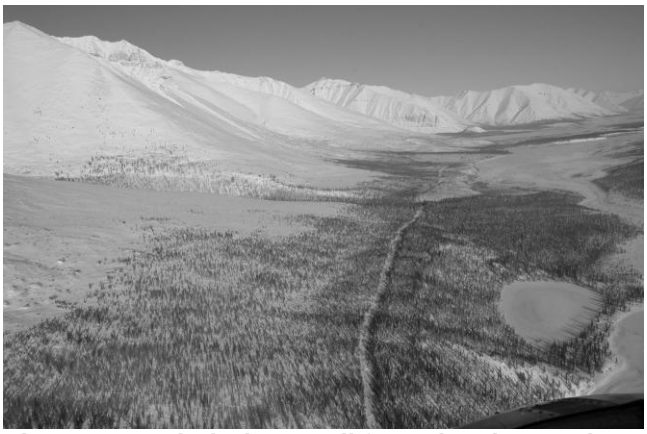

Figure 2.20 Wind River Trail from the air, March 2007 (Photo: M. Waterreus, Yukon Environment)

Other historical transportation routes include the Wind River Trail (Figures 2.19 and 2.20) and the Hart River Winter Road (Figure 2.19). These provided entry to early petroleum exploration projects in Eagle Plains and mineral exploration properties in the Mackenzie Mountains, respectively. Another winter road went to the historic J-21 gas well in the Peel Plateau. 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 in only 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), along with the byproduct of damaged topsoil, is visible for decades.

The Dempster Highway (Figure 2.19) 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.

Before oil and gas development happens, new all-season roads will be needed. Roads are also typically needed for mining. Although usually necessary for developing non-renewable resources, 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, and because of increased hunting.

There has not been much access planning in the region, mainly because route development is driven by difficult-to-predict resource development. The Yukon Government produced a "Roads to Resources" map showing 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 examined transporting the ore using a slurry pipeline and a rail link.

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 are set up next to airstrips and water landing sites to service both helicopters and fixed-wing aircraft. 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.

With the increasing interest in the resources of the region, entry has increased and will probably continue to do so. The mineral sector often uses helicopters for initial exploration, while advanced exploration projects are often serviced with winter roads.

2.8. Significant Ecological Values

The region contains a number of features and values that have territorial, national, and global ecological significance. *The information presented in this section comes from the "Conservation Priorities Assessment Report," (PWPC, 2008a), as well as the "Resource Assessment Report," (PWPC, 2008b).*

2.8.1. Fish, Wildlife, and Plants

The diversity 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 of the region. The wide range of elevations and resulting habitat types also contributes to the diversity. The western portion 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, including the Short-eared Owl, wolverine, northern mountain populations of caribou (e.g., Hart River, Bonnet Plume, and Redstone

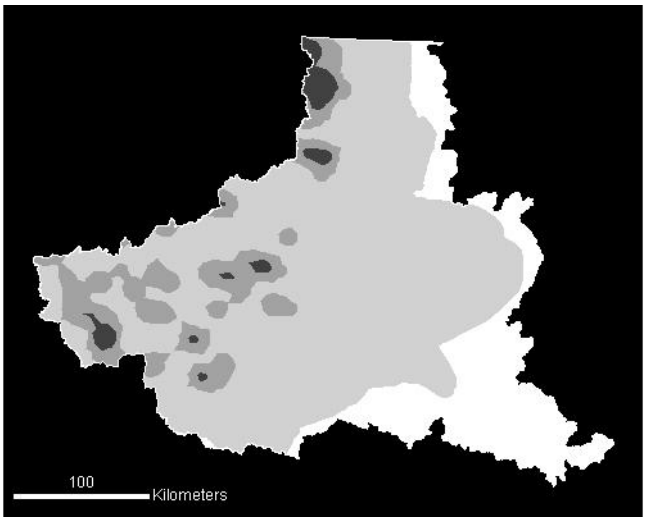

Figure 2.21: Porcupine caribou winter range (light gray) with moderate (mid-gray) and concentrated (dark gray) use areas

herds), grizzly bear, Rusty Blackbird, Peregrine Falcon, Olive-sided Flycatcher, American Golden-Plover, Harlequin Duck, Smith's Longspur, Solitary Sandpiper, Surfbird, 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 2.21), Boreal (the "Boreal caribou herd" – Figure 2.22), and the northern mountain (the Bonnet Plume, Hart River, and Redstone caribou herds – Figures 2.22 and 2.23). 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. Traditional knowledge of the Tetł'it Gwich'in tells of some of this herd calving 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. Several sea-run fish species (whitefish, herrings/ciscos, inconnu, and Dolly Varden char) are of immense current and historical importance as subsistence food to communities in the Mackenzie Delta. Despite their importance, little is known

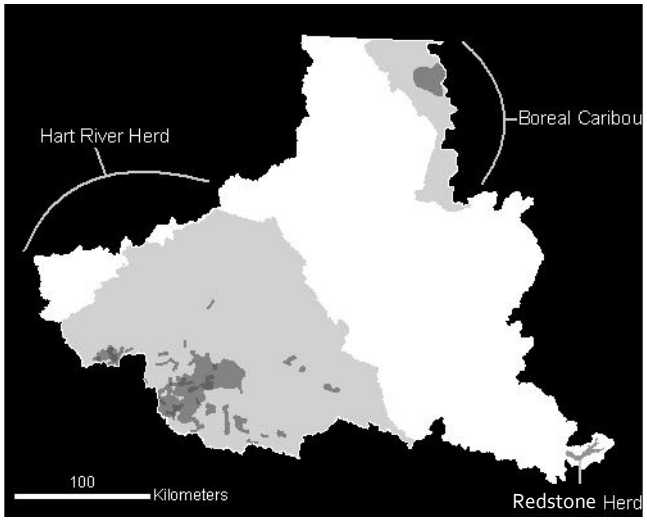

Figure 2.22: General ranges and key areas of the Hart River, Redstone and Boreal caribou

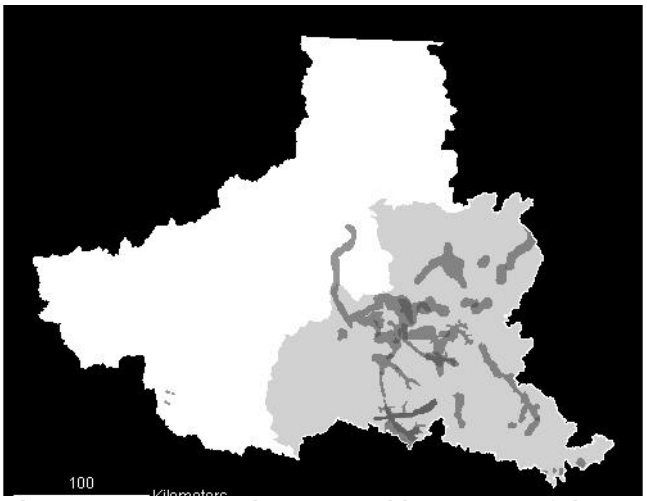

Figure 2.23: General range and key areas of the Bonnet Plume caribou herd

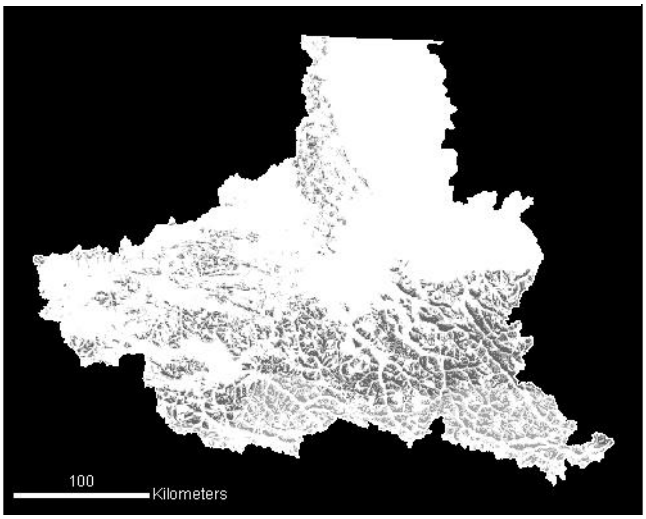

Figure 2.24: Winter habitat suitability for Dall's sheep (dark=high, white=nil)

about numbers or key spawning habitat. While spawning habitat is crucial to the survival of sea-run fish, overwintering habitat is the most limiting for non-sea-run fish (e.g., grayling, arctic char). Dall's sheep (Figure 2.24) 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).

Despite their importance, most of these populations have not been surveyed in recent years. The Porcupine Caribou Herd is currently (2009) estimated at 110,000 animals and has been declining steadily since 1989. 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.

2.8.2. Wetlands

Wetland ecosystems contribute enormously to the total biodiversity of the region. Their productivity and unique growing conditions are uncommon 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.

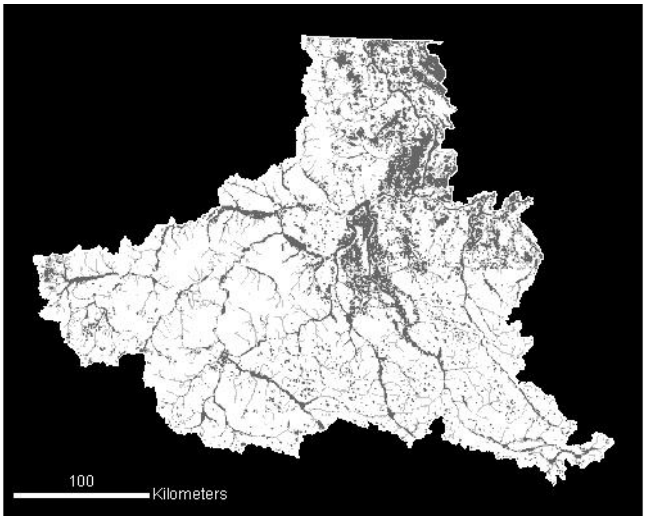

Figure 2.25 Likely waterbird habitat in the region coresponds to wetlands and riparian areas

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, and so provide valuable staging and stop-over sites for waterfowl (Figure 2.25). Some of these wetlands are of territorial significance: Turner Lakes, Jackfish Creek, Tabour Lakes, and Chappie Lakes.

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 in the land use plan – ecologically, socially, culturally, and economically. 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 they 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 mainstem – has a major impact on much of the wildlife of the planning region, as well as on the people of the Mackenzie Delta.

The water flow in the Peel Basin is controlled by bedrock and permafrost. Because there are few large lakes or much thawed ground to absorb spring snow melt, water flow peaks sharply in the early summer. 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 and high in dissolved minerals in winter, and very high in sediment in summer. Wetlands do help store and filter water, but their help is generally limited to the flatter northeast portion of the region.

The knowledge we have 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 of the water's variability and the changing hydrology brought on by 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. Winter low-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 over-wintering grounds, might also limit industrial use of water. Large water-related industries, such as hydroelectric development, are not on the horizon. Government policy prohibits bulk water transfer, including diversions, between basins. However, both mining and oil and gas typically need water sources for exploration and development.

Industrial activities may also affect water. Exploration and development activities 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

Figure 2.26: Culverts at the Davies Creek crossing (Photo: A. von Finster, DFO)

all-season roads, which bring more potential water-related issues: hung culverts, soil erosion, and siltation (Figure 2.26). 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. Similarly, 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 model projections, show that the planning region will undergo extensive climate change in the coming century. Longer-term global forecasts for 2080-2100[4] 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%. While model projections are always uncertain, 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. These variations and extremes are likely to have as much, or more, effect on the regional ecology as the overall climatic trends (e.g., warming and increased precipitation) themselves. Together, the climate trends and climate variability are expected to have a major influence on the Peel landscape.

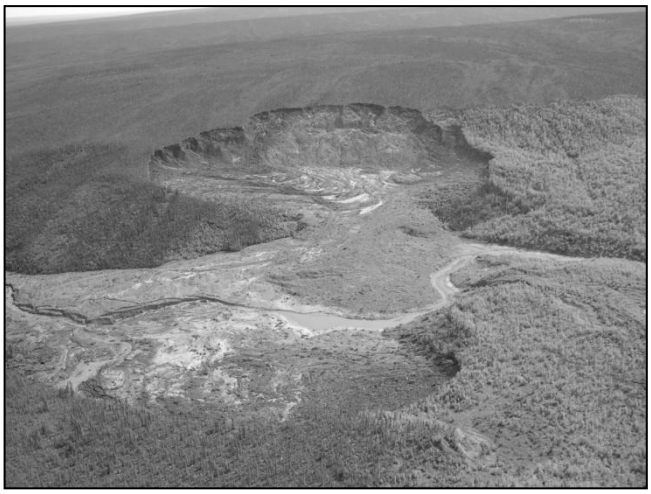

Figure 2.27: A "retrogressive thaw" in the Peel Watershed. An initial disturbance to the permafrost results in a slump, which in turn exposes more permafrost to thawing temperatures. The slump then expands away from the initial disturbance. Note the resulting disturbance to the creek.
(Photo: D. Davidge, Environment Canada)

Exactly how a changing climate will affect the Peel 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 changing plant communities will likely mean they must forage in different locations. Warmer temperatures and variations in surface water flow will probably produce localized or extensive melting of the permafrost. Slope failures resulting from this localized melting are already occurring (Figure 2.27), and have probably occurred in the past, often in connection

[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).

with forest fires[5]. 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 touristic activities less attractive to future generations.

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

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3. Concepts and Framework of the Recommended Land Use Plan

3.1. Overview of Planning Approach

The Recommended Peel Watershed Regional Land Use Plan broadly outlines a vision for the region based on the foundation documents in Section1 and the understandings outlined in Section 2. The framework of the Recommended Plan is described here, including description of our approach and methods to guide land-use decisions affecting the planning region. Later sections outline what pertains to various land-use sectors (4.1), landscapes (4.2) and general management interests (Section 4.3), and Plan implementation (Section 5).

The Peel River watershed is a complex natural landscape made up of steeply sloping mountains, limited surface vegetation, erodible river valleys, and sensitive wetland plateaus underlain with permafrost. Given the watershed's varied terrain, its wide range of ecological sensitivities, and the current understanding of land-use compatibilities, the Plan has adopted an ecosystem-based regional planning framework. This approach recognizes that:

- the underlying structures, functions, and processes of natural ecosystems are incompletely understood and require ongoing monitoring. These underlying processes include hydrological function, wildlife behaviours, and climate change effects;
- some parts of the landscape are potentially more resilient in responding to or recovering from human-caused surface disturbance or resource use (extraction, harvesting);
- other parts of the landscape are much more sensitive to surface disturbance or intensive resource use.

Within the context of the Umbrella Final Agreement, the Plan framework provides three important functions as:

- a guide-book for governments and other public bodies to carry out land tenure review and disposition of public and First Nation settlement/fee simple lands;
- an agenda for action to guide research and the development of new regulations and policies for improved land-use management;
- a checklist for determining whether new land-use proposals conform to Plan directions.

In Figure 3.1, we outline the key steps that generally apply to regional planning practice.

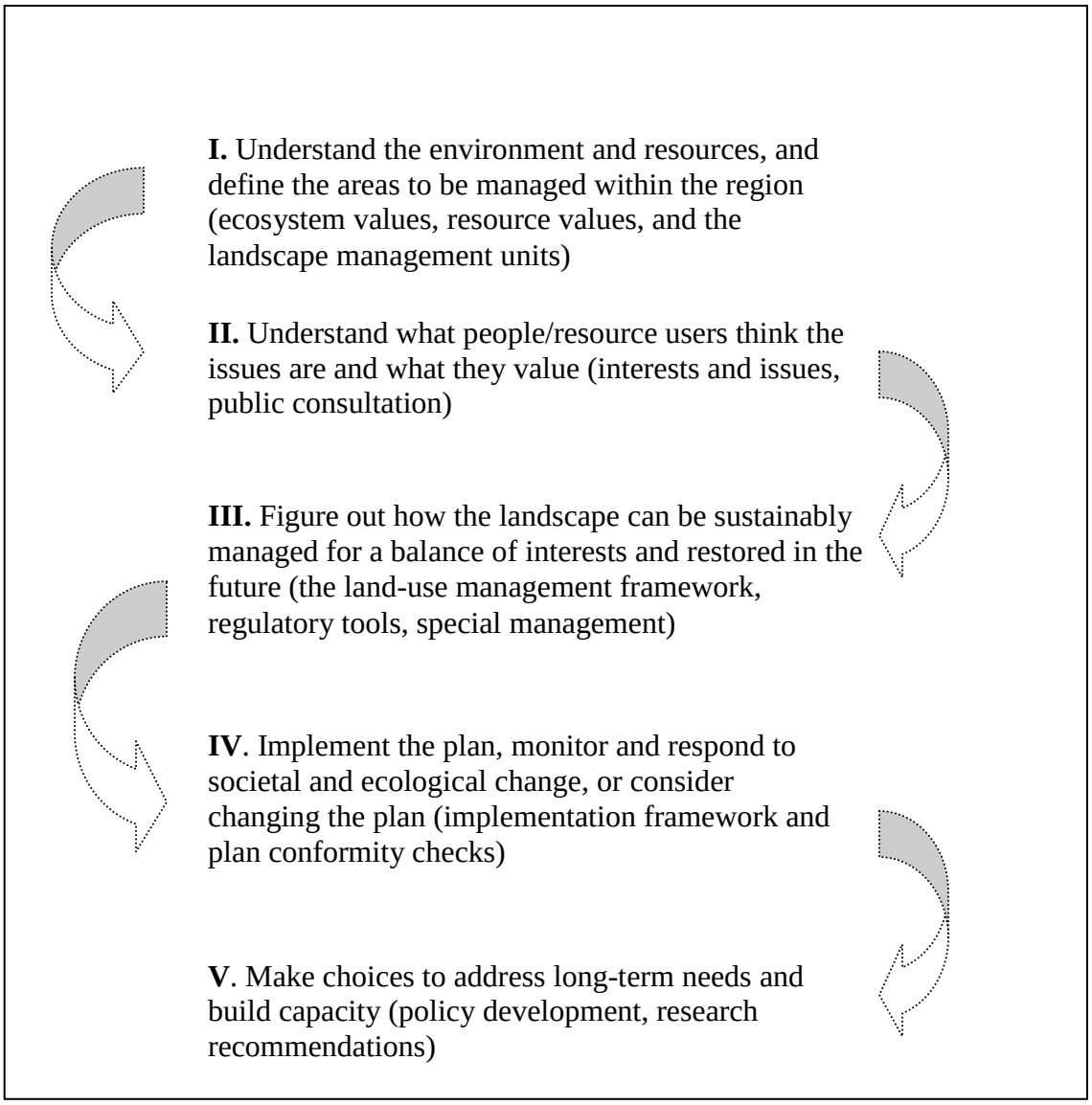

Figure 3.1: Key Steps of Regional Land Use Planning

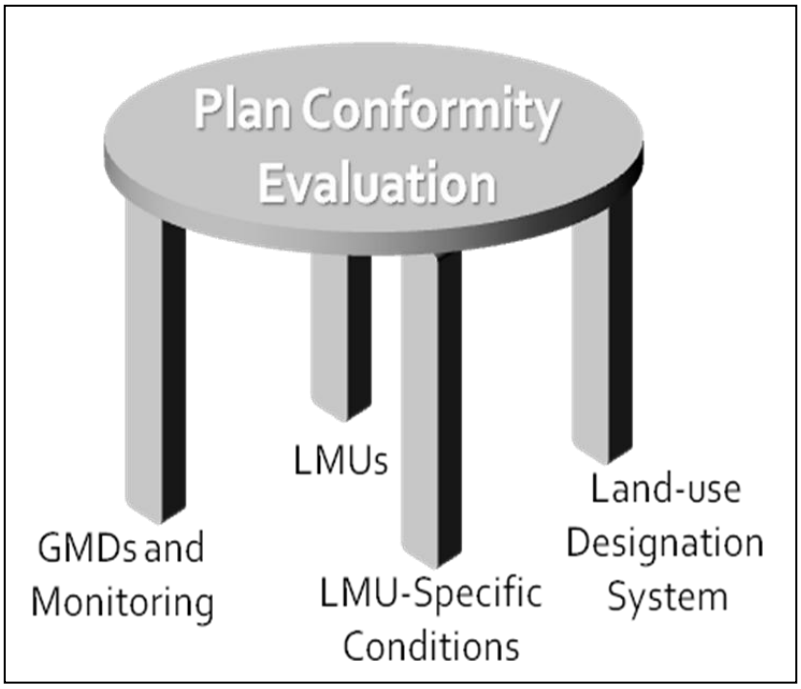

Figure 3.2: Key Components of the Peel Watershed Regional Land Use Plan

3.2. Components of a Planning Framework

This section describes the components of the Commission's planning framework. The Plan Conformity Evaluation, like the table top in Figure 3.2, holds the Plan framework (the "legs") together. The "legs" of the framework are four planning tools that support decisions about ongoing land-use planning.

As we explain in Section 3.5, the Conformity Evaluation is a process (rooted in the UFA's Chapter 11) for monitoring implementation of the Plan. It is used to allow regulators to decide whether proposed land uses are consistent (or in conformance) with the approved Plan. The Conformity Evaluation considers:

What is an Allowable vs. Prohibited Use?

- *Allowable:* this Plan allows this land use, subject to GMDs, LMU-specific *conditions* and the laws of general application (i.e. existing or new regulations)
- *Prohibited:* this Plan does not allow this land-use. A Plan amendment may alter this prohibition.

- allowable uses in the Plan, subject to management conditions
- uses that are not in conformance but can be modified to fit the Plan by adapting to the management conditions (achieved through a Plan variance)
- uses that are prohibited and require full Commission review to modify (uses requiring a Plan amendment).

When considering a land-use proposal, the respective government agencies (First Nations and Yukon Government) will be able to use the four planning tools described below to make their decision on projects or uses affecting their areas of jurisdiction. They will be able to:

- clearly identify the location or land-use management unit (LMU)
- determine what land-use designation or zone (LUD) applies to the proposal and the type of regulatory designation tool being used
- understand whether the proposal is linked to other regional issues requiring guidance through general management directions and monitoring tools (GMDM). These tools allow regulators to track and limit land-use intensity (indicator) levels
- know the specific management conditions (MC) that set out how existing activities can be sustained and new land uses considered within each LMU.

The framework of the Peel Watershed Regional Land Use Plan builds on concepts in the North Yukon Regional Land Use Plan (Yukon Land Use Planning Council and the North Yukon Planning Commission), and respects existing government planning processes (e.g. as highlighted in Status of Yukon Government Land and Resource Planning, Yukon Government, 2009). The Commission's Plan framework is unique to the Peel Watershed planning region, and may not be appropriate to other Yukon regions or planning processes. Every region has its own ecosystem characteristics, settlement patterns, economic development potentials, institutional arrangements, and governance relationships.

In the future, new information may lead to a change in the Plan. Modifications to LMU boundaries or zone categories, for example, could result from any of the following: new government policy and regulations, economic opportunities, environmental management or industrial technologies, land-use and management assessment tools, and/or resource best-management practices. This flexible design is a cornerstone of the Recommended Plan and should serve regional planning needs well into the future.

The rationale for modifying certain management tools is based upon a commonly accepted practice of adaptive land-use management and planning. The practice incorporates (a) widely accepted ecosystem management principles; (b) the suitability of certain land uses within the ecosystems that make up the Peel region; and (c) some capacity to measure success in achieving land-use management goals and objectives. In keeping with the legal foundation for regional planning in the UFA, proposed new uses can be adjusted to conform to the Plan (see 3.5). Changes such as modifying an LMU boundary or the zoning system, for example, would require a Plan amendment. If a proposal to amend the Plan were referred to the Commission, it would consider new information and the implications for the affected Parties, existing tenure holders, and public stakeholder groups.

3.2.1. Landscape Management Units (LMUs)

The first major tool that the Plan uses is the Landscape Management Unit (LMU). These are distinct areas of land that typically have well-defined ecological boundaries (i.e., landforms, vegetation, and drainage). Some LMUs are further defined on the basis of unique ecological characteristics that require special management (e.g., lakes and wetlands on permafrost). Other units are further defined by the clustering of common existing or potential land use (e.g., Eagle Plains oil and gas basin, historical/existing mineral claim areas in the Wind River drainage, or overlapping First Nations community resource use as in the Hungry Lakes area).

LMUs are identified in the Peel Watershed Planning Region on Map 2 in Appendix A. Using the second major tool of the Plan, each unit has been assigned its own general land-use designation

or zone (see 3.2.4), and is defined according to a set of criteria agreed by the Parties. Boundaries of most LMUs have been created based upon one or more of the following key reasons:

- major wildlife migration corridors (e.g. river valleys);
- common land-use activity and/or values (e.g. subsurface resources);
- aquatic stewardship as a dominant management priority (e.g., watersheds).

3.2.2. General Management Directions and Monitoring

The third major tool that the Plan uses is called General Management Directions and Monitoring (GMDM). These directions are expressed as recommended land management goals, objectives, strategies, and best management practices to guide regulatory processes over time. GMDMs operate at two scales: (1) over the entire planning region or (2) within specific LMUs.

Land management goals are statements that express general land-use intent, while objectives provide more specific and measurable terms to achieve desired outcomes. Strategies are actions or methods that land managers can use to achieve specific objectives. Strategies may include recommendations for further research, regulatory/policy development, and/or best management practices. Best management practices are operational methods that can reduce the intensity, impact, or duration of land-use activities. Many best management practices developed for Yukon relate directly to achieving the objectives and strategies of this Plan.

Wherever applicable, the GMDM is further developed into results-based indicators to support cumulative impact monitoring**.** Such specific land-use monitoring tools ensure that Plan goals and objectives are being met. Indicators such as water quality or surface disturbance are used to measure the success of the general management intent, and ultimately a particular objective or goal.

3.2.3. Management Conditions

Management conditions can be thought of as rules that the Commission considers essential for guiding land uses in the planning region. This leg of the land-use planning framework is critical for maintaining underlying ecosystem values that are consistent with the Commission's view on sustainable development. They cover a range of important topics that strive to address key resource management issues and prevent potential problems from occurring. These issues may range from potential environmental degradation to water, fish and wildlife effects or land-use conflicts. All management conditions must be considered during Project approvals. Some we refer to as Class A conditions are considered mandatory to achieve conformity with the Plan and would be subject to a formal amendment process, while Class B conditions have some flexibility for minor change or variance. In section 3.5, we describe what is meant by Plan conformance, and how the Plan might be changed through an amendment or variance during implementation.

3.2.4. Land-use Designation or Zoning

Land-use designations or zoning are used to provide spatial separation for mutually incompatible land uses across the planning region. They provide the broadest level of guidance for land and resource decision-making. They consist of different landscape categories, or zones, together with a vision statement (desired future state), and management conditions and objectives that describe the management intent for an LMU.

The designation system:

- recognizes existing land-use tenures and provides guidance about the future of such uses, which may or may not conform with the management intent of any given LMU;
- allows varying degrees of both renewable and non-renewable resource use, subject to designation and LMU-specific conditions;
- places particular emphasis on managing for ecosystem and cultural values.

We have strived to achieve inter-regional consistency in this Plan by linking with other land-use zoning systems developed by the Gwich'in Land Use Planning Board and the North Yukon Planning Commission, though some terminology is unique to the Peel Watershed Regional Land Use Plan.

3.3. Description of Land-Use Management Zones

The Plan creates two major land-use planning/management zones to guide future land-use decisions in the region: Special Management Areas and Integrated Management Areas:

Special Management Areas flow from definitions in Chapter 10 of the Umbrella Final Agreement and are also referenced in FNFA's[1]. They are further broken into four areas of emphasis: (i) heritage management (ii) fish and wildlife management, (iii) watershed management and (iv) general environmental protection. The recommended zone for each LMU is shown on an indexed Map 2, Appendix A.

LMUs are identified as either an Integrated Management Area or a Special Management Area according to the current understanding of:

- ecological sensitivities and pressure to develop resources;
- availability of current regulatory tools to address public concern for valued ecosystem resources for addressing potential significant environmental effects;
- ability of non-renewable and renewable resource uses to be integrated, depending on the types of landscapes and resource users;

[1] The NNDFA Implementation Plan provides specific guidance on the designation of an SMA including referral of such proposals to the Mayo and District Renewable Resources Committee or Historic Resources Board.

- the long-term vision of the Parties about regional land-use management and sustainable development as advised through the PWPC's Senior Liaison Committee and government submissions; and
- public values and aims as stated in consultation processes.

The Umbrella Final Agreement, Chapter 10: Special Management Areas

10.1.0 Objective

10.1.1 The objective of this chapter is to maintain important features of the Yukon's natural or cultural environment for the benefit of Yukon residents and all Canadians while respecting the rights of Yukon Indian People and Yukon First Nations.

10.2.0 Definitions

In this chapter, the following definition shall apply.

"Special Management Area" means an area identified and established within a Traditional Territory pursuant to this chapter and may include:

(a) national wildlife areas;

(b) National Parks, territorial parks, or national park reserves, and extensions thereof, and national historic sites;

(c) special Wildlife or Fish management areas;

(d) migratory bird sanctuaries or a wildlife sanctuary;

(e) Designated Heritage Sites;

(f) watershed protection areas; and

(g) such other areas as a Yukon First Nation and Government agree from time to time.

3.3.1. Lands in Special Management Areas

The broad management intent of lands in Special Management Areas is conservation and/or protection of the following priorities:

- Hydrological function/water quality
- Caribou habitat and/or migrations
- Wilderness landscapes
- Ecological integrity
- Heritage and cultural resources

The Plan identifies four SMA management emphases (heritage, fish and wildlife, watershed, and general protection), based on the definitions in Chapter 10 of the UFA and FNFAs and the consensus recommendation of the Parties. The Plan also provides priority recommended regulatory tools that reflect the Yukon Government's authority under the UFA to manage non-settlement or public lands. The goal is to conserve and/or protect natural or cultural features for resource users of the planning region, local communities, Yukoners, and Canadians as a whole.

In developing these SMAs, the Commission provides a clear rationale and considers the linkages to all relevant chapters/clauses within the Umbrella Final Agreement and affected First Nation Final Agreements.

Management direction for land use in all SMAs is intended to reduce long-term resource-use conflict by limiting the surface footprint to a minimum acceptable level. Existing land-use tenures (i.e., mineral claims, oil and gas dispositions, and related activities) will be allowed to continue as a non-conforming use, but will be subject to specific management conditions. Land-use management conditions may be similar in all SMAs regardless of management emphasis, but may differ for any given LMU based upon area-specific rationales.

In all SMAs, new surface access (all-season or winter road, rail, etc.) is prohibited even where a mineral claim, coal license, or oil and gas disposition already exists. No new industrial (surface or subsurface) uses or tenures (including infrastructure, facilities, and waste disposal operations) will be permitted in an SMA. A formal Plan amendment would be required to change any of these core Plan recommendations.

Specific steps are set out in Chapter 10 of the UFA for establishing an SMA, and are intended to be consistent with both the regional land-use plan and the development assessment process (10.6.0). This Plan provides guidance for this process by outlining the rationale, management objectives, and conditions for SMAs. Key aspects of Chapter 10 include:

- Reference to established procedures within each First Nations Final Agreement, or deferral to laws of general application (e.g., regulatory designation tools such as the Parks and Land Certainty Act, Environment Act, etc.).
- Referral to an appropriate body such as Parks Canada or the Yukon Heritage Resources Board for heritage-based SMAs, or to Renewable Resource Councils concerning areas of overlapping traditional territory.
- Development of a management plan for each SMA within five years, and a review every ten years.

Figure 3.3: Traditional Use Activities along the Peel River with Elder Robert Alexie Sr. (Photo: PWPC)

Table 3.1: Regulatory designation tools for protection.

Type of Protection	Establishing Statute	Description and Purpose	Yukon Example
Federal Protection			
National Wildlife Area	Canada Wildlife Act (Canada)	• To protect lands for the purpose of research, conservation and interpretation in respect to migratory birds or, with the agreement of the Yukon Government	Nisutlin Delta National Wildlife Area
Migratory Bird Sanctuary	Migratory Birds Convention Act (Canada)	• To protect critical habitat of birds subject to the Migratory Birds Convention, 1994 (i.e. international transboundary birds)	None in Yukon Anderson River Delta (NWT)
National Historic Site	Parks Act (Canada)	• To protect places of profound importance to Canada's history, including defining moments, creative endeavours and/or cultural traditions.	Chilkoot Trail National Historic Site
Territorial Protection			
Ecological Reserve	Parks and Land Certainty Act (Yukon)	• To protect an area of unique natural significance, unique ecological characteristics or importance for a population of rare or endangered flora or fauna which is intended to remain in its natural state • Statutory prohibition on industrial development within an ecological reserve	Coal River Springs and Fishing Branch Ecological Reserves
Natural Environment Park	Parks and Land Certainty Act (Yukon)	• To protect a representative or unique landscape that displays ecological characteristics or features of one or more of the Yukon's ecoregions	Tombstone Territorial Park Agay Mene NEP (pending)
Wilderness Preserve	Parks and Land Certainty Act (Yukon)	• To protect an ecological unit or representative core area by conservation biodiversity and ecological viability • Statutory prohibition on industrial development within a wilderness preserve.	Fishing Branch Wilderness Preserve
Habitat Protection Area	Wildlife Act (Yukon)	• To protect habitat based upon the sensitivity of the area to disturbance, the likelihood of disturbance and the importance of the area as habitat for any population, species or type of wildlife	Horseshoe Slough, Lhutsaw, Ddhaw Ghro, Nordenskiold, Fishing Branch Habitat Protection Areas
Historic Site	Historic Resources Act (Yukon)	• To protect a site that is an important illustration or locality of the historic or pre-historic development of the Yukon, of the peoples of the Yukon and their respective cultures, or of the natural history of the Yukon.	Buildings only (e.g. Dawson, Mayo)
Wilderness Management Area	Environment Act (Yukon)	• To preserve the wilderness resource in the Yukon (i.e. natural resources including land, water, forest, wilderness, wildlife, and other natural resources over which the YG has authority, ownership or control)	None designated

Heritage Management Emphasis

All affected First Nations have stated that the entire planning region is important for heritage and traditional-use interests. Certain shared traditional-use territories, however, showed many common elements among historical, current, and desired future community-use objectives. The Plan identifies areas of high cultural importance in landscapes of moderate to high ecological sensitivity as "heritage emphasis" SMA zones. The Plan also identifies several other smaller areas as culturally important areas or sites. These are shown on the Heritage and Cultural Resources Map (Map 4, Appendix A).

Since cultural and traditional-use activities are to be maintained under UFA/FN agreements, they form the primary management direction in several specific areas[2] of the planning region. Any proposed developments in these areas would require enhanced consultation with all affected First Nations beyond what may be required elsewhere in the planning region. This designation is intended to provide a holistic approach so that character-defining elements — landscapes, traditional uses, and cultural associations or meanings — can be managed in an integrated manner, using Yukon and First Nation policy, legislation, and the UFA. The Commission suggests that current regulatory tools include Heritage Sites and Territorial Parks (YG), or National Historic Sites[3] for cultural landscapes (Parks Canada).

Fish and Wildlife Management Emphasis

The management intent for this type of zone is the emphasis of fish and wildlife. Renewable resource uses and associated surface-use tenures (e.g., facilities, structures) are allowed. During the term of this Plan, access to existing mineral claims by air is conditionally allowed by conventional practice, following general and special management directions and strategies by each LMU. Industrial development and associated access would require a comprehensive impact/benefit assessment (both socio-economic and environmental).

Existing regulatory tools that might serve the Commission's intent for this general zone or designation include ecological preserve or wilderness preserve (Parks and Land Certainty Act), habitat protection area, ecological reserve, wildlife reserve, or wildlife area (Environment Act).

Watershed Management Emphasis

Although the Peel region has a general management direction to maintain water quality and flows, the Commission identified at least one LMU that needs special emphasis. Indicators include both high land and water-use activity (or potential activity) and a complex, sensitive drainage system (including groundwater storage, lakes/wetlands, and high elevation water courses). Such an emphasis requires regulatory agencies to have adequate baseline hydrological data and other management measures for protection. In this type of zone, possible regulatory

[2] Yukon and First Nation governments have specific management responsibilities towards historic and heritage sites and areas that are well-defined in the Historic Resources Act and Heritage Chapter 13 of the UFA.

[3] Parks Canada has signed an MOU for a National Historic Site designation with the Sahtugot'ine and Métis people of the NWT. The area known as "Sahoyúé- §ehdacho" represents an Aboriginal cultural landscape of 5587 square kilometres (approximately the size of Prince Edward Island) located on two peninsulas at Great Bear Lake in the Mackenzie Lowlands, NWT. The site has great cultural and spiritual significance to the Sahtugot'ine.

tools include Watershed Protection Area, Habitat Protection Area (YG Environment Act), or Ecological Preserve (YG Parks and Land Certainty Act).

General Environmental Protection Emphasis

The intent of this zone is the support and maintenance of ecosystem function, wilderness integrity, biodiversity, and peaceful enjoyment of land while allowing very limited, provisional access for renewable resource activities. The Plan recommends that these zones be withdrawn from the establishment of new tenures (e.g., mineral claims, oil and gas exploration permits, lodges, big-game outfitting base camps) in order better to protect natural resources of very high ecological and heritage/cultural value. The Plan allows existing tenures in these zones, subject to specific management conditions. A future Commission would issue variances for such uses on a case-by-case basis to maintain the integrity of this rigorous zone designation.

Areas in the Peel region under a protection emphasis are unique because of key functions and purposes. These include: (a) rare, threatened, or endangered species, or species of special concern; (b) representative examples of natural phenomena; (c) unique natural features; (d) genetic diversity; and/or (e) peaceful enjoyment for cultural use.

The Commission views a Wilderness Preserve (Parks and Land Certainty Act) as the appropriate regulatory tool. Another tool might be an Ecological Reserve, given that the Plan's core recommendations prohibit new surface development.

3.3.2. Lands in Integrated Management Areas

This designation permits existing and future surface uses and subsurface resource extraction while limiting land-use conflicts and maintaining long-term ecosystem function. IMAs still have very high ecological and heritage/cultural values within sensitive biophysical settings. However, the Commission believes these zones can accommodate industrial resource development in a working landscape. The overarching "no winter or all-season road access" condition will remain for all IMAs. However, the Plan provides an amendment process if industrial development can meet the environmental and socio-economic goals of the Plan (see 3.5).

The Plan proposes a low level of development intensity for IMAs in the Peel region (with the possible exception of the Dempster Development Area[4]). However, unlike SMAs, the Plan gives some priority to subsurface resource development for IMAs, including exploration of existing tenures and consideration of new subsurface tenures. The following general management conditions will apply in all IMAs:

- Coordinate the resource development industry and other resource users to limit conflicts;
- Provide for the infrastructure necessary for exploration and development. With the exception of the Dempster Highway corridor (IMA 2), the Plan designates development of access as a non-conforming use. Winter roads require a Plan variance, and all-season roads require a Plan amendment;

[4] The Dempster Highway Development Corridor or LMU 2 is expected to receive unprecedented development pressure in the near future. Given the overlap of resources and land use interests, this area has been recommended for future sub-regional planning. See 4.2 LMU 2 for further information on this unit.

Follow current best management practices and/or other general management directions for water quality protection, permafrost protection, etc; however, regional access by air (float plane, helicopter, and heliportable) is a conforming means of access during exploration phases of development within IMAs;

- Research linear density and footprint indicators based on realistic scenarios for likely development (e.g., a gas field over time) and include as a future management condition;
- Limit land-use impact, maintain ecological integrity, and protect heritage or cultural resources.

3.3.3. Enhanced Consultation

The Plan calls for enhanced consultation for several LMUs, primarily those zoned as Integrated Management Areas. This guideline makes sure that affected First Nations are consulted before any significant new land use. In many cases, existing regulations already specify higher levels of consultation. Nonetheless, the Plan calls for enhanced consultation in cases where existing regulations are unclear or weak. Based on its review, the Commission considers the Oil and Gas Disposition process as satisfactory and a standard for other consultations.

Figure 3.4: Plotting a flight plan in the Peel (Photo: PWPC)

The enhanced consultation called for in this Plan is not meant to replace existing consultation requirements. Instead, it is meant to allow the Parties a full review of proposals that may affect their land-use interests. Other goals of enhanced consultation are[5]:

- Identifying specific areas that require a more thorough understanding of effects before granting future land use dispositions. These areas are typically too small for the scale of a Regional Land Use Plan.
- Ensuring that adequate measures are in place to avoid or mitigate effects on areas of high significance or value.

[5] adapted from www.centralelgin.org/portal/uploads/d/DonLeitch/3225.pdf

What is Enhanced Consultation?

The Plan draws its definition of *enhanced consultation* from the consultation protocol in the Yukon Oil and Gas Act and the definition of *consultation* in the Umbrella Final Agreement. *Consultation* in the Umbrella Final Agreement provides three things: 1) adequate notice of the matter (e.g., new land use or land tenure) to the parties; 2) a reasonable period for the parties to prepare and present their views; and 3) full and fair consideration of these views.

In this Plan, *enhanced consultation* asks government representatives (e.g., the Minister) to consult confidentially with the First Nation* before any new and significant land uses or land tenures are made available on that First Nation's traditional territory**. Before any new and significant land uses or land tenures on settlement land, the First Nation should consult with government representatives. Finally, the land owner (i.e., the Minister or the First Nation) may make any decision considered appropriate. In other words, *enhanced consultation* does not confer a veto on the affected First Nation. In Section 4.3, a recommendation is offered on the development of a policy on enhanced consultation.

*****_First Nation_* includes all regional Yukon First Nations and the Tetłit Gwich'in First Nation of the Northwest Territories. The Gwichya Gwich'in Council, also of the Northwest Territories, should be consulted before land-use decisions along the eastern edge of the Gwich'in Primary Use Area.

**For the purposes of this definition, *traditional territory* includes the Traditional Territories of all regional Yukon First Nations *and* the Gwich'in Primary Use Area

3.3.4. Sub-Regional Planning

This Plan provides for sub-regional planning as an additional planning tool based upon UFA (11.2.1.9, 11.8.3 and 11.8.4), and is available to both settlement and non-settlement lands. The intent of this tool is to enable detailed planning and consultations about resource use and development along the Dempster Highway Corridor, respecting both existing legislation and the desired future state of this land management unit. Such planning must be based upon mutually agreed planning boundaries and terms of reference for this Integrated Management Area.

The Yukon Department of Energy, Mines and Resources, et al. v. Little Salmon/Carmacks First Nation, et al.

In November 2009, a dispute between the Little Salmon/Carmacks First Nation and the Yukon Government went to the Supreme Court of Canada. At issue was whether the Yukon Government has a duty to consult with a First Nation when development is proposed in that First Nation's traditional territory, but outside of any settlement lands.

This Plan recommends enhanced consultation to avoid such disputes, to enable consideration of values and features that are not considered at a regional scale, and to enhance First Nations participation in the regional economy.

3.4 Plan Conformity and Changing the Plan: Variances, Amendments and Periodic Review

The Commission recognizes that the Peel Watershed Regional Land Use Plan may need modifying once it is approved. The Plan guides consideration of existing and new land-use proposals through the regulatory approval process. Chapter 11 of the Umbrella Final Agreement also (11.4.5.10) provides for such Plan monitoring and review if the Parties agree concerning their respective jurisdictions and lands. Project reviews by YESAB, or a formal Plan review at a future date, may also lead to Plan modifications. Various factors that may influence decisions about changing the Plan are:

- new land management concepts or approaches;
- significant new land and resource information;
- better knowledge about land-use effects;
- changed societal values;
- changed demand for land and resources in the region;
- changes or emerging technology affecting land-use management.

The Plan identifies three ways of allowing land uses to change from their current status in the Plan:

- through the authorization of Plan variance (non-conforming uses that are inconsistent with the Plan);
- through amendments to the Plan (alterations to Plan framework, policy, or management directions);
- through Plan review (a systematic process for updating the Plan, either after a five to seven year period or when the Yukon and signatory First Nation Governments require a review).

Both the First Nation Final Agreements and YESAA legislation outline the process for approving an individual new project application that does not conform to the Plan (this is referred to as a Plan variance). However, these agreements are less clear on Plan amendment and Plan review processes. The PWPC identifies three means of allowing land uses to occur that vary from the current version of the plan through the undertaking of:

- **Plan Variances** (non-conforming uses that are inconsistent with the Plan);
- **Plan Amendments** (alterations to Plan framework, policy or management directions presented in the Plan);
- **Plan Review** (a systematic process for updating the Plan after a 5-7 year period or when the Yukon and signatory First Nation Governments agree a plan review is required).

Both the First Nation Final Agreements and YESAA legislation make clear the process by which an individual project can take place that does not conform to the plan (Plan Variance) but these agreements are less clear on the Plan amendment and Plan review process. In determining how

its various types of Plan recommendations are to be considered, the Commission developed three categories:

- **First**, certain recommendations are presented as core or mandatory directions for the Plan. They are mandatory during all project approvals in order to maintain conformity with the Plan. If not followed, they would fundamentally alter the management intent of the Plan and would be a contravention of the Commission's Statement of Intent and/or Plan Principles. These recommendations would require that a Plan Amendment be considered by the Commission and would typically apply to major land-use proposals in the planning region. Amendments pertain to the following:
    - Section 4.2 LMU Boundaries; LMU Zoning; LMU Primary Regulatory Designation Tool, Allowable Uses and Class A Management Conditions
- **Second**, another set of recommendations were identified as important directions for regulatory bodies to consider for project approvals to be in conformance with the Plan. If not followed, they would erode the management intent of the Plan; therefore these recommendations would require a Plan Variance to ensure that any given land-use proposal could be brought into conformance with the Plan based upon site-specific considerations. This recommendation category pertains only to the following:
    - Section 4.2 Class B Management Conditions
- **Third**, the remaining recommendations were identified as supplementary directions for the Plan. They are proposed for the Parties to undertake to support the management intent of the Plan, or improve decision-making on land use over time. Once adopted, they could be modified at the Plan review stage. This category of recommendations pertain to the following:
    - Section 4.1 or 5.0 Policy or Research Recommendations
    - Section 4.2 Special Management Considerations
    - Section 4.3 General Management Directions
    - Appendix B: Supplementary Management Considerations (Best Management Practices or Strategies)

Figure 3.5: Guiding activities in the BonnetPlume watershed (Photo: PWPC)

3.4.1. Plan Variances

Plan variances are for smaller individual projects that do not conform to the Plan and that enter the permitting process through the Yukon Environmental and Socio-Economic Assessment (YESAA) process. Plan variances are to be granted only to projects that are small enough to be processed thorough a YESAA Designated Office Evaluation.

In Plan variance decisions, the only role of the Commission is confirming whether or not a project is conformity with the Plan. The YESAA Designated Office is then required to recommend ways in which the project could be made to conform to the Plan (12.17.3, First Nation Final Agreements). The Yukon or First Nation Governments must then decide whether to allow the variance, and must notify the Commission of their decision.

It is important to establish a Plan variance process that does not involve a conformity check for every project, or at least limits the work associated with this land claim obligation. As a practical solution, the Commission has proposed using YESAA project screenings and reviews for individual conformity checks. Alternately, the Commission could delegate project-by-project conformity checks to its own staff or to a planner seconded from the Yukon Land Use Planning Council.

3.4.2. Plan Amendments

Plan amendments will occur only when there is recognition that key elements need to be altered. Plan amendments could involve:

- changing key Plan goals, principles, or policy recommendations (e.g., surface access designations);
- re-configuring the management framework and associated action (e.g., modifying LMU boundaries, changing the land-use designation system).

Triggers for a Plan amendment could be:

- frequent decisions by the Yukon or First Nation Governments to allow land-use variance (Note: This is not a desired trigger for Plan amendment, as Plan variances are to be avoided whenever possible);
- a recommendation by the Peel Watershed Planning Commission, the Yukon Government, or First Nation Governments based on territory-wide land-use policy initiatives, including public consultation processes;
- a decision by the Yukon or First Nation Governments to allow a large-scale project that does not conform to the Plan and that is associated with a YESAB Executive Screening, YESAB Panel Review, or similar decision-making process (e.g., Canadian Environmental Assessment Act).

The process for amending the Plan would be similar to the process of Plan creation (Figure 3.7). The Commission would consider the recommended amendment before the Yukon or First Nation governments approved, modified, or rejected it. The Commission is required to make a recommendation on those amendments submitted by the Yukon Government (for public land) or a First Nation Government (for settlement land), but is not required to make a recommendation if the amendment was presented by the public or stakeholders. A public and stakeholder notification procedure is a key part of any Plan amendment. The Commission and the parties

would determine the scope, but at a minimum it would include newspaper announcements, letters/e-mails to stakeholders, website postings, and other communication tools (e.g., radio). The notification should include:

- a brief summary of the amendment;
- the place, date, and time of the Commission meeting to consider the amendment;
- the methods of submitting comments to the Commission.

The Commission must outline its Plan review process six months before it occurs. The Plan review will take no longer than one year, and the approval process will be the same as that of the original Plan, as outlined in Section 11.6.0 of the First Nation Final Agreements. If the origin of the amendment is a project stemming from a YESAB Executive Committee screening or YESAB Panel Review, the timeline for the amendment process shall be within the timeline established by the YESAA process (see YESAB process chart). Other amendments would require a minimum of two Commission meetings before the Commission makes a recommendation to the Yukon Government or the First Nation Governments.

Figure 3.6: Scenic views in the Snake River valley (Photo: PWPC)

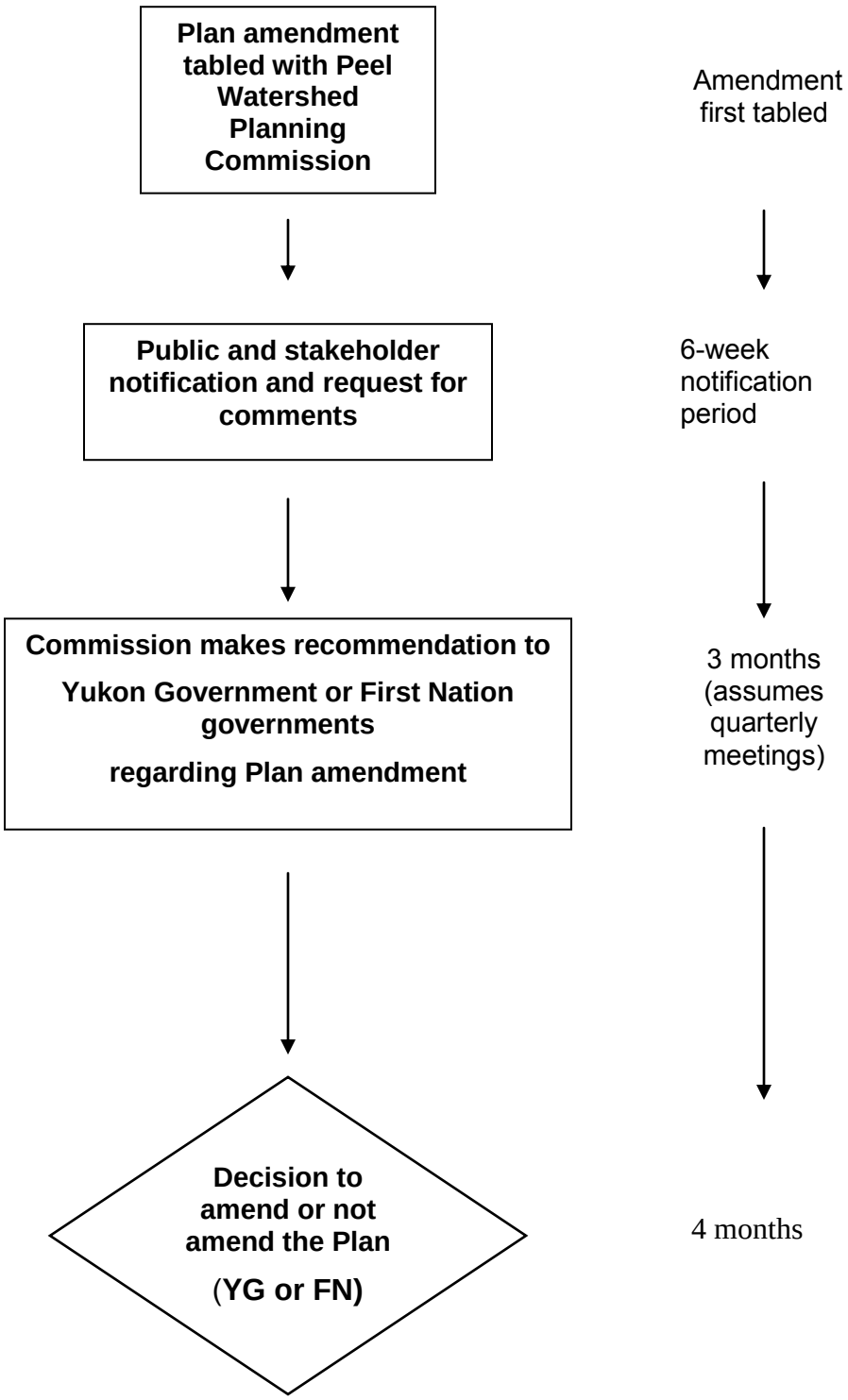

Figure 3.7: Potential Plan amendment process for Peel Watershed Regional Land Use Plan.

3.4.3 Plan Review

The Plan review is a process of comprehensive examination. It is an opportunity to make changes to the Plan by evaluating its success in meeting its goals and objectives. A review may require modification of the Plan to reflect changing land status or conditions within the region. Major land decisions, such as those regarding the status of Interim Protected Areas, may also be required. Changes to the Plan should be expected, as the Peel Watershed Planning Commission will be periodically monitoring land-use information and issues throughout the life of the Plan.

Land use planning is an iterative or feedback-based process requiring up-to-date information supplied through research and consultation. Completing the research priorities identified in Section 4.0 can improve the information base necessary to guide future land-use decision-making. It is the Commission that is primarily responsible for conducting the first Plan review. It will take place after a five to seven year period, or when the Yukon Government and First Nation Governments agree that a Plan review is required.

The Plan review should assess:

- whether the Plan met the principles, goals, and objectives outlined in Section 1 of the Plan;
- whether implementation was carried out, and whether there were successes, failures, or omissions;
- the number and nature of requests for Plan variance and the potential implications for the Plan;
- the accuracy of information and forecasts used to develop the Plan;
- whether the overall Statement of Intent for the planning region was met.

As part of the Plan Review, there will be a consultation process. Communities, approval agencies, stakeholders, and other groups will be solicited for feedback on the effectiveness of the land use plan in meeting management objectives, addressing land use issues and meeting the terms of the FNFA's.

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4. Land-Use Management in the Peel

This section addresses the key land-use issues in the Peel Watershed Planning Region. These land-use issues can be categorized according to individual land uses, where these activities occur, or what values may be impacted. Individual land uses are addressed in the first subsection (4.1) below. These discussions are of particular interest to regulators and development proponents. More localized issues will be described and dealt with in the second subsection (4.2) where landscape management units (LMUs), their specific issues, and recommended actions are described. Issues around different values are addressed in section 4.3. These discussions are of particular interest to resource managers of the parties. **LMU-specific recommendations and conditions in Section 4.2 take priority over the land-use-specific recommendations of Section 4.1.**

4.1. Management of Land-use by Sector

Recommendations

Recommendations describe specific one-time or periodic tasks for reaching Plan goals. These are generally done by the parties as they implement the Plan.

This section is further broken up into several subsections that deal with individual land uses. Each subsection includes a description of the topic or issue, and recommendations for mitigating or monitoring the effects. A series of objectives and strategies to achieve them are listed in Appendix B.

An overview of ecological, cultural, and economic values and resources referenced in this section can be found in Section 2. Detailed maps and descriptions of resource values are contained in the Conservation Priorities Assessment Report (Peel Watershed Planning Commission, 2008b) and the Resource Assessment Report (Peel Watershed Planning Commission, 2008a). These are available from the PWPC website (www.peel.planyukon.ca) and furnish further information.

4.1.1. Industrial Activities

A goal of this plan is to "Realize sustainable development opportunities while maintaining traditional First Nation livelihoods". Some of the development opportunities in this region involve exploration for, and development of, non-renewable resources like minerals, oil, and gas.

Among the key issues related to industrial exploration and development activities:

- Exploration occurs with the premise that development may occur wherever exploration is permitted.
- Activities could affect valued ecological resources, including the Porcupine Caribou Herd and other caribou populations, moose, marten, wetlands, lakes, and rivers.
- Activities could affect wilderness/cultural tourism and traditional economic activities and cultural pursuits.
- The construction and ongoing operations of large-scale infrastructure would bring many new workers to the region.

- Exploration and development activities and associated land uses (transportation, gravel extraction, and water withdrawal) can cause cumulative and adverse change over large landscapes.
- Coordinated and effective management of the various fish and wildlife populations and their habitats requires an integrated management approach, in advance of increasing industrial land use.
- Exploration activities require access to large areas of land, and substantial exploration efforts are required to identify economically viable deposits.
- Leaks and improper storage of fuels and other substances required for industrial activities, and waste materials (e.g., tailings, drilling wastes) may result in soil and water contamination.
- Large amounts of aggregate (gravel) are needed to develop roads and other infrastructure required for non-renewable development.
- Increased roads tend to increase hunting pressure and stresses on wildlife populations.

Desired Future State

- Economically and environmentally sound industries that provide long-term benefits to the local community.
- Activities that have the support of local communities.
- Responsible projects approved in an efficient and timely manner and carried out with high standards of environmental management, including access and reclamation.
- The PWPC Statement of Intent is realized with respect to sustainable development, wilderness character, and ecological integrity.

POLICY RECOMMENDATIONS	• *New surface access in SMAs is prohibited and consideration of such a proposed use would be subject to Plan amendment.* • *Withdrawing of lands in SMAs from new non-renewable tenures (e.g., mineral claims, oil and gas exploration permits) is recommended to achieve consistency with the Plan's general management intent for wilderness and ecosystem protection.* • *Given the strong interest in maintaining unaltered water quality and quantity in the Peel watershed, no structures should be permitted which alter or impede the natural level and variability of water flowing in the Peel River or its tributaries.* • *To minimize potential impacts to regional fish populations, aggregate (gravel) mining should be prohibited where it might affect significant fish habitats.* • *Impact benefit agreements and consultation processes similar to those specified in the Yukon Oil and Gas Act (section 68) should apply to all new developments in the region.* • *In the Peel Watershed Planning Region, potential climate-change impacts are expected to be significant and should be considered in all land management and permitting decisions.*

4.1.1.1. Mineral Resources

Currently, exploration and development activities are subject to comprehensive review processes as stipulated in various territorial and federal legislations. Exploration activities are administered by a comprehensive referral process among government agencies in association with First Nations. The YESAA process is intended to ensure all technical, social, and environmental aspects are completely assessed, including consistency with the management direction in the Plan; however, as written, YESAA only applies to more advanced exploration projects.

Individual stakeholder companies and industry representatives have voiced strong concern about a need to utilize best management practices and existing review processes, retain little/no zoning, and guarantee access for exploration and development throughout the entire Peel region. In contrast, many others view mine development as incompatible with wilderness values. The Commission has had to view these positions in the context of its guiding documents and its statement of intent, which ask that the Plan ensure the long-term maintenance of wilderness character.

Some key issues related to mineral exploration/development activities:

- Yukon First Nations and the Yukon public have demonstrated substantial opposition to uranium mining.
- With most of the region's mineral potential in the mountainous terrain, most feasible surface access routes to mines would pass through ecologically, hydrologically, culturally, and touristically important major river valleys.
- The development of a mine can have significant impacts because of surface access issues, despite the often small and localized footprint of mining activities.

POLICY RECOMMENDATIONS	*Mining of uranium should not be permitted in the Peel Watershed Planning Region.*

RESEARCH RECOMMENDATIONS	• *Further research into reclamation of surface disturbance with open-cast mining techniques in areas underlain with permafrost.* • *Mining-specific BMPs should be developed and disseminated.*

4.1.1.2. Oil and Gas Resources

While oil and gas activity in the region is currently low, the region holds moderate oil and significant natural gas potential. Access to pipeline infrastructure is considered to be a major factor limiting natural gas development in this region. New road development and potential long-term cumulative impacts to traditional lifestyles have been raised as issues in Fort McPherson.

Some key issues related to oil and gas exploration/development activities:

- Oil and gas exploration and development activities and associated land uses (transportation, gravel extraction, and water withdrawal) can cause cumulative and adverse change over large landscapes.
- Some oil and gas basins are poorly understood and very inaccessible.
- Oil and gas exploration can proceed with winter road or air access. However, development of these resources requires all-season roads and pipelines.
- Almost all projected oil and gas operations occur on terrain underlain with permafrost. Damage to permafrost may result in dramatic changes to hydrology and slope failures. Addressing this concern would require significant capital investment.

Given anticipated low levels of activity based upon industry analyses (Fekete, 2005) and little overlap with tourism values, big-game outfitting activities and key habitats, current site-specific best management practices and this Plan's strategies and zoning should be adequate to mitigate potential impacts of oil and gas activity.

POLICY RECOMMENDATIONS	*Yukon residents and especially residents of communities around the region should be extensively consulted before considering the development of coal-bed methane deposits to establish whether this is an acceptable land use.*

RESEARCH RECOMMENDATIONS	*Impacts of linear features and infrastructure on wildlife populations (e.g., Porcupine Caribou Herd) should be determined.*

4.1.2. Non-industrial Activities

A key part of sustainable development in the region is the use of renewable resources to maintain existing forms of compatible economic activity, and to generate new employment and business opportunities.

4.1.2.1. Subsistence Harvesting

Subsistence harvesting not only helps maintain First Nations culture and traditions, but offers a measure of economic self-sufficiency.

Some key issues related to maintenance and pursuit of traditional economic activities:

- The traditional economy is vital to maintaining First Nations' culture, community well-being, and ties to the land.
- Subsistence harvesting and traditional economic activities are important means of offsetting the high cost of food in northern communities.
- Construction of new roads and trails may result in increased harvest of wildlife and fish resources.
- Land-use conflicts might arise between traditional economic activities and (i) industrial land uses, (ii) wilderness/cultural tourism, and (iii) Porcupine Caribou Herd conservation.
- There is inadequate information on the natural history and population trends of several subsistence species (e.g., the location of spawning beds of broad whitefish, population size and trend of the Hart River caribou herd).

Desired Future State

- Members of regional First Nations, if they choose, are able to pursue traditional cultural and subsistence activities in an ecologically intact landscape.

POLICY RECOMMENDATIONS	*First Nations should, if they have not already, develop a harvester's registry to track harvest levels and quality within the Region. These data can then be used to detect declining wildlife population levels, and to support wildlife management decisions.*

4.1.2.2. Trapping

Few trapping-related issues were expressed to the Commission.

Some 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 route may also disrupt trapping.
- 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 planning difficult.
- Trappers rely on healthy wildlife populations and, indirectly, on functional ecosystems.
- Trappers have exclusive rights to harvest, but do not have rights to furbearer habitat.

Desired Future State

- Viable fish, game, and furbearer populations that continue to support the needs of trappers.
- The trapping industry continues to provide sustainable self-employment and opportunities for a traditional lifestyle.

RESEARCH RECOMMENDATIONS	*Land-use patterns of trappers, including but not limited to the locations of cabins and trails, should be documented confidentially in order to facilitate future planning.*

4.1.2.3. Big Game Outfitting

Big-game outfitting activities, and their associated concessions, occur in the southern half of the PWPR where wilderness tourism, mineral exploration, and some traditional harvesting also occur.

Some key issues related to big game outfitting and trapping:

- Big-game outfitters in the region offer clients unique opportunity to experience large, healthy, intact ecosystems that are largely roadless. This is their key market advantage. When other land uses diminish the high wilderness quality, clients may opt for other locales that are less impacted. Wilderness experience of sport-hunting clientele will be diminished by:
    - Excessive traffic by tourism and recreational users. Carrying capacity, therefore, is a management concern.
    - Excessive air traffic or inappropriately located exploration camps linked to mineral exploration.
    - Development of roads and other infrastructure.
    - Use of ATVs, jet boats, aircraft and other motorized vehicles.
    - Increases in subsistence and sport hunting.
- Land-use patterns of outfitters in all concessions, including but not limited to the locations of camps and trails, is poorly documented, making outfitting and trapping consideration during project-level planning difficult.
- Big-game outfitters rely on healthy wildlife populations and, indirectly, on functional ecosystems.

Desired Future State

- Viable fish, game, and furbearer populations that continue to support the needs of outfitters and trappers.
- Large areas that can provide a quality wilderness experience.

POLICY RECOMMENDATIONS	• *Existing game-outfitting concessions should not be subdivided.* • *New land-use impacts from outfitting should be minimized.*

RESEARCH RECOMMENDATIONS	*Land-use patterns of outfitters in all concessions, including but not limited to the locations of camps and trails, should be documented confidentially in order to facilitate future planning.*

4.1.2.4. Tourism and Recreation

Tourism and recreation, being closely linked to the perception of wilderness, is possibly the most sensitive sector in the region to other land uses.

Some key issues related to tourism and recreation:

- There is a high level of wilderness tourism and recreation activities and outfitting services within the Ogilvie, Wernecke, and Mackenzie mountains, all requiring appropriate large, intact, and road-less areas.
- The Bonnet Plume drainage is designated a Canadian Heritage River and has an existing management plan.
- There is concern that in the coming years, backcountry tourism and recreation will reach its carrying capacity based on ecological, cultural, and tourism-sector factors (eco-tourism, self-guided recreation, guide-outfitting).
- There is a lack of visual landscape inventory to enable planning and management at a finer scale.
- There are limited data regarding self-guided recreation and economic impacts of tourism by Yukon residents and non-residents to the Peel watershed.
- Wildlife viewing along the Dempster Highway has been promoted as a commercial tourism opportunity, though the Commission was advised intense viewing activity can cause adverse effects on some wildlife, particularly Dall's sheep, which may be displaced from their essential mineral licks, in turn affecting reproductive health;
- Excessive air traffic or poorly located mineral exploration camps can significantly diminish aesthetic enjoyment for wilderness tourism clients.

Desired Future State

- A world-class tourism destination based on the area's globally significant natural features, supported by well-designed tourism/recreation infrastructure.
- A viable local tourism industry.
- Sustainable recreation and tourism activities sensitive to environmental and cultural values.
- Resource planning and management compatible with tourism and recreation needs.
- Opportunities for a wide range of recreation activities.
- Certainty of land base for recreation and tourism activities.

POLICY RECOMMENDATIONS	• *Implement policy for commercial wilderness tourism tenures.* • *Develop a management plan (or plans) for the Hart/Wind/Bonnet Plume/Snake Wilderness Preserve (See section 4.2, LMUs B-E) that:* o *Enables the tracking of all backcountry recreation and tourism visitation levels* o *Provides for regulation of visitation rates as may be required so that recreational activity levels are kept within acceptable use thresholds as deemed appropriate by wilderness tourism industry standards* o *Promotes practice of low-impact/culturally-appropriate camping/trekking practices for wilderness recreational users (e.g., "Into the Yukon Wilderness" (Environment Yukon, 2009).* o *Promotes the integration of monitoring and enforcement with other First Nation community programs (e.g., culture camps, etc).* o *Promotes development of the local tourism industry in the region, as set out in the Silver Trail Regional Tourism Plan* o *Considers services and employment in regional gateway communities like Mayo, Dawson City and Keno City, particularly as they relate to wilderness tourism in the Hart/Wind/Bonnet Plume/Snake River LMUs*

RESEARCH RECOMMENDATIONS	• *Collect recreational activity data (self-guided and guided) in the Peel watershed, with priority given to frequently travelled rivers and/or associated remote access lakes and the Dempster Highway.* • *Track recreational quality indicators (e.g., survey results, "wilderness indicators", etc.) and possibly indicators of ecological impacts of tourism.* • *Analyze all new outdoor recreational and commercial tourism activity data and indicators in order to develop a tourism carrying capacity threshold for each LMU.*

4.1.2.5. Forest Resources

The Plan does not directly address forest-management or forest-harvesting strategies and did not consider best management practices for community forest-harvesting activities because of the limited current and foreseeable harvest levels.

Key issues related to forest management and community harvest:

- Securing an adequate and accessible long-term wood supply for cabins, and camps.
- Trees grow very slowly in the region.
- Extensive commercial harvesting would be unsustainable; moderate harvest levels could impact other land users.

Desired Future State

- Adequate supplies of fuel wood for local communities and residents.
- Adequate supplies of wood for limited commercial or industrial uses.
- Harvest volumes are low enough not to have significant impact on cultural or touristic values.

4.1.3. Access

All human uses of the land require some form of access. Thus, the pattern of land use and economic development in remote northern jurisdictions is intimately linked to transportation networks and infrastructure. Many of the impacts that result from industrial land uses, particularly to wildlife and fish populations and renewable resource activities, are a result of the direct and indirect effects of roads and people's use of them. For these reasons, access is addressed here independently of other land uses, and in the description of the LMUs (section 4.2).

Road, air, and water are important modes of transportation in the region, but transportation and access options are very limited. Surface access, outside the all-season Dempster Highway corridor, typically relies on construction of ice roads or winter roads. Major rivers, particularly the Peel, Wind and Snake, are important transportation corridors for residents and tourism/recreation users in the region.

Key issues related to transportation and access:

- Roads and other linear features often result in direct loss and fragmentation of wildlife habitat, and indirect impacts on wildlife, including avoidance of such features, increased harvest pressures, and/or increased levels of predation.
- Roads and other linear features can eliminate the wilderness character of an area. Mountain topography forces road development into the riparian zones of major rivers, with ecological, cultural, and social impacts.

All-season Access

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

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

- Where all-season roads and access routes become established, they are likely to persist for long periods of time, making full decommissioning and reclamation difficult, if not virtually impossible, in any foreseeable future.
- Airstrips create new access nodes, thus expanding the zone of human use and impact.

Desired Future State

- Access infrastructure that has a minimum of disturbance to other landusers and values.
- Access infrastructure that is completely restored following use such that disturbed areas are ecologically and aesthetically indistinguishable to their previous state.

4.1.3.1. Dempster Highway

The Dempster Highway provides an important corridor for many activities, including transportation, tourism, subsistence harvesting, and communications. The highway is recognized as critical infrastructure for future regional economic development. Uninterrupted operation and maintenance of the Dempster Highway is therefore a regional priority. A number of overlapping land uses and interests occur along the Dempster Highway.

Key issues related to the Dempster Highway:

- Significant gravel withdrawals for road maintenance may cause direct disturbance to fish and wildlife habitat.
- Numerous archaeological sites and culturally important areas exist within 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.
- The only "rubber-tire" or front-country tourism in the Region occurs along the Dempster Highway. Viewscapes and hiking opportunities from the highway are therefore valued.
- Wildlife viewing and highway maintenance activities have or are impacting use of key wildlife habitats (e.g., mineral licks, nesting sites).
- A Yukon Government and northern Yukon First Nations (VGFN, TH, and NND) Dempster Highway partnership agreement is in place (Dempster Highway Development Agreement, 2006).
- The highway is a multiple-use corridor. A development corridor must be maintained to support current and future land-use activity without undermining the heritage, social and ecological resource values in the vicinity of the highway.
- The highway is promoted as both a scenic tourism route and an industrial/ transportation infrastructure corridor important to both the Yukon and Northwest Territories. It is also used for subsistence activities.
- A potential future pipeline and related infrastructure and telecommunications would likely parallel the highway.
- There is potential to develop infrastructure for tourism, such as lodges, along the Dempster Highway.

POLICY RECOMMENDATIONS	*A sub-regional plan for the Dempster Highway corridor (e.g., LMU C) should be developed with co-operation of the Yukon Government, the Tr'ondëk Hwëch'in and other interested First Nations. See LMU C in section 4.2 for more details.*

RESEARCH RECOMMENDATIONS	• *Identify areas along the Dempster Highway of most importance to the tourism industry.* • *Safe operating distances and timing windows from Peregrine nesting sites should be determined and communicated to relevant highway crews.*

4.1.3.2. Wind River Trail

The Wind River Trail links Elsa and Keno City to the Wind River Valley and beyond. It has been used sporadically over the last fifty years as a winter road for transportation of supplies – interest in this use continues. The trail is used by local snowmobilers.

Key issues related to the Wind River Trail:

- The Wind River Trail runs through wet terrain and makes several river crossings, making an upgrade to an all-season road impractical and not ecologically sound without significant re-routing and/or engineering.
- Recent proposals to use the Wind River Trail for winter hauling of supplies to support exploration were met with great public controversy.
- The Yukon Government and the Na-Cho Nyak Dun recognize the Wind River Trail along with a 60 metre right-of-way (Na-Cho Nyak Dun Final Agreement, 1992).
- Each winter, local snowmobilers use the Wind River Trail for hunting and recreation.
- The Wind River Trail runs along the riparian zone of a highly valued wilderness river and region of First Nations importance.

POLICY RECOMMENDATIONS	*The Wind River Trail should no longer be recognized as an existing route so as to not preempt evaluation of adverse socio-economic effects in future YESAA reviews and give fair consideration of alternative modes of access. See LMU G in section 4.2 for more details.*

4.1.3.3. New Surface Access

New surface access includes winter roads and trails, all-season roads, railways, and other transportation infrastructure on the surface. Contemporary approaches require new surface access for the development of all but the highest value resources. Such project-specific road-building is typically paid by the developer, though upgrades to existing infrastructure are usually funded by the Yukon Government. Road-development is expensive in areas like the planning region that are mountainous or underlain with permafrost. Because of the great capital investment required, any new all-season roads built in the planning region would only be required to support major, capital-intensive development projects. Once an access route is developed, however, access to less capitalized projects becomes increasingly feasible. New surface access is also addressed for each LMU in section 4.2.

Key issues related to new surface access:

- The construction and use of linear features may result in direct loss and fragmentation of wildlife habitat, and indirect impacts on wildlife, including avoidance of such features, increased harvest pressures, and/or increased levels of predation.

- Construction and use of roads may not be socially acceptable because of impacts to wilderness experience, and the possible large amount of subsidies required to construct and/or maintain public resource roads.
- Roads may impact First Nations' traditional cultural-use activities and sites.
- New roads will likely result in a decrease in high-value wilderness tourism, including big game outfitting, according to industry representatives and government.
- Where roads and access routes cross rivers, improperly constructed stream crossings may impact fish directly through habitat disturbance or blockage of fish passage/migration, or indirectly through increasing harvesting pressures.
- Significant water and gravel withdrawals for road building or maintenance may cause direct disturbance to fish and wildlife habitat.
- Suitable soil conditions, topography, and accessibility to aggregate (gravel) are serious challenges to road construction in the region. In much of the region, aggregate is scarce and poorly mapped. The region is within a zone of continuous permafrost zone; much of this permafrost likely has high ice content and is prone to slumping.
- Road construction in mountainous terrain typically has disproportionately high ecological and cultural impacts because roads, quality habitats and cultural values tend to concentrate in valley bottoms.
- Decommissioning or restoring roads will not eliminate all negative impacts given the sensitivity of the soils, the harsh growing conditions, and legacy use, but may help reduce them.

POLICY RECOMMENDATIONS	• *No new surface access should be permitted to support exploration activities.*
	• *Where new all-season or winter access roads and/or trails within Integrated Management Areas are required to cross major rivers and other riparian corridors, crossings should be designed, constructed, and used in a manner that minimizes direct and indirect impacts to fish, wildlife, and their habitats. They should also be designed for ease of removal.*
	• *All new all-season access should be restored using state-of-the-art techniques once activity has halted. A road restoration bond, levied on the proponent, is strongly recommended to ensure complete restoration.*
	• *Detailed ground temperature and engineering studies should be done in advance of the development of any new roads (where permitted) to determine ice content, distribution, ground temperature etc. Relevant engineering methods should then be applied in order to minimize impacts on the ground thermal regime.*
	• *Hunting along all new access routes should be prevented through a combination of:*
	  ○ *Restriction of public access (e.g., gate)*
	  ○ *Agreements with proponents that employees will not hunt at any time while on, or travelling to or from a work assignment, including during off-time at a work camp.*
	  ○ *Passage of appropriate legislation by First Nation governments to ensure sustainable wildlife harvest in consultation with the Fish and Wildlife Management Board, the PCMB and all affected RRC's*

RESEARCH RECOMMENDATIONS	• *All-season road restoration techniques in other similar jurisdictions should be examined in advance of new road construction.* • *The suitability of large air lift technology now being developed and tested in the marketplace to enable remote access to industrial activities (e.g., Boeing's SkyHook Technology) should be examined in advance of new road construction.*

4.1.3.4. Off-Road Vehicle (ORV) Access

Several modes of off-road access occur within the region, including snowmobiling, riding ATVs (e.g., "quads" or Argos), trail bikes and motor boats. ORV access is becoming more common, leading to more impacts. Snowmobiles are used most winters as part of a cultural excursion between Ft McPherson and Mayo. ORVs are often used by First Nation citizens for cultural activities, and by sport hunters, prospectors, and some big-game outfitters.

Key issues related to off-road vehicle access:

- ORV activity can have serious detrimental impacts on wildlife from sensory or habitat disturbance or facilitated hunting, and on other resource users due to noise, soil damage, and other aesthetic impacts.
- Off-road vehicle activity is difficult to control.
- Snowmobiles have less impact on habitat, but possibly greater disturbance to wildlife, than wheeled ORVs.
- The Wind River Trail, Hart River Trail and other trails are used for ORV access.

POLICY RECOMMENDATIONS	• *Commercial use of off-road motor vehicles over wide areas (e.g., beyond camps or work sites) should not be allowed.* • *Localized restrictions to ORV use, where deemed necessary, should apply to all resource users. These restrictions should therefore be reflected in legislations of both Yukon Government and affected First Nation governments that are Party to the Plan.*

4.1.3.5. Air Access

Air access is the primary mode of access for resource exploration and wilderness tourists/recreationists. Air access often results in less surface disturbance than other modes of transportation because it does not require infrastructure between point-of-departure and point-of-arrival.

Key issues related to air access:

- Concentrations of activity around common aircraft landing spots (e.g., lakes, airstrips) can lead to changes in habitat use or wilderness perception.
- Frequent air traffic can lead to changes in habitat use by wildlife or the perception of wilderness by people.
- Fuel caches can result in soil or water contamination and can have negative aesthetic impacts on wilderness tourism use.
- Clearing of airstrips may not be socially acceptable because of impacts to wildlife or the perception of wilderness.

POLICY RECOMMENDATIONS	• *New airstrips should not be permitted.* • *An air access management plan may be needed to avoid the "packing up" of parties, including groups of tourists/ recreationalists and resource exploration programs.*

RESEARCH RECOMMENDATIONS	*The number of parties arriving at common landing locations should be counted as part of commercial tourism and outdoor recreation use tracking (see tourism recommendations above), and to inform future revisions of the Plan.*

4.1.3.6. Water Access

River travel is the primary mode of transportation for wilderness tourists/recreationists and for the Tetłit Gwich'in in summer. Barges have been used to transport supplies up the lower Peel River.

Key issues related to water access:

- Jet-boats are known to cause sensory or habitat disturbance in other jurisdictions.
- Fuel spillage can result in water contamination.

RESEARCH RECOMMENDATIONS	*On a periodic basis and where necessary, assess the ecological impacts of motorized boat use on lakes and rivers in order to inform future Plan revisions.*

4.1.3.7. New or Experimental ORV Technologies

Off-road vehicle (ORV) technology continues to evolve. Some may offer access options that avoid detrimental effects of current options.

Key issues related to new or experimental ORV technologies:

- New or experimental ORV (*e.g.*, hovercrafts) may develop or be used in unforeseen ways that may cause serious management concerns.

RESEARCH RECOMMENDATIONS	*Monitor off-road vehicle (ORV) developments to anticipate management concerns.*

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4.2.1. Management of Land Use by LMU

As described in section 3.2, the Peel Watershed Planning Region is subdivided into 21 Landscape Management Units (see Map 2, Appendix 1). Likewise, this subsection is broken into 21 subsections that each deal with individual Land Management Units (LMUs). In each subsection, the recommended designation, regulatory tool, alternative regulatory tools, and objectives are given. Checkboxes are provided for a number of types of land-uses. Checkmarks (✓) indicate whether each land-use is *allowable* or *prohibited* (see box at right) in each LMU. Operational *conditions* on the types of land-uses that are allowed are also provided. A discussion of LMU-specific values and issues provides rationale for the management directions (*e.g.*, designation, regulatory tool, allowable land-uses, and conditions) of each LMU. Links to the Umbrella Final Agreement and other legislation are provided. Finally, each subsection provides a map, photo(s)[1], the size, and descriptions of values and land status of its respective LMU.

Checkboxes: Allowable or Prohibited?

There are checkboxes for five general types of land-uses that require permits and/or some sort of land-tenure:

- Winter or all-season road (*e.g.,* new surface access routes)
- Existing non-industrial land-use (*e.g.,* lease for an existing big game outfitter's base camp)
- New non-industrial land-use (*e.g.,* lease for a new lodge for tourists)
- Existing industrial land-use and associated activities (*e.g.,* existing claims, and associated exploration and development)
- New industrial land-use and associated activities (*e.g.,* the establishment of new oil & gas exploration permit)

If the following checkboxes have a checkmark (✓):

- Allowable: this plan allows this land use, subject to GMDs, LMU-specific *conditions* and the laws of general application.
- Prohibited: this plan does not allow this land-use. A plan amendment may alter this prohibition.
- Not Applicable: there are no existing relevant activities in this LMU.

The recommendations described in section 4.1 and sections 4.3 apply generally to the entire planning region, and therefore are applicable to all or most LMUs listed in this subsection. Restrictions to land-uses described for each LMU apply over and above these general directions.

[1] To save space, 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.

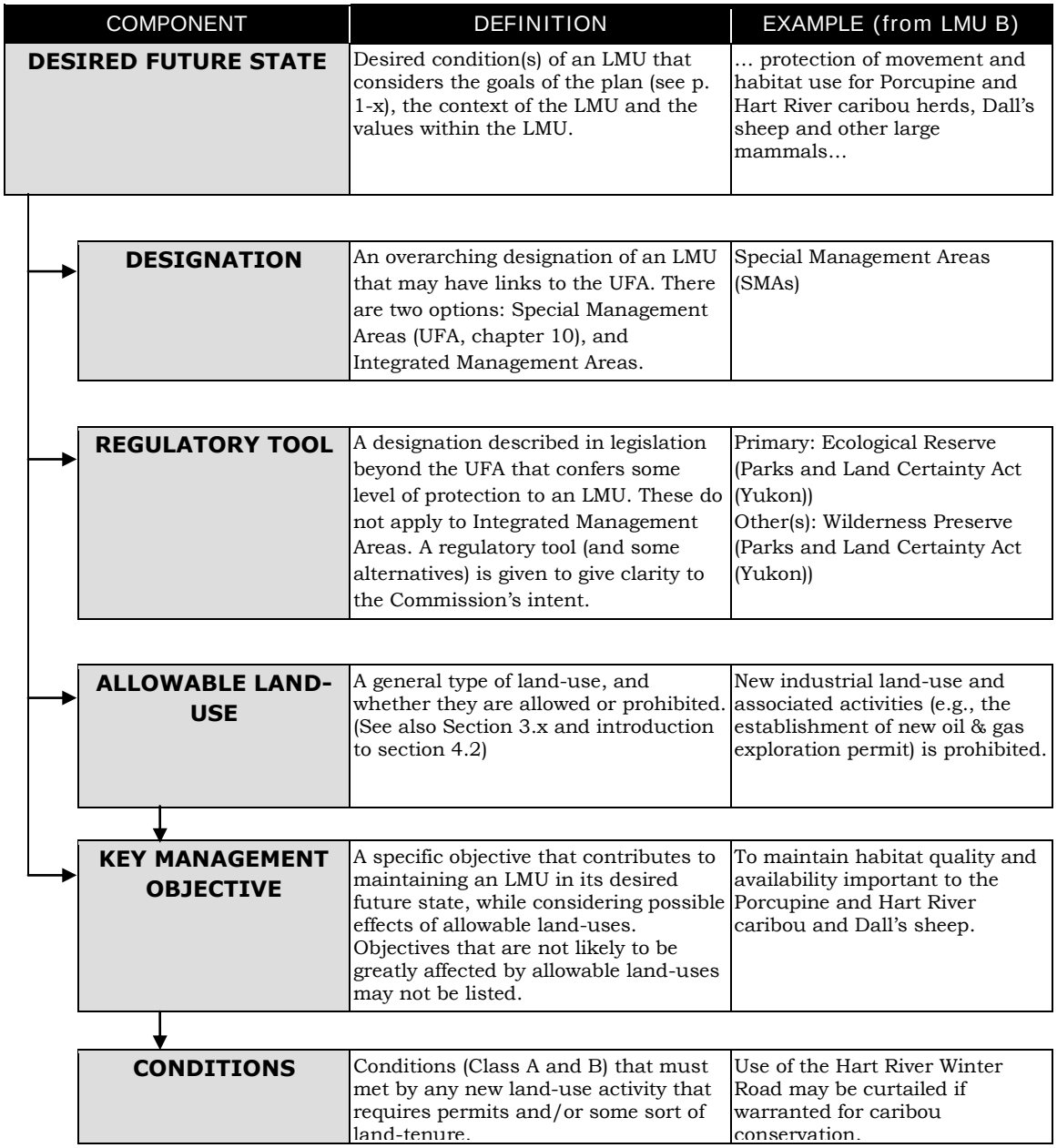

Figure 4.1: The relationship among management directions in section 4.2

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LMU: A Ogilvie River Headwaters

General Designation: SMA **Emphasis:** Fish and Wildlife

Primary Regulatory Tool: Habitat Protection Area

Other Regulatory Tool(s): Wilderness Preserve, Map Notation, Historic Site (YG)

Land Status: non-settlement land, TH Traditional Territory, TH settlement land (R-40B)

Area (km ^{2}): 1510 **% of Region:** 2.2

Desired Future State:

- Healthy populations of culturally important fish and wildlife.
- Protection of water quality and flow for Ogilvie watershed headwater springs.
- Culturally important sites left intact.
- Community cultural activities practised without significant disturbance.

What land-use can happen in this LMU?

	Allowable	Prohibited	Not Applicable
Winter or All-season road access:	☐	☑	☐
Existing non-industrial surface activities:	☑	☐	☐
New non-industrial surface activities:	☑	☐	☐
Existing industrial surface or sub-surface activities:	☐	☐	☑
New industrial surface or sub-surface activities:	☐	☑	☐

Rationale for Designation

During the consultation process with the parties, the Commission heard from TH that their citizens wish to see the Upper Ogilvie headwaters area designated as an SMA with particular emphasis given to its importance as a "Wildlife Sanctuary" for subsistence harvest. Other SMA interests include "Watershed Protection Areas" due to the presence of culturally-important springs, and "Designated Heritage Sites" related to a caribou-fence (10.2.0). The TH consider traditional harvesting for fish and wildlife as a priority for land use management. This LMU is considered as a "traditional food harvest reserve" to meet long-term future needs of the people, and is historically identified as a location "where people went in times of hunger".

Government domain experts (YG- Env and PCMB) also identify the central core of this unit is an important travel/migration route for Porcupine Caribou. Headwaters for the Ogilvie River form part of the Peel River drainage, and therefore water quality protection, including various known natural springs were identified by TH as requiring identification and protection. The Peel River Watershed Advisory Committee also concluded that the Blackstone Uplands (the flat terrain of this unit is part of the Blackstone Uplands ecodistrict) be a candidate for protection. Guide outfitting is the principal industry operating in this unit.

A part of this area includes the Kandik Basin is considered to hold oil and gas reserves however

their economic potential is considered low. Development of any fields in this unit is not likely in the foreseeable future due to the basin's remote location. The PCMB also support special management of the caribou migration corridor in this unit. Given TH community objectives for cultural use and wildlife management, the area has been identified by the Commission as a Special Management area with emphasis on fish and wildlife management through preferred regulatory designation as an Ecological Reserve.

Key Management Objectives

	UFA LINK
1. To maintain existing water quality and flow regime throughout the headwaters of the Ogilivie watershed	14.8.0-14.8.3, 14.11.0, 14.12.0 GYTA 10.3.0-10.3.8
2. To identify and protect culturally-important sites and areas that are of high subsistence and heritage value to First Nations.	13.1.1.8, 13.5.3.2, 13.5.3.7, 13.8.0-13.9.0
3. To manage Peregrine Falcon nesting habitat to ensure reproductive success	16.1.1.1, 16.6.9, 16.6.10.1, 16.7.12.2
4. To minimize disturbance from land-use activities on Porcupine caribou movements and habitats	16.6.9, 16.6.10.1, 16.7.12.2, 16.7.1, 16.7.11, GTBA12.3.1, 12.4.1, 12.6.1-12.6.2

Management Conditions (Class A)

Resource of Interest	
Caribou Habitat	Manage levels and types of land-use in advance of significant declines in habitat quality or alteration in caribou behaviour.
Enhanced Consultation	Consult with affected residents and affected First Nations to identify issues and areas of concern prior to granting land tenture that would cause any disturbance to land, cultural sites, or wildlife.
	Identify appropriate protocol for consultation with affected residents and First Nations

Water Quality and Flow	New infrastructure should be constructed so that damage to the shoreline, escarpments, the river and lake beds, or other natural features will not lead to significant impacts on water quality or fish populations.
	No impact to natural springs in the area.

Management Conditions (Class B)

Resource of Interest	
Caribou Habitat	No significant change to caribou habitat as a result of a land use activity or human disturbance.
Caribou Movement	No effect on caribou movement and migration patterns as a result of a land use activity or human disturbance.
Heritage Resources	Need an archaeological survey for caribou fences (see general location on LMU map)
Peregrine	New infrastructure should be constructed more than 250m from raptor nest sites.
Wildlife Movement	Avoid land-use activity, disturbance and development in key wildlife passes.

Policy Recommendations

No specific policy recommendations are required at this time. Refer to Section 4.1 and 4.3 and Appendix B. for recommendations applicable to the entire planning region.

Monitoring Recommendations

Periodically monitor the effects of human use of caribou habitat.

Monitor water quality and fish populations for adverse significant effects due of infrastructure on shorelines, escarpments, the river and lake beds, or other natural features.

Research Recommendations

Identify key wildlife passes.

Best Management Practices

No specific Best Management Practices are required at this time. Refer to Section 4.1 and 4.3 and Appendix B. for recommendations applicable to the entire planning region.

Specific Management Considerations

No specific Best Management Practices are required at this time. Refer to Section 4.1 and 4.3 and Appendix B. for recommendations applicable to the entire planning region.

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LMU A: Ogilvie River Headwaters

General Designation: SMA

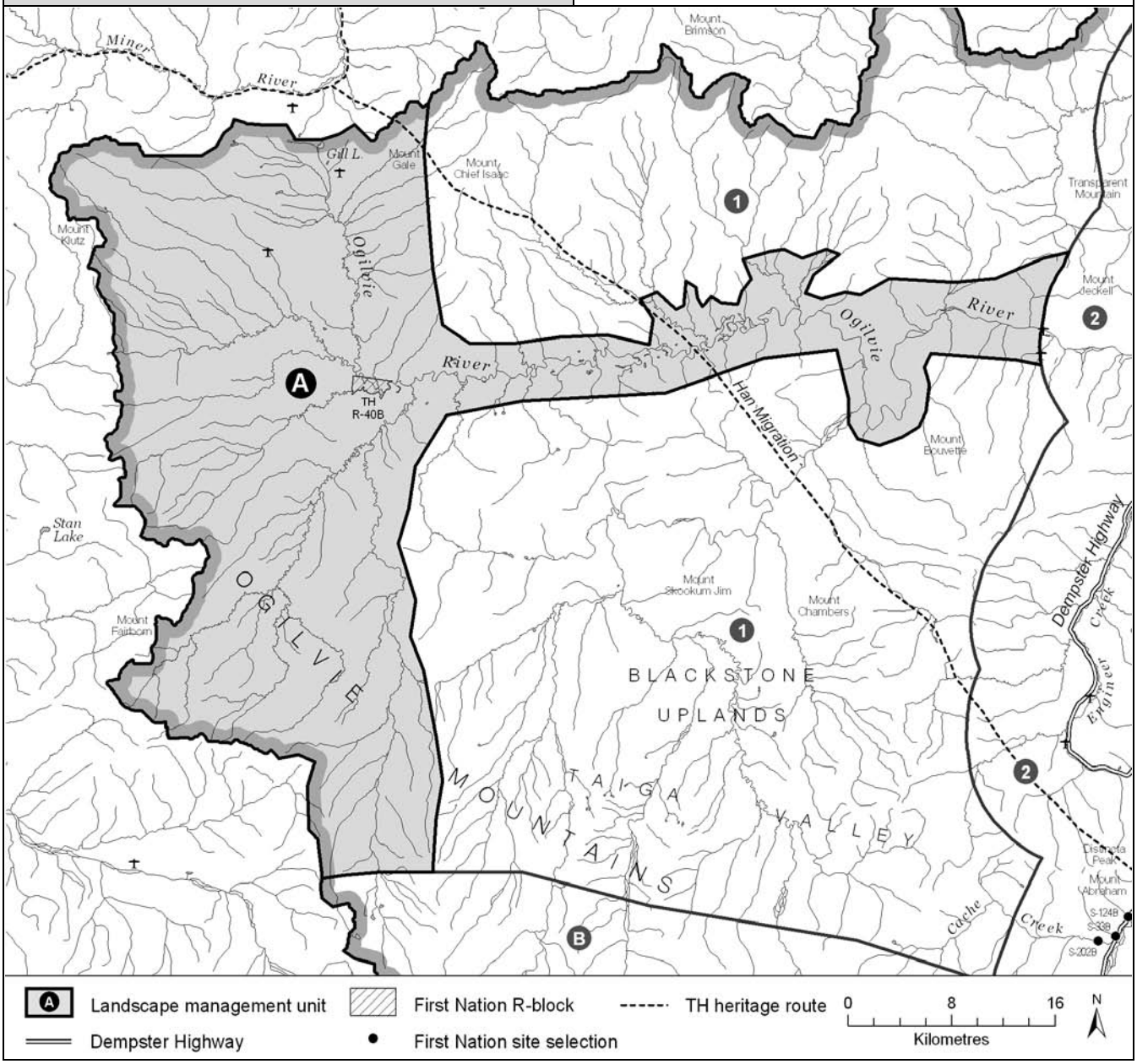
Emphasis: Fish and Wildlife

Setting: Extensive tundra-like plains surrounded by mountains and downstream riparian zone

Ecoregion(s): North Ogilvie Mountains

Bioclimatic Zones: Taiga Wooded, Taiga Shrub and Alpine

Large flat and shrubby expanses ringed by rounded mountains characterize LMU A. (YG)



ECOLOGICAL RESOURCES	**LMU: A**
Caribou:	High value winter habitat of the Porcupine herd on flat plains. Extensive concentrated and general use areas for the Porcupine herd, including along Ogilvie River.
Moose:	Narrow bands of high habitat suitability along smaller tributaries and broad swathes of high habitat suitability and use along Ogilvie River; generally low late winter habitat suitability elsewhere.
Marten:	Variable winter habitat quality, with significant pockets of moderate-high value habitat in Major River Corridors.
Sheep:	Sheep habitat only on surrounding mountains.
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 elev.; high grizzly bear habitat suitability – riparian areas are key in the mountains.
Peregrine:	High potential for peregrine falcon foraging and nesting along Ogilvie River
Birds (General):	High value waterbird habitat in riparian areas; low to moderate breeding birds 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 Ogilvie corridor.
Permafrost:	Extensive high water content permafrost expected for flatter pediments/plateaus.
Special Features:	Several mineral licks; possible wildlife passes.
HERITAGE, CULTURAL AND SCIENTIFIC RESOURCES	
Heritage Resources:	Cabins (THFN). Culturally important places for TGFN, THFN, VGFN. N-S THFN travel route.
Palaeontological 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 / Access	Some old unclasified trails (many are seismic lines); A conceptual access route has been identified in this unit along Oglivie River and connecting to Miner River and Fifteenmile River; a few airstrips of unknown status.
Traditional Economy:	TH traditional harvesting and wildlife areas.
Recreation / Tourism:	High value hiking in headwaters of Ogilvie River, but poor access.
Forestry:	Little potential for forestry.
Big Game Outfitters / 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 ; low-moderate mineral potential.

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LMU: B Blackstone River Uplands

General Designation: SMA **Emphasis:** Protection

Primary Regulatory Tool: Ecological Reserve

Other Regulatory Tool(s): Wilderness Preserve

Land Status: non-settlement land; TH Traditional Terrtitory and NND Traditional Territory, TH settlement land (S-31B)

Area (km ^{2}): 5430 **% of Region:** 8.1

Desired Future State:

- Priority of land-use management is on protection of movement and habitat use for Porcupine and Hart River caribou herds, Dall's sheep and other large mammals.
- Wilderness tourism opportunities are encouraged in a manner consistent with wildlife management objectives.
- Cultural activities of relevant First Nations are practised without significant disturbance from other land-use activities.

What land-use can happen in this LMU?

	Allowable	Prohibited	Not Applicable
Winter or All-season road access:	☐	☑	☐
Existing non-industrial surface activities:	☑	☐	☐
New non-industrial surface activities:	☐	☑	☐
Existing industrial surface or sub-surface activities:	☑	☐	☐
New industrial surface or sub-surface activities:	☐	☑	☐

Rationale for Designation

This area which lies north (Kit Range) and east (Upper Hart) of Tombstone Park has been identified as having high value for both the Porcupine and Hart Caribou Herds. The federal *Species at Risk Act* has designated the Northern Mountain Caribou as of "*Special Concern*". Caribou are in serious decline throughout Canada, and this area within the herd's winter range and northern key rutting habitats represents an opportunity to protect the Hart River caribou herd.

The West Hart River area also contains a migratory route for the Hart River caribou herd to its ranges further south. By including key wintering habitat just north of Tombstone Park and west of the Dempster Highway in this SMA, connectivity for these key habitats will be addressed (See Map 12 of the Conservation Assessment).

The LMU contains critical Dall Sheep habitat. The Ogilvie (and South Richardson) Mountains are also areas of the highest potential for rare and endemic plants due to their glacial histories. The area supports important community cultural activities of the TH, as well as outdoor

recreation, hunting/outfitting, and tourism in the adjacent Tombstone Territorial Park and Dempster Highway Corridor.

The Ogilvie Mountains contain key winter habitat for Porcupine Caribou and areas of high importance for rare and endemic plant species. Alpine areas of the Ogilvie contain key habitats for many species, including Grizzly Bears, and birds of conservation concern. There are several known mineral licks.

Zinc showings have been found in this LMU. While there may be potential for site-level mitigation for mine development, TH consultations consider industrial use as incompatible with their values. Further, all-season access is thought to have immitigable environmental risks in this headwater area of the Blackstone and Ogilvie Rivers. TH were especially concerned about likely harm to water quality, caribou migrations/wintering grounds, and community cultural use. Other likely secondary impacts from increased access include excessive hunting pressures on sheep and caribou, and off-road vehicle impacts on sensitive terrain and rare plant communities.

For these reasons, the PWPC has recommended the area be recognized as an SMA with Fish and Wildlife emphasis, with regulatory designation as an Ecological Reserve to address key fish and wildlife resource values/interests.

Key Management Objectives

	UFA LINK
1. No impact to winter ranges and habitat for Hart Caribou Herd	12.17.1-12.17.5, 16.1.1.1, 16.6.9, 16.6.10.1, 16.7.12.2
2. To maintain habitat quality and availability important to the Porcupine and Hart River caribou and Dall's sheep.	16.6.9, 16.6.10.1, 16.7.12.2, 16.7.1, 16.7.11
3. To maintain areas important to the Tr'ondek Hwech'in for cultural activities.	13.1.1.8, 13.5.3.2, 13.5.3.7, 13.8.0-13.9.0
4. To maintain the wilderness tourism experience without infrastructural development.	12.17.1-12.17.5
5. Off Road Use Vehicles (ORV) use must be managed in a manner consistent with the capability of the land to sustain the use, with due consideration for the impact of OHV on wildlife, and other land users.	12.17.1-12.17.5, 16.1.1.1, 16.6.9,

Management Conditions (Class A)

Resource of Interest	
Caribou Habitat	Use of the Hart River Winter Road may be curtailed if warranted for caribou conservation.
	Manage levels and types of land-use in advance of significant declines in habitat quality or alteration in caribou behaviour.
Tourism	Manage levels and types of use in advance of significant declines in touristic values.

Management Conditions (Class B)

Resource of Interest	
NA	No management conditions are required at this time.

Policy Recommendations

Use of the Hart River Winter Road by all-terrain vehicles should not be encouraged by road maintenance unless required to unsure users stay on the surface of the road.

Monitoring Recommendations

Where possible, monitor the effects of tourism and outfitting use on touristic values.

Periodically monitor the effects of human use of caribou habitat.

Research Recommendations

Investigate need to regulate snowmobile access into this LMU when habitat protection is required (i.e. seasonal timing windows) by way of the Dempster Highway Development Area regulations (or other acceptable means).

Investigate need to regulate ATV access into this LMU through the use and approval of egress points by way of the Dempster Highway Development Area regulations (or other acceptable means).

Best Management Practices

No specific Best Management Practices are required at this time. Refer to Section 4.1 and 4.3 and Appendix B. for recommendations applicable to the entire planning region.

Specific Management Considerations

The Commission recommends that the Parties alter the Peel Watershed planning boundary along this LMU and Tombstone Park so that the Peel boundary shares a common boundary with the Tombstone Park. This will affect TH R-Block 19-B.

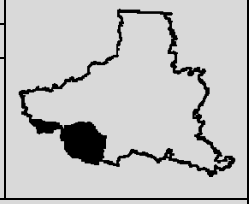
The upcoming Northern Mountain Caribou Action Plan may be relevant to activities in this unit.

LMU B: Blackstone River Uplands

General Designation: SMA

Emphasis: Protection

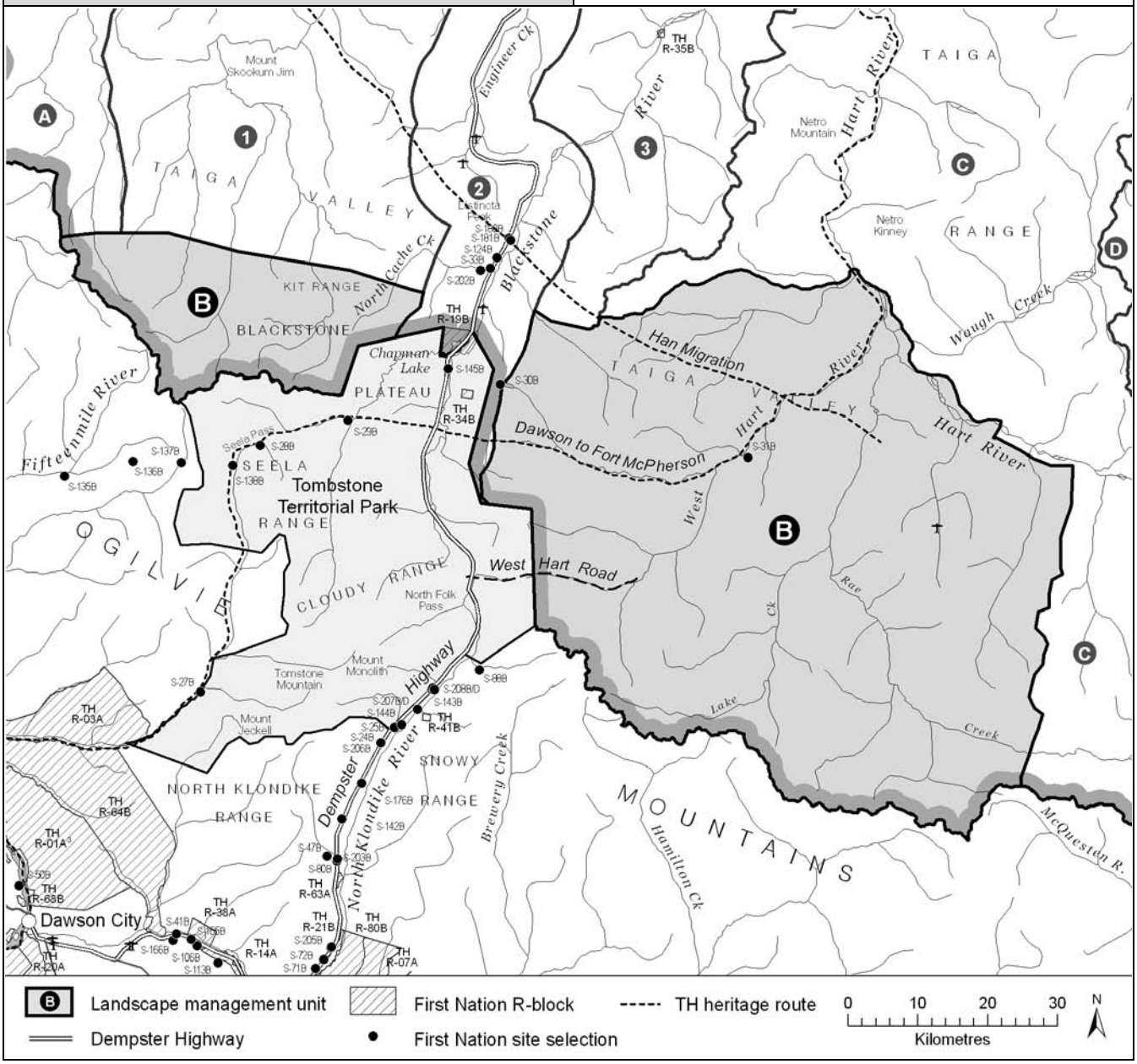
Setting: Mountains and a large pocket of mostly flat north and east of Tombstone Territorial Park



Ecoregion(s): Mackenzie Mountains and North Ogilvie Mountains

Bioclimatic Zones: Taiga Wooded, Taiga Shrub and Alpine

Gentle mountains (r) separated by broad valleys or flatter, rolling terrain (l) with open forests characterize LMU B. (YG)



ECOLOGICAL RESOURCES	**LMU: B**
Caribou:	Unusual convergence of key/concentrated winter use areas for both the Porcupine and Hart river herds near the Hart/West Hart confluence and west of North Cache Creek.
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:	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. Scattered licks and movement corridor(s).
Fish:	Fish presence likely in lower gradient tributaries.
Grizzly Bear:	Mostly moderate habitat suitability, high in riparian areas.
Peregrine:	No known or predicted habitat.
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. 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.
Permafrost:	Extensive high water content permafrost expected for flatter pediments/plateaus near Hart/West Hart confluence.
Special Features:	Several mineral licks; several possible wildlife passes.
HERITAGE, CULTURAL AND SCIENTIFIC RESOURCES	
Heritage Resources:	Extensive travel routes connecting Blackstone and Hart River via West Hart River and Lomond Creek. Cabin and archeological site near Lomond Lake. Two TH heritage routes.
Palaeontological Resources:	Sedimentary rocks in this area have high potential to yield Paleozoic fossils.
ECONOMIC DEVELOPMENT	
Transportation / Access	Unit is bisected by the Dempster Highway and LMU 2. West Hart Trail is currently used for recreational access to the West Hart River; conceptual access routes have been identified in this unit between Waugh Creek to West Hart/Dempster Hwy and between Dawson and the Miner River.One old airstrip.
Traditional Economy:	TH "First Hunt" is often within this LMU. TH and NND hunting and fishing.
Recreation / Tourism:	Very high values for wilderness paddling along West Hart River. Some wilderness hiking in the headwaters of West Hart. Road access to West Hart.
Forestry:	Little potential for forestry.
Big Game Outfitters / Trapping:	Blackstone Outfitting Ltd., Midnight Sun Outfitting Ltd, Reynolds Outfitting Ltd. and Pete Jensen Outfitting Ltd.; high value hunting.
Oil and Gas Resources:	No potential.
Mineral Resources:	Several quartz claims; low copper/gold/uranium potential; high zinc-lead potential west of the Dempster Highway; one deposit.

LMU: C Hart River

General Designation: SMA **Emphasis:** Fish and Wildlife

Primary Regulatory Tool: Wilderness Preserve

Other Regulatory Tool(s):

Land Status: non-settlement land; TH Traditional Territory, NND Traditional Territory, VG Traditional Territory, TG Primary and Secondary Use Area, NND settlement land (S-135B, S-149B)

Area (km ^{2}): 8305 **% of Region:** 12.3

Desired Future State:

- Movement, populations and habitats for Porcupine and Hart River caribou herds, Dall's sheep and other large mammals are maintained.
- Wilderness tourism opportunities occur without adverse environmental impact to sensitive vegetation, terrain and wildlife values.
- First Nation cultural land-use practices are not adversely impacted by commercial land-use activities.

What land-use can happen in this LMU?

	Allowable	Prohibited	Not Applicable
Winter or All-season road access:	☐	☑	☐
Existing non-industrial surface activities:	☑	☐	☐
New non-industrial surface activities:	☑	☐	☐
Existing industrial surface or sub-surface activities:	☑	☐	☐
New industrial surface or sub-surface activities:	☐	☑	☐

Rationale for Designation

Combined with lands in LMU B, the Hart River LMU forms an intact watershed of one of the Peel's major tributary. The area includes part of the Mackenzie Mountains Ecoregion, which currently has less than 2% protection overall. It provides habitat connectivity between Tombstone Territorial Park, LMU B, the Richardson Mountains and the lower Peel River allows largely unrestricted movement of plants and animals. The area has generally low mineral potential and no oil and gas potential. Consequently it has few mineral claims.

The Hart River watershed has exceptional ecological and wilderness values. Like the western portions of the Wind River watershed including the Little Wind River, it has relatively few mineral claims. Alpine habitats are critical landscapes for species including collared pika (especially talus slopes), grizzly bear, wolverine and certain rare butterflies. Concentrations of high quality habitats for rare and endemic plants characterize the Hart River, and portions of the neighboring Wind River watersheds.

The Hart River is an unusual Yukon landscape as it was ice-free during the last glaciation.

Therefore it contains many unique Beringian species. Several fish species are genetically isolated as Aberdeen Canyon is not passable to fish from downstream. Peregrine Falcons nest on the cliffs in the lower portion of the river corridor and hunt in nearby areas such as the Peel River Corridor, Hungry Lake, and Chappie Lake.

The upper reaches of the LMU is an unique overlap of core habitats of a barrenground caribou herd (Porcupine herd) and a northern mountain caribou herd (Hart River herd). The Porcupine herd has cultural importance to all affected First Nations and is declining, while northern mountain caribou, in general, have been listed by COSEWIC as "Special Concern".

The Hart River LMU has extensive high value hiking, and provides long distance wilderness river tourism routes. Renewable resource use activities are concentrated along ecologically-sensitive valley bottoms, and would likely be adversely impacted by access development. This watershed, in fact, has been rated as having the highest "wilderness quality" (Green et al 2008) of all similar-sized watersheds in the region - largely because it is unfragmented.

This unit also includes traditional travel routes that linked the TH and the TG. Travel routes connect Engineer Creek, Blackstone River, West Hart River, Little Wind River, Hungry Lakes, and Wind River. Big game outfitting concessions have established camp facilities and trails throughout the area.

Because of the high concentration of ecosystem and wilderness values in this LMU, First Nations (TH and NND), guide/outfitters, conservation groups, and wilderness tourism all support a general management designation emphasizing ecosystem protection.

The PWPC recommends this LMU as a Special Management Area with Fish and Wildlife Emphasis through a preferred designation as a Wilderness Preserve. Through this designation, the Commission intends to minimize surface disturbances or activities that could cause the Porcupine caribou and Hart River caribou herds to decline.

Key Management Objectives

	UFA LINK
1. To maintain habitat quality and availability important to the Porcupine and Hart River caribou and Dall's sheep.	16.6.9, 16.6.10.1, 16.7.12.2, 16.7.1, 16.7.11
2. To maintain the wilderness tourism experience of the area with minimal surface disturbance or permanent foot-print.	12.17.1-12.17.5

Management Conditions (Class A)

Resource of Interest	
Caribou Habitat	Manage levels and types of land-use in advance of significant declines in habitat quality or alteration in caribou behaviour.

Management Conditions (Class B)

Resource of Interest

Caribou Habitat	Design and locate exploration facilities and activities to minimize impacts on sensitive ecological features such as mineral licks and defined game trails.
Heritage Resources	Design and locate exploration facilities and activities to minimize impacts on cultural/heritage sites, recreation features, aesthetics. All new infrastructure will not be visible from the Hart River.
Sheep	Design and locate exploration facilities and activities to minimize impacts on sensitive ecological features such as mineral licks and defined game trails.
Tourism	Commercial infrastructure development will be temporary and/or mobile.

Policy Recommendations

No specific policy recommendations are required at this time. Refer to Section 4.1 and 4.3 and Appendix B. for recommendations applicable to the planning region.

Monitoring Recommendations

Periodically monitor the effects of human use of caribou habitat.

Where possible, monitor the effects of human use on touristic values.

Monitor all infrastructure for compliance with environmental standards and permits.

Research Recommendations

No specific research recommendations are required at this time. Refer to Section 4.1 and 4.3 and Appendix B. for recommendations applicable to the planning region.

Best Management Practices

Inform local pilots of known sheep areas, sensitive timing windows, and provide information on flying practices that minimize disturbance of sheep. Refer to the document “Flying in Sheep Country” (MERG, 2002).

Inform local pilots of known caribou key areas, sensitive timing windows, and provide information on flying practices that minimize disturbance of caribou. Refer to the document “Flying in Caribou Country” (MPERG, 2008).

Specific Management Considerations

The upcoming Northern Mountain Caribou Action Plan may be relevant to management of land-use activities in this unit.

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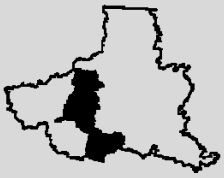
LMU C: Hart River

General Designation: SMA

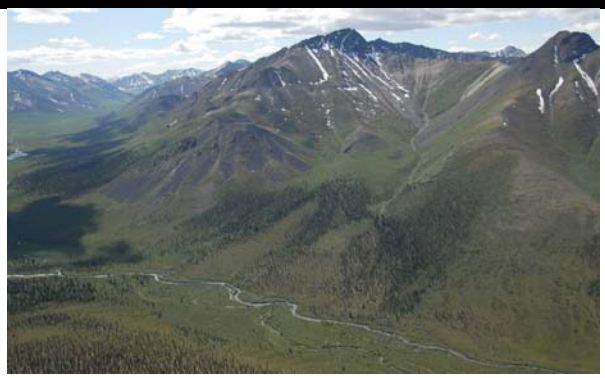
Emphasis: Fish and Wildlife

Setting: A large mountainous watershed punctuated with bands of flatter, forested terrain

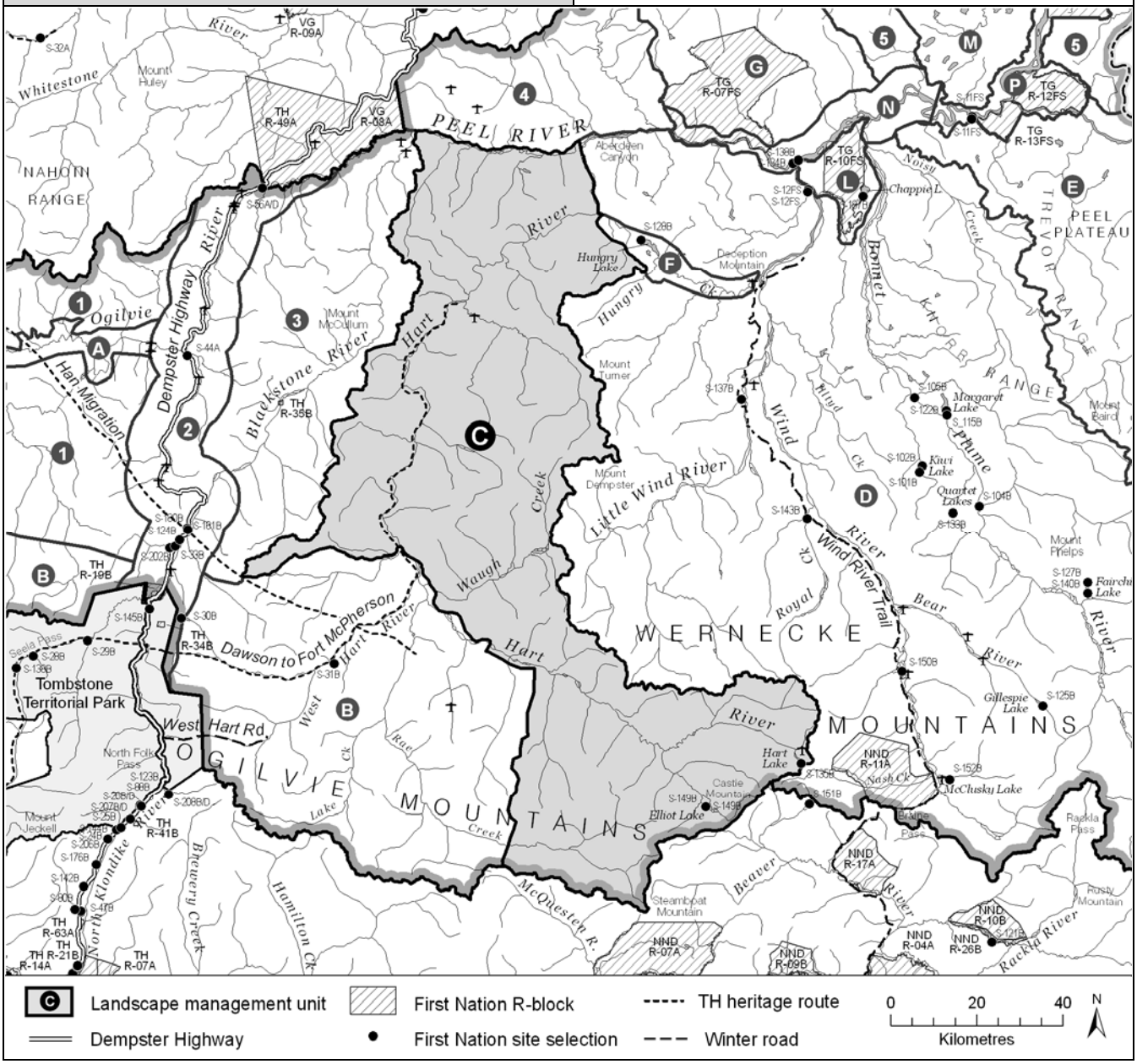


Ecoregion(s): Mackenzie Mountains, North Ogilvie Mountains, transition to Eagle Plains

Bioclimatic Zones: Taiga Wooded, Taiga Shrub and Alpine (minor Boreal)



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



ECOLOGICAL RESOURCES	**LMU: C**
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:	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, CULTURAL AND SCIENTIFIC 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) .
Palaeontological Resources:	Sedimentary rocks in this area have high potential to yield Paleozoic fossils.
ECONOMIC DEVELOPMENT	
Transportation / Access	Few old winter roads in the lower section of unit; a conceptual access route has been identified in this unit between Hungry Lakes and Peel River, and 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 / 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 / Trapping:	Blackstone Outfitting Ltd. and Midnight Sun Outfitting Ltd.; high value hunting.
Oil and Gas Resources:	No potential.
Mineral Resources:	Few quartz claims; low copper/gold/uranium potential; moderate zinc-lead potential.

LMU: D Wind/Bonnet Plume River

General Designation: SMA **Emphasis:** Watershed Management

Primary Regulatory Tool: Wilderness Preserve

Other Regulatory Tool(s): Wilderness Management Area

Land Status: non-settlement land; NND Traditional Territory, TG Primary/Secondary Use Area, NND settlement land (R-11A, S-101B, S-102B, S-104B, S-105B, S-122B, S-124B, S-125B, S-127B, S-133B, S-137B, S-140B, S-143B, S-150B, S-152B, S_115B), TG Yukon Land (S-12FS)

Area (km ^{2}): 18678 **% of Region:** 27.7

Desired Future State:

- Wilderness tourism activities are encouraged in a manner consistent with protection of sensitive ecological values, and within limits of wilderness tourism carrying-capacity.
- The movement, populations and habitat for Porcupine, Hart River and Bonnet Plume caribou herds, Dall's sheep and other large mammals are not significantly impacted by any land use activity
- Existing industrial uses and surface disturbances are monitored to prevent adverse environmental or socio-economic impact to other land-users

First Nation cultural practices are maintained without significant adverse impact from other forms of land-use.

What land-use can happen in this LMU?

	Allowable	Prohibited	Not Applicable
Winter or All-season road access:	☐	☑	☐
Existing non-industrial surface activities:	☑	☐	☐
New non-industrial surface activities:	☑	☐	☐
Existing industrial surface or sub-surface activities:	☑	☐	☐
New industrial surface or sub-surface activities:	☐	☑	☐

Rationale for Designation

There are many overlapping resource values and interests in the Wind River and Bonnet-Plume watersheds. These include First Nation traditional travel routes, culturally important places, wilderness tourism, big-game outfitting, and mineral resources.

The mid and upper watersheds of the Wind and Bonnet Plume Rivers (and the Snake River) provide core habitat with high connectivity for seasonal movements of animals. Over the longer term, it may be that animals and plants will need to change their ranges in response to climate change – river corridors are thought to be the most likely avenues. The major river corridors are also the habitat with the highest suitability for grizzly bears in the Wernecke Mountains. Whole valley bottoms are considered essential as corridors for movement of bears.

In the past five years, mineral staking and exploration has focused much attention in the Wernecke-Breccias, particularly on copper, lead, silver, zinc, uranium and cobalt. Other resources identified as targets by YG Economic Development include iron and coal. While mineral exploration has been a generally compatible land use activity with renewable uses, there are growing incidences of conflict with wilderness tourism operations (e.g. noise) or wildlife (e.g. sensory) disturbance resulting from exploration fly-in access or camp activity. There is an area of concentrated year-round use by sheep in the Bonnet Plume watershed (in the Fairchild Lake area) that overlaps with mineral claims. Although such conflicts or adverse impacts may be resolved through effectively executed and monitored mitigation measures, the rapid expansion of staking in this LMU since the Plan process was initiated has created significant uncertainty for commercial tourism, outdoor recreation, and First Nation traditional resource users.

Most resource activities occur in the summer and fall, often along valley bottoms, and therefore overlap in time and space. Most significant, however, is that mine development and related access issues are considered by affected FN groups (NND, GTC/TG) and conservation/tourism-related stakeholders as an incompatible land-use with potentially serious adverse environmental and socio-economic impacts in this LMU. These groups maintain that expansive areas are required to maintain habitat and migration uses, and to maintain the visual integrity for the recreational experience. River corridor widths vary significantly and in many situations the viewscape is as important as the immediate confines of the river.

Further, UFA-based bodies including the PCMB, and the Mayo RRC, along with YG-Environment have specifically identified potential long-term adverse impact from sub-surface resource development on the Bonnet Plume caribou herd, Dall's sheep, grizzly bear and other wildlife. The principal reason for this high-risk assessment for land-use conflict or impact is derived from the LMU's many unique landscape and ecological features. These include steep, incised mountain valleys/passes, sensitive soils/vegetation, highly variable water-flow rates, and permafrost conditions). The alpine areas of the Wernecke Mountains also contain key habitats for the Bonnet Plume and Redstone caribou, alpine raptors, and birds of special conservation concern as well as mineral licks.

The Commission thinks that wilderness use, fish and wildlife conservation, and sensitive ecological values within the Wind River/Bonnet-Plume watersheds are incompatible with full-scale industrial resource extraction operations since (i) conventional development practice requires construction of all-season surface access (e.g., roads, rail spurs) creating significant aesthetic/visual impacts, increased hunting pressure, and sensory disturbance (noise, dust, traffic, smell) to people and wildlife (ii) experience in nearby regions demonstrates significant impacts to fish and wildlife, water quality, and other site-related environmental impacts from industrial mine operations or hazards.

It is important that the Bonnet Plume River is a Canadian Heritage River. The PWPC's public consultation process heard clear interest in seeing the BPHR management plan reinforced, and enhanced through the Peel RLUP. The Peel River Watershed Advisory Committee also concluded that the Wind River watershed be a candidate for protection, while the Nacho Nyak Dun and the Gwich'in Tribal Council recommended that this LMU be designated an SMA, while considering a range of land protection tools.

Many of the values and activities mentioned above share the same lands and resources. Cultural activities and heritage values, wilderness tourism, big-game outfitting, and even the fish and wildlife all do best in an unfragmented and unroaded landscape. Given the generally compatible landscape requirements of fish and wildlife and these pre-existing land-uses, and the stated opinion of the Nacho Nyak Dun, the Commission concluded that no surface access should be allowed into this unit. Subject to review, new granted land interests for non-industrial or renewable use activities may be compatible with the objectives of this unit.

The mineral potential and the many mineral claims in this area have been documented. With some exceptions, exploration in this LMU has had relatively low impact on other values, yet has provided significant economic benefits. Because of this, and because the Commission intends to preserve future options, current industrial sub-surface and surface tenures should be allowed to continue operating according to specific conditions for this LMU and full compliance with relevant regulations. Uranium exploration is a particular concern to many. The extent of existing claims that are encountering uranium should be documented, and all issues affecting uranium exploration activities (drilling, core storage, hole sealing) should be fully monitored and the results publicly reported. Most to the point, exploration activities are the precursor to mine development. The Commission considers that the development phase posed the greatest challenges to other resource users and to other resource values. Some may be mitigated, but the most significant impacts cannot. Because of this, the PWPC recommends that no new further sub-surface tenures be granted in this LMU and this recommendation should be put into immediate effect to reduce land-use uncertainty. The management of this SMA should focus on watershed management, environmental protection, and fish and wildlife conservation. The PWPC recommends to the Parties and to the Mayo RRC as provided in the NNDFA, that this area be an SMA designated as “Wilderness Preserve”.

Key Management Objectives

	UFA LINK
1. To maintain habitat quality and availability important to the Bonnet Plume River caribou and Dall's sheep.	16.6.9, 16.6.10.1, 16.7.12.2, 16.7.1, 16.7.11
2. To encourage wilderness tourism and outdoor recreation activities within sustainable levels of resource-use intensity and tourism activity carrying-capacity.	12.17.1-12.17.5, 11.1.1.6, 11.4.5.9, 11.2.1.2, 11.4.5.8
3. To enable continued exploration and development of existing mineral claims without adversely impacting wilderness tourism, outdoor recreation and traditional land-use activities.	11.1.1.6, 11.4.5.9, 11.2.1.2, 11.4.5.8

4. To identify and protect culturally-important sites and areas that are of high subsistence and heritage value to First Nations.	11.4.5.7 GTBA12.3.1, 12.4.1, 12.6.1-12.6.2

Management Conditions (Class A)

Resource of Interest

Caribou Habitat	Manage levels and types of land-use in advance of significant declines in habitat quality or alteration in caribou behaviour.
Sheep	Where necessary, take appropriate actions to prevent seasonal or chronic harassment of wildlife.
Tourism	Manage levels and types of use in advance of significant declines in touristic values.

Management Conditions (Class B)

Resource of Interest

Caribou Habitat	Design and locate new facilities and activities to minimize impacts on sensitive ecological features such as mineral licks and defined game trails.
Tourism	All new infrastructures will not be visible from the Wind or the Bonnet Plume Rivers.
	Commercial infrastructure development will be temporary and/or mobile.
	Design and locate new facilities and activities to minimize impacts on cultural/heritage sites, recreation features, aesthetics.

Policy Recommendations

The Commission recommends that the Wind River Trail not be recognized as an existing winter road so as to not preempt evaluation of adverse socio-economic effects in future YESAA reviews and give fair consideration of alternate methods of access.

Monitoring Recommendations

All tourism/recreation and outfitting facilities should be monitored for compliance with environmental standards and permits.

Where possible, monitor the effects of human use on touristic values.

Monitor the effects of human activities (including wildlife viewing) on sheep behaviour.

Periodically monitor the effects of human use of caribou habitat.

Research Recommendations

Research and apply carrying capacity limits on backcountry tourism and recreation.

Best Management Practices

Inform local pilots of known sheep areas, sensitive timing windows, and provide information on flying practices that minimize disturbance of sheep. Refer to the document “Flying in Sheep Country” (MERG, 2002).

Inform local pilots of known caribou key areas, sensitive timing windows, and provide information on flying practices that minimize disturbance of caribou. Refer to the document “Flying in Caribou Country” (MPERG, 2008).

Specific Management Considerations

The upcoming Northern Mountain Caribou Action Plan may be relevant to management of land-use activities in this unit.

The Bonnet Plume Heritage River Management Plan provides further direction for management of land-use activities in this unit.

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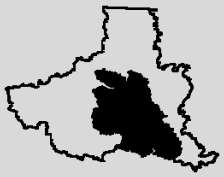
LMU D: Wind/Bonnet Plume River Watershed

General Designation: SMA

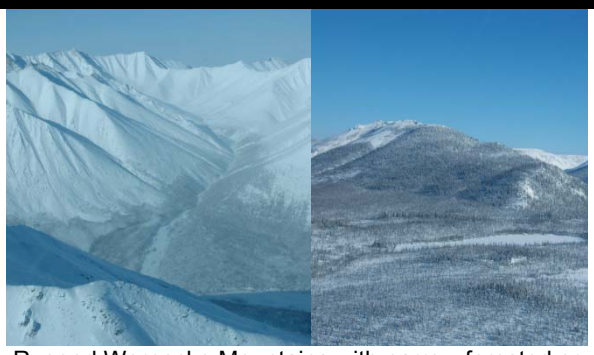
Emphasis: Watershed Management

Setting: Rocky mountainous terrain with deep forested valleys and large rivers that give way to forested plateaus with many wetlands

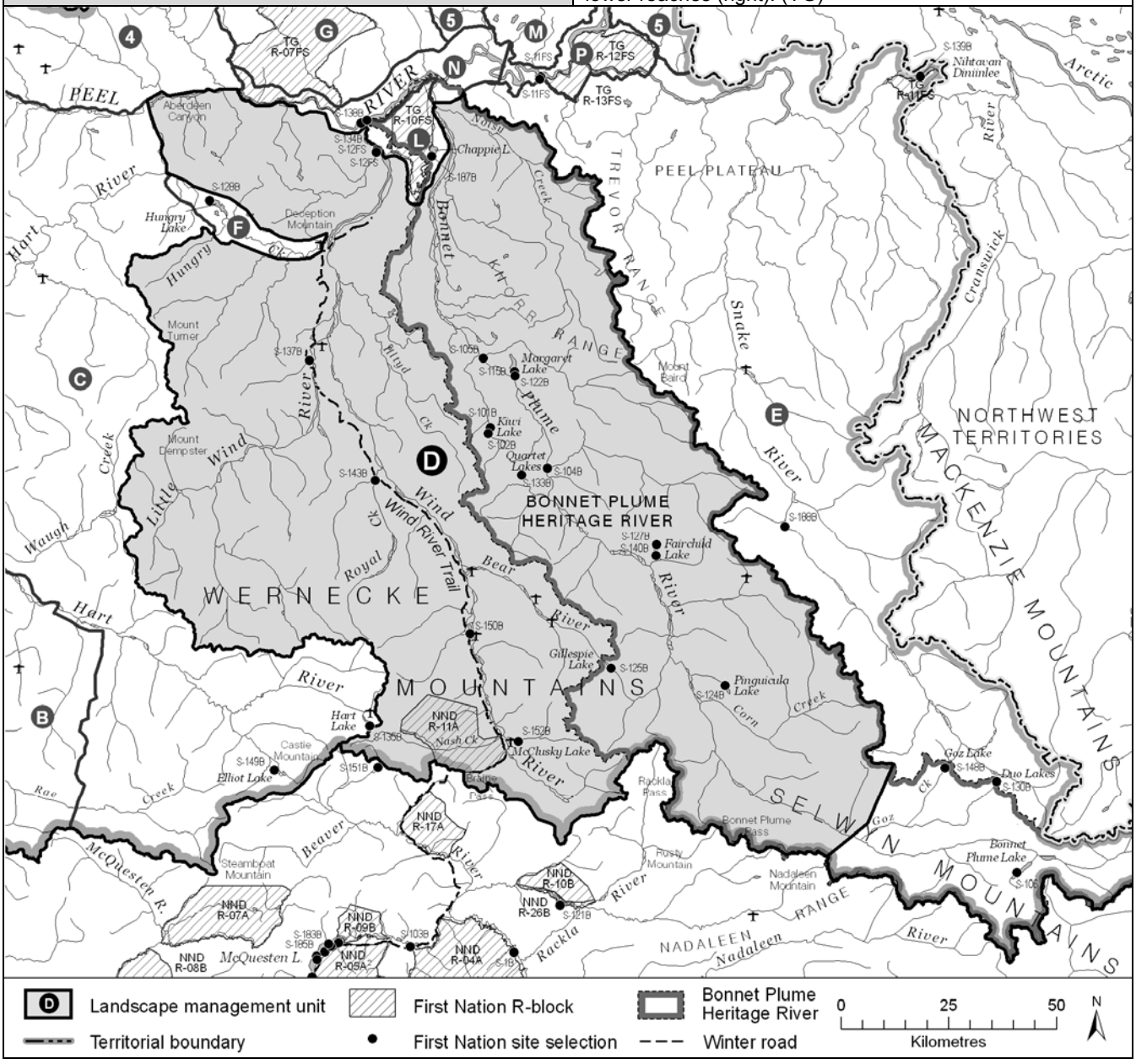


Ecoregion(s): Mackenzie Mountains, Peel River Plateau, some North Ogilivie Mountains and Eagle Plains

Bioclimatic Zones: Taiga Wooded, some Taiga Shrub and Alpine



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



ECOLOGICAL RESOURCES	**LMU: D**
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 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 winter open water sites and surface ground water.
Grizzly Bear:	Moderate to high habitat suitability in riparian areas and high elevation subalpine zones.
Peregrine:	High potential for peregrine falcon foraging, some nesting habitat in the lower plateau areas.
Birds (General):	High value waterbird habitat in riparian areas; breeding birds 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). High concentration of wetlands and hundreds of scattered small lakes in the lower plateau areas.
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, CULTURAL AND SCIENTIFIC RESOURCES	
Heritage Resources:	Numerous travel corridors and cabins (NND and TG). Culturally important sites for TG, VGFN.
Palaeontological 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 / 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 / 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 / Trapping:	Midnight Sun Outfitting Ltd, Bonnet Plume Outfitting Ltd. and Widrig Outfitting Ltd. Extensive high value hunting in mountianous 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.

LMU: E Snake River

General Designation: SMA **Emphasis:** Protection

Primary Regulatory Tool: Wilderness Preserve

Other Regulatory Tool(s): Natural Environment Park

Land Status: non-settlement land, NND Traditional Territory, TG Primary Use Area, TG Yukon Land (R-11FS), NND settlement land (S-106B, S-130B, S-139B, S-148B, S-188B)

Area (km ^{2}): 11193 **% of Region:** 16.6

Desired Future State:

- Wildlife habitats, migratory movement corridors, viewscapes, and other natural values are protected in perpetuity.
- Wilderness tourism activities are encouraged in a manner consistent with protection of sensitive ecological values, and within limits of wilderness tourism carrying-capacity.
- Public understanding, appreciation and enjoyment of the Snake watershed's natural environment is promoted.
- First Nation cultural practices are maintained without significant adverse impact from other forms of land-use.

What land-use can happen in this LMU?

	Allowable	Prohibited	Not Applicable
Winter or All-season road access:	☐	☑	☐
Existing non-industrial surface activities:	☑	☐	☐
New non-industrial surface activities:	☐	☑	☐
Existing industrial surface or sub-surface activities:	☑	☐	☐
New industrial surface or sub-surface activities:	☐	☑	☐

Rationale for Designation

The Snake River LMU has been recognized at local, regional and international scales for its pristine, scenic, and unique natural landscape qualities. The area contains part of the Gwich'in Primary use area that has relatively high biodiversity. It is an important landscape to support First Nations traditional use and subsistence. Lower reaches of the Snake River has high quality waterbird habitat and high bird species richness (see maps 24 and 25 – PWPC, 2008a). Trapping of furbearers remains an important activity of GTC First Nations in this area.

The Snake River is the most popular wilderness paddling river in the Peel River watershed and includes extensive hiking activity throughout the adjacent uplands. Tourism activities are concentrated along valley bottoms that also contain high values for habitats, fish and wildife populations, outfitting, and cultural-use. It contains core habitats of the Bonnet Plume caribou herd - a sub-species of the Northern Mountain Caribou which has been listed by COSEWIC as being of "Special Concern". There are also high-value habitats for sheep, moose, grizzly bear

and birds of conservation concern. The many sheep mineral licks are a regionally-significant concentration.

This LMU has oil/gas potential in its lower drainage but access to this resource would require crossing large rivers or traversing expanses of muskeg. The area also has two significant areas of mineral potential: the Crest iron deposit, and the zinc potential around Goz Creek. The LMU contains a moderate number of claims, primarily around these two areas. Mineral potential beyond these areas is thought to be low-moderate relative to other parts of the region (Wernecke-Breccias). The difficulties of building surface access make mineral development in this unit highly speculative from an engineering, economic and social perspective.

While acknowledging that remote access technology might be possible (e.g. heliportable transport for gas drilling exploration), the PWPC concluded from sector studies that subsurface development is not likely in the foreseeable future, and that conflicts with many other resource values would be serious. Further, both the NND and TG have requested no new all-season roads or river crossing structures to ensure protection of their traditional use resources, including fish and wildlife.

The Snake River LMU is entirely within the Mackenzie Mountains Ecoregion, which currently has less than 2% protection. It lies between the Arctic Red Canadian Heritage River watershed to the east, and the Bonnet Plume Canadian Heritage River to the west. By including some of the Bonnet Plume's drainage area, this LMU offers high connectivity between these existing Heritage River areas. We further note, that the headwaters of the Arctic Red River is zoned for "special management" of water quality in the GLUP. The Peel River Watershed Advisory Committee concluded that the Snake River watershed, Bonnet Plume Lake, Margaret Lake and the "Source Peak" areas all be candidates for protection.

In consideration of all the information before the Commission, it recommends that the Snake River is recommended as an SMA for consideration by the Parties and by the Mayo RRC, and designated as a Wilderness Preserve to ensure permanent protection of all significant environmental, aesthetic and cultural values.

Key Management Objectives

	UFA LINK
1. To foster understanding and appreciation and protection of unique ecological, cultural and archaeological aresources.	11.1.1.6, 11.4.5.9, 11.2.1.2, 11.4.5.8
2. To provide protection for key core habitats of the Bonnet Plume caribou herds and sheep.	16.6.9, 16.6.10.1, 16.7.12.2, 16.7.1, 16.7.11

Management Conditions (Class A)

Resource of Interest	
Caribou Habitat	Manage levels and types of use where/when significant declines in caribou habitat have been detected.
	Ensure tourism/recreation activities to minimize impacts on sensitive ecological features such as mineral licks and defined game trails.
Sheep	Where necessary, take appropriate actions to prevent seasonal or chronic harassment of wildlife.
	Manage levels and types of use where/when significant declines have been detected.
Tourism	Manage levels and types of use in advance of significant declines in touristic values.
	Facility development will be kept to a minimum.
	Commercial infrastructure development will be temporary and/or mobile.
	Design and locate tourism/recreation activities to minimize impacts on cultural/heritage sites, recreation features, aesthetics. Infrastructure should not be visible from the Snake River.

Management Conditions (Class B)

Resource of Interest	
NA	No management conditions are required at this time.

Policy Recommendations

No specific policy recommendations are required at this time. Refer to Section 4.1 and 4.3 and Appendix B. for recommendations applicable to the planning region.

Monitoring Recommendations

Monitor all tourism/recreations facilities for compliance with environmental standards and permits.

Monitor the effects of tourism and outfitting activities (including wildlife viewing) on sheep behaviour.

Where possible, monitor the effects of tourism and outfitting use on sheep, caribou habitat and touristic values.

Research Recommendations

Determine what additonal management strategies should be adopted to ensure a high quality wilderness experience as one of the foremost wilderness canoing rivers in the Yukon and beyond.

Best Management Practices

Inform local pilots of known sheep areas, sensitive timing windows, and provide information on flying practices that minimize disturbance of sheep. Refer to the document “Flying in Sheep Country” (MERG, 2002).

Specific Management Considerations

The upcoming Northern Mountain Caribou Action Plan may be relevant to management of land-use activities in this unit.

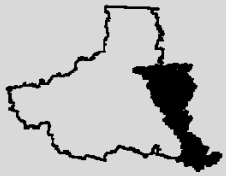
The Bonnet Plume Heritage River Management Plan provides further direction for management of land-use activities in the portion of this unit that includes the headwaters of the Bonnet Plume River.

LMU E: Snake River

General Designation: SMA

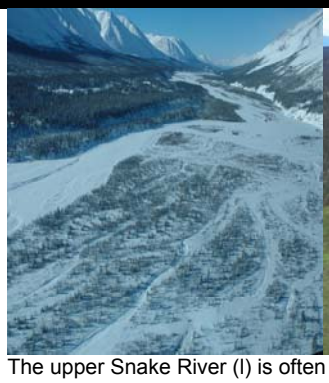
Emphasis: Protection

Setting: Deep forested valley and a large river set in rugged mountains that give way to an incised forested plateaus with many wetlands

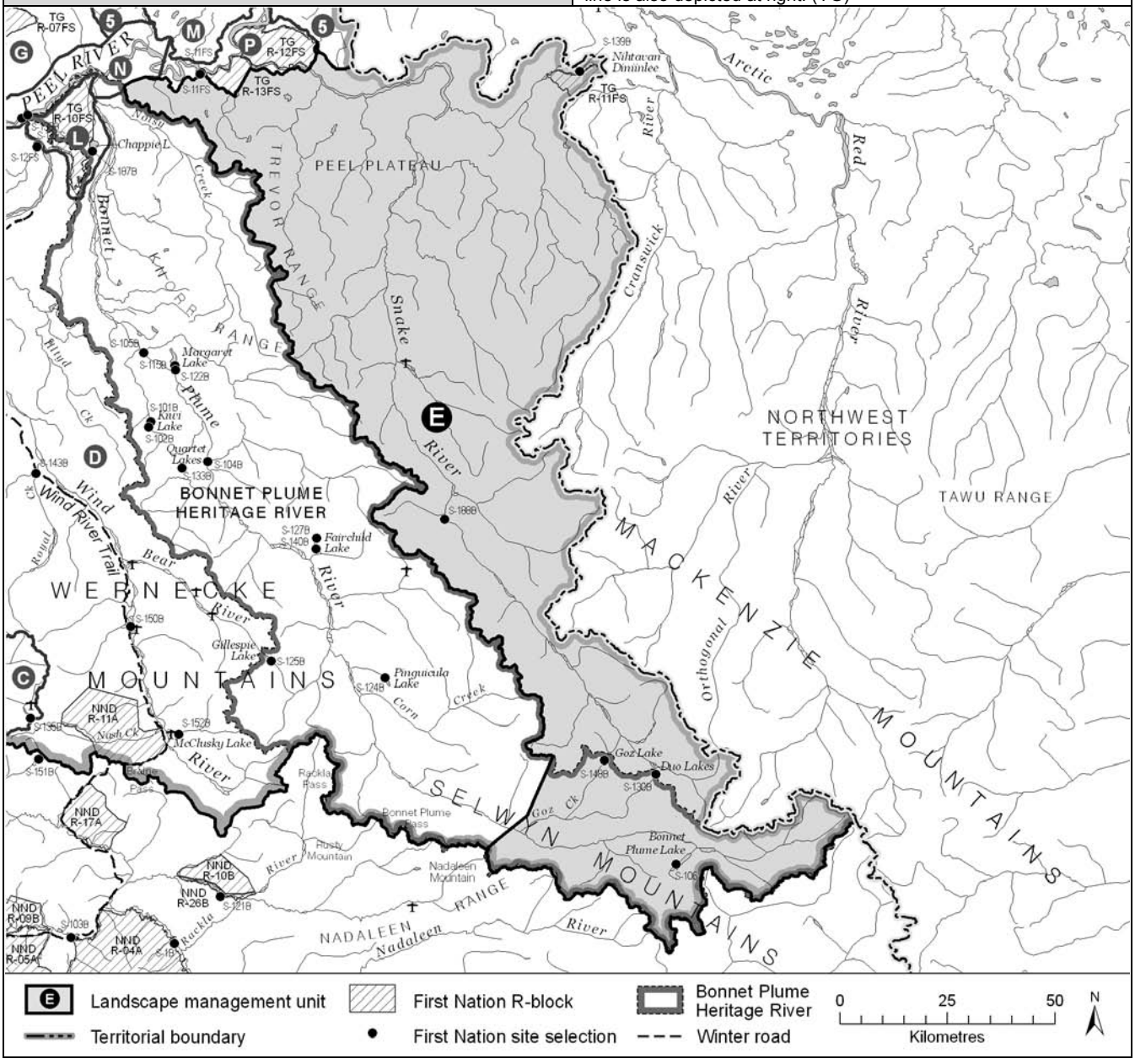


Ecoregion(s): Peel River Plateau (north) and Mackenzie Mountains (south)

Bioclimatic Zones: Taiga Wooded, Taiga Shrub and Alpine



The upper Snake River (l) is often braded, 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)



ECOLOGICAL RESOURCES	**LMU: E**
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:	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, CULTURAL AND SCIENTIFIC RESOURCES	
Heritage Resources:	Very few cabins and travel routes.
Palaeontological Resources:	This area has a 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 / 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 / Tourism:	Highest current value in the region. High value wilderness paddling and access to hiking.
Forestry:	Little potential for forestry.
Big Game Outfitters / 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.

LMU: F Hungry Lakes

General Designation: SMA **Emphasis:** Heritage

Primary Regulatory Tool: Historic Site (YG)

Other Regulatory Tool(s): Wilderness Preserve

Land Status: non-settlement land, NND Traditional Territory, TG Primary Use Area, TH settlement land (S-128B)

Area (km ^{2}): 227 **% of Region:** 0.3

Desired Future State:

- Archaeological, and other heritage resources are protected the integrity of First Nation cultural practices are maintained.
- The movement, populations and habitats of the Porcupine caribou herd, other large mammals, and fish are not adversely impacted by land use activity.

What land-use can happen in this LMU?

	Allowable	Prohibited	Not Applicable
Winter or All-season road access:	☐	☑	☐
Existing non-industrial surface activities:	☑	☐	☐
New non-industrial surface activities:	☑	☐	☐
Existing industrial surface or sub-surface activities:	☐	☐	☑
New industrial surface or sub-surface activities:	☐	☑	☐

Rationale for Designation

The Commission has identified Hungry Lakes LMU as a candidate for SMA designation with Heritage Management emphasis due to the significance it holds for all four affected First Nations of the Peel region. It has also been recommended for protection status by the Peel River Watershed Advisory Committee.

FN governments state that they wish for their citizens to continue using this area as they always have in the past both as communities- and as individuals. They do not consider it possible to simply mitigate site-level impacts through existing regulatory processes of the UFA. Rather, they propose protection for this cultural landscape that considers its archaeological and ethnohistorical significance. Traditional knowledge and land-use mapping have identified a high intensity of overlapping uses that include community gatherings, hunting camps, and trapping activities. Non First Nation tourism, trapping and outfitting also occur in this area and coordination of activities is needed (e.g. consultation protocols) to minimize conflicts during key seasonal periods of overlapping use.

Special management is also sought for the protection of all known, and any newly identified specific heritage sites such as grave sites and heritage trails which traverse this area connecting

the FN communities. An enhanced level of FN community consultation would be required in considering other new land-uses to ensure there is no conflict with traditional-use activities. The Parties should consider territorial or federal heritage protection tools for the Hungry Lakes area, followed by sufficient sub-regional planning to manage allowable surface uses and the significant fish and wildlife resource values.

Key Management Objectives

	UFA LINK
1. To ensure meaningful consultation regarding issuance of new resource tenures that might adversely impact upon fish and wildlife, and senstive terrain/vegetation.	16.6.9, 16.7.1, 12.17.1-12.17.5
2. To minimize risk of permafrost degradation on terrestrial and aquatic habitats and on human infrastructure.	12.17.1-12.17.5
3. To identify and protect culturally-important sites and areas that are of high subsistence and heritage value to First Nations.	13.1.1.8, 13.5.3.2, 13.5.3.7, 13.8.0-13.9.0 GTBA12.3.1, 12.4.1, 12.6.1-12.6.2
4. To promote sustainable and compatible land-uses for economic development	11.1.1.6, 11.4.5.9, 11.2.1.2, 11.4.5.8

Management Conditions (Class A)

Resource of Interest	
Enhanced Consultation	Consult with affected residents and affected First Nations to identify issues and areas of concern prior to granting new land interests that would cause any disturbance to land, cultural sites, or wildlife.
	Identify appropriate protocol for consultation with affected residents and First Nations

Management Conditions (Class B)

Resource of Interest	
Fish	New infrastructure should be constructed so that damage to the shoreline, escarpments, the river and lake beds, or other natural features will not lead to significant impacts on water quality or fish populations.
	Avoid or reduce activities in fish habitat during important biological periods or seasons (e.g., utilize timing windows).

Heritage Resources	Non-industrial land-use and related infrastructure must be in agreement with the management objectives of this LMU.
Tourism	Manage levels and types of use in advance of significant declines in touristic values.

Policy Recommendations

No specific policy recommedations are required at this time. Refer to Section 4.1 and 4.3 and Appendix B. for recommendations applicable to the planning region.

Monitoring Recommendations

Monitor all tourism/recreations and exploration facilities for compliance with environmental standards and permits.

Monitor water quality and fish populations for changes due to infrastructure development along shorelines, escarpments, the river and lake beds, or other natural features.

Where possible, monitor the effects of tourism and outfitting use on touristic values.

Research Recommendations

No specific research recommendations are required at this time. Refer to Section 4.1 and 4.3 and Appendix B. for recommendations applicable to the planning region.

Best Management Practices

No specific Best Mangement Practices are required at this time. Refer to Section 4.1 and 4.3 and Appendix B. for recommendations applicable to the planning region.

Specific Management Considerations

No specific management considerations are required at this time. Refer to Section 4.1 and 4.3 and Appendix B. for recommendations applicable to the planning region.

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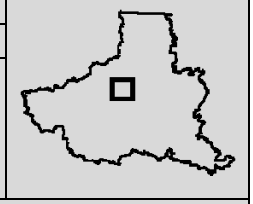
LMU F: Hungry Lakes

General Designation: SMA

Emphasis: Heritage

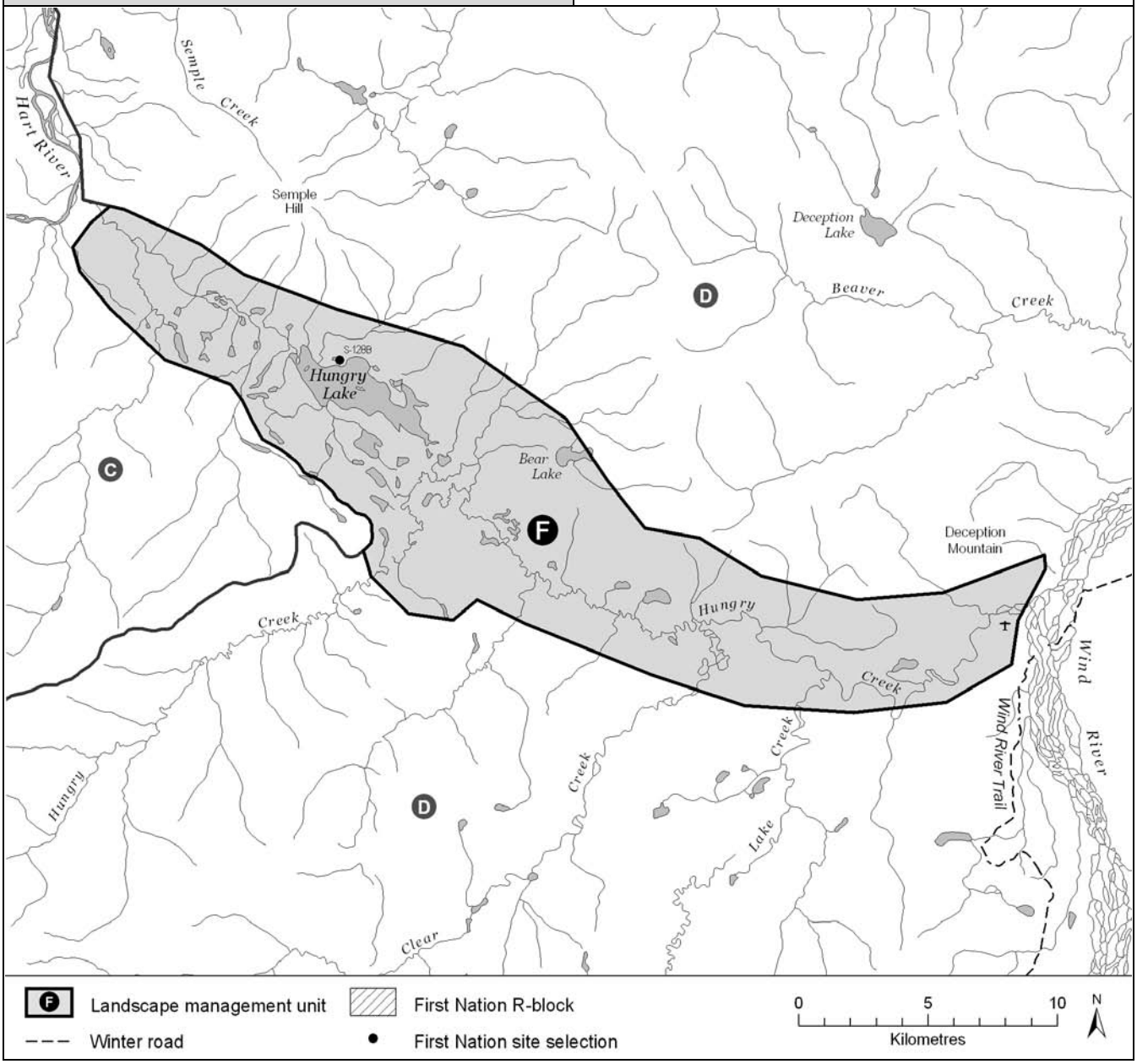
Setting: Low valley pass through foothills between Wind and Hart Rivers



Ecoregion(s): Peel River Plateau / Eagle Plains transition

Bioclimatic Zones: Taiga wooded

A view up Hungry Creek with the toe of Mount Deception to the right. (YG)



ECOLOGICAL RESOURCES	**LMU: F**
Caribou:	High value winter habitat of the Porcupine herd concentrated along near Hungry Lk., with corresponding general use area during winter season.
Moose:	Generally high late winter habitat suitability.
Marten:	Fairly concentrated high quality winter habitat.
Sheep:	Low winter habitat quality, though traditional knowledge of area indicates habitat use.
Fish:	Fish occupancy throughout; spawning site in Hungry Lakes.
Grizzly Bear:	Moderate habitat suitability.
Peregrine:	
Birds (General):	High potential for peregrine falcon foraging habitat; highest value for waterbirds around Hungry Lake; moderate to high breeding birds species richness; moderate species of concern.
Vegetation:	Low-mid elevation wet shrub and coniferous forest, riparian shrub and spruce forest.
Wetlands, Lakes and Riparian Areas:	Several small and large lakes and significant riparian areas. Connectivity between Hart and Wind Rivers.
Permafrost:	Continuous permafrost is predicted.
Special Features:	
HERITAGE, CULTURAL AND SCIENTIFIC RESOURCES	
Heritage Resources:	Travel route between Hart River and Wind River via Hungry Lake; travel routes throughout area. Several cabins; culturally important places and areas (Lake Creek, Waugh Creek, Lower Hart River, etc).
Palaeontological Resources:	
ECONOMIC DEVELOPMENT	
Transportation / Access	A conceptual access route has been identified in this unit connecting the Wind River to Hart River via Hungry Lake.
Traditional Economy:	Traditional harvesting and wildlife area; big game/fur-bearer location.
Recreation / Tourism:	No identified recreation values.
Forestry:	Potential localized demand for fuel wood, logs for cabins.
Big Game Outfitters / Trapping:	Midnight Sun Outfitting Ltd.
Oil and Gas Resources:	Small section part of Bonnet Plume basin, low potential.
Mineral Resources:	No quartz claims; small section of high zinc-lead and coal potential; moderate general mineral potential.

LMU: G Richardson Mountains - South

General Designation: SMA **Emphasis:** Fish and Wildlife

Primary Regulatory Tool: Wilderness Management Area

Other Regulatory Tool(s): Habitat Protection Area

Land Status: non-settlement land, NND Traditional Territory, VG Traditional Territory, TG Primary and Secondary Use Area, TG Yukon Land (R-07FS)

Area (km ^{2}): 2434 **% of Region:** 3.6

Desired Future State:

- The movement and habitat use by Porcupine caribou herd, Dall's sheep, other large mammals, and fish are sustained
- Archaeological, palaeontological and other heritage resources are identified and protected.
- First Nation cultural practices are maintained without significant adverse impact from other forms of regulated land-use.
- Wilderness tourism activities are encouraged in a manner consistent with protection of sensitive ecological values, and within limits of wilderness tourism carrying-capacity.

What land-use can happen in this LMU?

	Allowable	Prohibited	Not Applicable
Winter or All-season road access:	☐	☑	☐
Existing non-industrial surface activities:	☑	☐	☐
New non-industrial surface activities:	☑	☐	☐
Existing industrial surface or sub-surface activities:	☑	☐	☐
New industrial surface or sub-surface activities:	☐	☑	☐

Rationale for Designation

Much of this LMU has received concentrated or moderate use by the Porcupine caribou in recent decades, and is known to be part of an important migration route both north to south, and to the east through at least two known passes. A small and isolated population of Dall's sheep that may be at risk of decline is found here. Rare/endemic plants and high number of species of nesting bird of conservation concern are also found.

The Peel River Watershed Advisory Committee and the Gwich'in Interim Land Use Planning Board concluded that the Richardson Mountains should be a candidate for protection given the importance for Porcupine Caribou and the presence of a number of archeological sites and other culturally important places in this unit.

This unit has no oil and gas development potential, and has regionally low-moderate mineral potential and a moderate number of existing claims. Other interests in the area include the TG/GTC fee simple lands.

The Commission recognizes the ecosystem values of the South Richardson Mountains and the relative lack of resource potential, so therefore recommends it be designated as a Special Management Area with Fish and Wildlife emphasis. Surface access should be prohibited because of concerns that additional roads here may further impact the migration of Porcupine caribou. Therefore, existing claims may continue to be explored and developed so long as surface access is not required.

Key Management Objectives

	UFA LINK
1. To maintain habitat and movement corridors important to Porcupine caribou.	16.6.9, 16.6.10.1, 16.7.12.2, 16.7.1, 16.7.11
2. To maintain habitat quality and availability important to Dall's sheep.	16.6.9, 16.6.10.1, 16.7.12.2, 16.7.1, 16.7.11
3. To maintain wilderness tourism, archaeological and cultural values.	12.17.1-12.17.5 GYTA 9.4

Management Conditions (Class A)

Resource of Interest	
Caribou Habitat	Manage levels and types of land-use in advance of significant declines in habitat quality or alteration in caribou behaviour.
	Design and locate new facilities and activities to minimize impacts on sensitive ecological features such as mineral licks and defined game trails.
Heritage Resources	Consult with affected residents and affected First Nation to identify issues and areas of concern prior to and when undertaking any type of granted land interest that would cause any disturbance to land or wildlife.

Management Conditions (Class B)

Resource of Interest	
Heritage Resources	Commercial infrastructure development will be temporary and/or mobile.
Sheep	Where necessary, take appropriate actions to prevent seasonal or chronic harassment of wildlife.
	Manage levels and types of use where/when significant declines in habitat quality have been detected.

Policy Recommendations

No specific policy recommendations are required at this time. Refer to Section 4.1 and 4.3 and Appendix B. for recommendations applicable to the entire planning region.

Monitoring Recommendations

Where possible, monitor the effects of human use of sheep habitat.

Periodically monitor the effects of human use of caribou habitat.

Monitor the effects of human activities (including wildlife viewing) on sheep behaviour.

Research Recommendations

No specific research recommendations are required at this time. Refer to Section 4.1 and 4.3 and Appendix B. for recommendations applicable to the planning region.

Best Management Practices

Inform local pilots of known caribou key areas, sensitive timing windows, and provide information on flying practices that minimize disturbance of caribou. Refer to the document "Flying in Caribou Country" (MPERG, 2008).

Inform local pilots of known sheep areas, sensitive timing windows, and provide information on flying practices that minimize disturbance of sheep. Refer to the document "Flying in Sheep Country" (MERG, 2002).

Specific Management Considerations

Enhanced community consultation required for further industrial granted land interests in this unit.

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LMU G: Richardson Mountains - South

General Designation: SMA

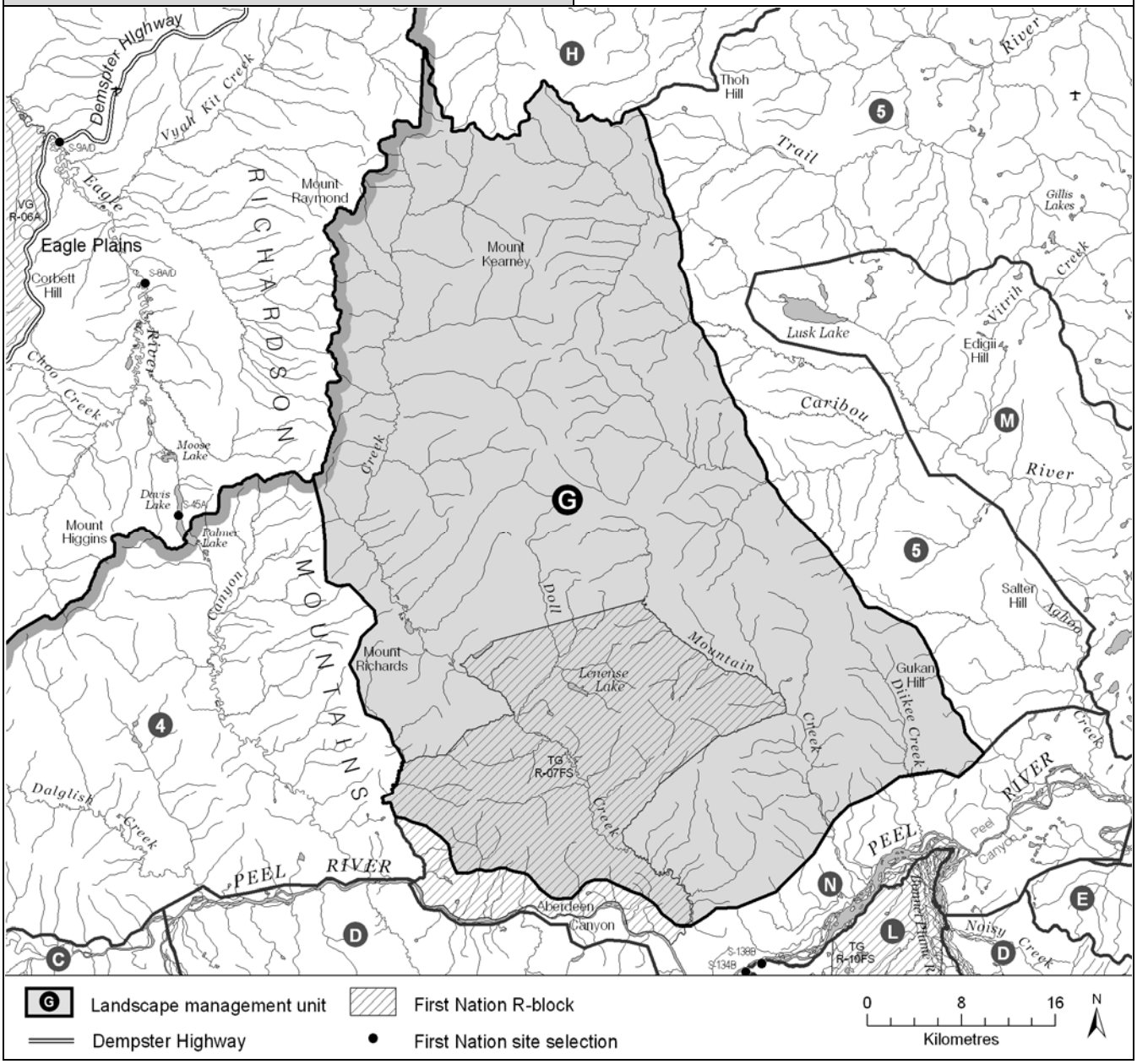
Emphasis: Fish and Wildlife

Setting: Unglaciated, sparsely forested mountains lying north of Aberdeen Canyon

Ecoregion(s): British Richardson Mountains

Bioclimatic Zones: Alpine, Taiga Shrub and Taiga Wooded

Rolling mountains interspersed with valleys carpeted with shrubs and scattered trees characterize much of LMU H. (CWS)



ECOLOGICAL RESOURCES	**LMU: G**
Caribou:	Extensive concentrated and general use areas for Porcupine herd for fall and winter seasons, despite low predicted habitat potential for the Porcupine herd. Exposed slopes are important foraging areas, especially in high snow years.
Moose:	Generally poor late winter habitat, though ribbons of high value habitat follow creeks.
Marten:	Generally poor winter habitat suitability, except for extensive high value winter habitat on lower slopes to the south of the unit.
Sheep:	Large areas of highly suitable winter habitat with documented (TK, scientific) habitat use. However, the population is small and isolated and is at risk of decline.
Fish:	
Grizzly Bear:	Moderate to high habitat suitability, especially high in riparian zones.
Peregrine:	
Birds (General):	Pockets of high value waterbird habitat and in riparian areas; moderate breeding species richness and high concentration of species of conservation concern.
Vegetation:	Low – mid elev. shrub and conifer forest, subalpine shrub and alpine exposed rock.
Wetlands, Lakes and Riparian Areas:	A few scattered wetlands. Forms the upper watersheds of Doll Creek, Trail, and Caribou Rivers.
Permafrost:	Continuous permafrost is predicted.
Special Features:	Several documented wildlife passes and possible pass.
HERITAGE, CULTURAL AND SCIENTIFIC RESOURCES	
Heritage Resources:	High concentration of VG and TG archaeological sites. Several TG culturally important places. Travel route from Caribou River to lower Peel River.
Palaeontological Resources:	
ECONOMIC DEVELOPMENT	
Transportation / Access	
Traditional Economy:	TG seasonal land use and traditional harvesting and wildlife areas; TH fish harvest on Trail River.
Recreation / Tourism:	
Forestry:	Little potential for forestry.
Big Game Outfitters / Trapping:	No registered concessions.
Oil and Gas Resources:	No potential.
Mineral Resources:	Some quartz claims; low to moderate general mineral potential.

LMU: H Richardson Mountains - North

General Designation: SMA **Emphasis:** Protection

Primary Regulatory Tool: Ecological Reserve

Other Regulatory Tool(s): Recreation Park

Land Status: non-settlement land, NND Traditional Territory, VG Traditional Territory, TG Primary and Secondary Use Area

Area (km ^{2}): 1442 **% of Region:** 2.1

Desired Future State:

- The movement, populations and habitat of the Porcupine caribou herd, Dall's sheep, large mammals and fish are not significantly impacted by any land use activity.
- Wilderness tourism activities are encouraged in a manner consistent with protection of sensitive ecological values, and within carrying-capacity limits for wilderness land-use.
- Archaeological resources are protected and integrity of First Nation cultural practices are maintained.

What land-use can happen in this LMU?

	Allowable	Prohibited	Not Applicable
Winter or All-season road access:	☐	☑	☐
Existing non-industrial surface activities:	☐	☑	☐
New non-industrial surface activities:	☐	☑	☐
Existing industrial surface or sub-surface activities:	☐	☐	☑
New industrial surface or sub-surface activities:	☐	☑	☐

Rationale for Designation

This LMU, part of the Richardson Mountains, borders upon a Conservation Area in the Gwich'in Land Use Plan. Traditional knowledge and wildlife research indicate that the Porucupine Caribou Herd uses this area for habitat and as an important migration route. It provides critical functional connectivity for this highly migratory focal species.

A small and isolated population of Dall's sheep that may be at risk of decline is found here. A regionally unique and culturally important Dolly Varden spawning channel in a tributary to the Vittrekwa River, rare/endemic plants, and high number of species of nesting bird of conservation concern have also been identified. The area offers extensive wilderness hiking opportunities within a short distance from the Dempster Highway. This part of the Richardson's Mountains is distinguished from the southern Richardsons where there is less wilderness tourism use but more potential for sub-surface resources.

The Peel River Watershed Advisory Committee and the Gwich'in Interim Land Use Planning Board concluded that the Richardson Mountains should be a candidate for protection given its high fish and wildlife value. There is also a concentration of heritage travel routes, archeological

sites, and other culturally-important sites. Neither the NND nor the TG/GTC support permanent/all-season access here.

This part of the Richardson Mountain range has low to moderate oil and gas development potential, relatively low mineral potential compared to the rest of the Peel region, and no existing mineral claims.

Based upon its understanding of the social, cultural, and environmental importance of this LMU, the PWPC recommends that it be designated a Special Management area emphasizing General Protection. Special attention should be given to accommodating low-impact access from the Dempster Highway for tourism and outdoor recreation.

Key Management Objectives

	UFA LINK
1. To maintain habitat quality and availability and movements important to the Porcupine caribou and Dall's sheep.	16.6.9, 16.6.10.1, 16.7.12.2, 16.7.1, 16.7.11
2. To maintain the wilderness tourism experience of the area with minimal surface disturbance or permanent foot-print.	12.17.1-12.17.5
3. To ensure the protection of unique, and culturally-important Dolly Varden spawning habitat	16.1.1.1, 16.6.9, 16.6.10.1, 16.7.12.2

Management Conditions (Class A)

Resource of Interest	
NA	No management conditions are required at this time.

Management Conditions (Class B)

Resource of Interest	
Sheep	Manage use where/when significant changes have been detected in sheep habitat quality.
Tourism	Manage use where/when significant declines in touristic values have been detected.

Policy Recommendations

No specific policy recommendations are required at this time. Refer to Section 4.1 and 4.3 and Appendix B. for recommendations applicable to the planning region.

Monitoring Recommendations

Where possible, monitor the effects of tourism use on touristic values.

Where possible, monitor the effects of tourism use on sheep habitat use.

Research Recommendations

No specific research recommendations are required at this time. Refer to Section 4.1 and 4.3 and Appendix B. for recommendations applicable to the planning region.

Best Management Practices

No specific Best Management Practices are recommended at this time. Refer to Section 4.1 and 4.3 and Appendix B. for recommendations applicable to the planning region.

Specific Management Considerations

Land-use planning should give special consideration to a regionally significant Dolly Varden spawning channel found in this unit.

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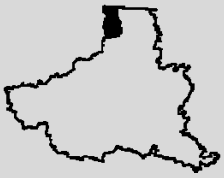
LMU H: Richardson Mountains - North

General Designation: SMA

Emphasis: Protection

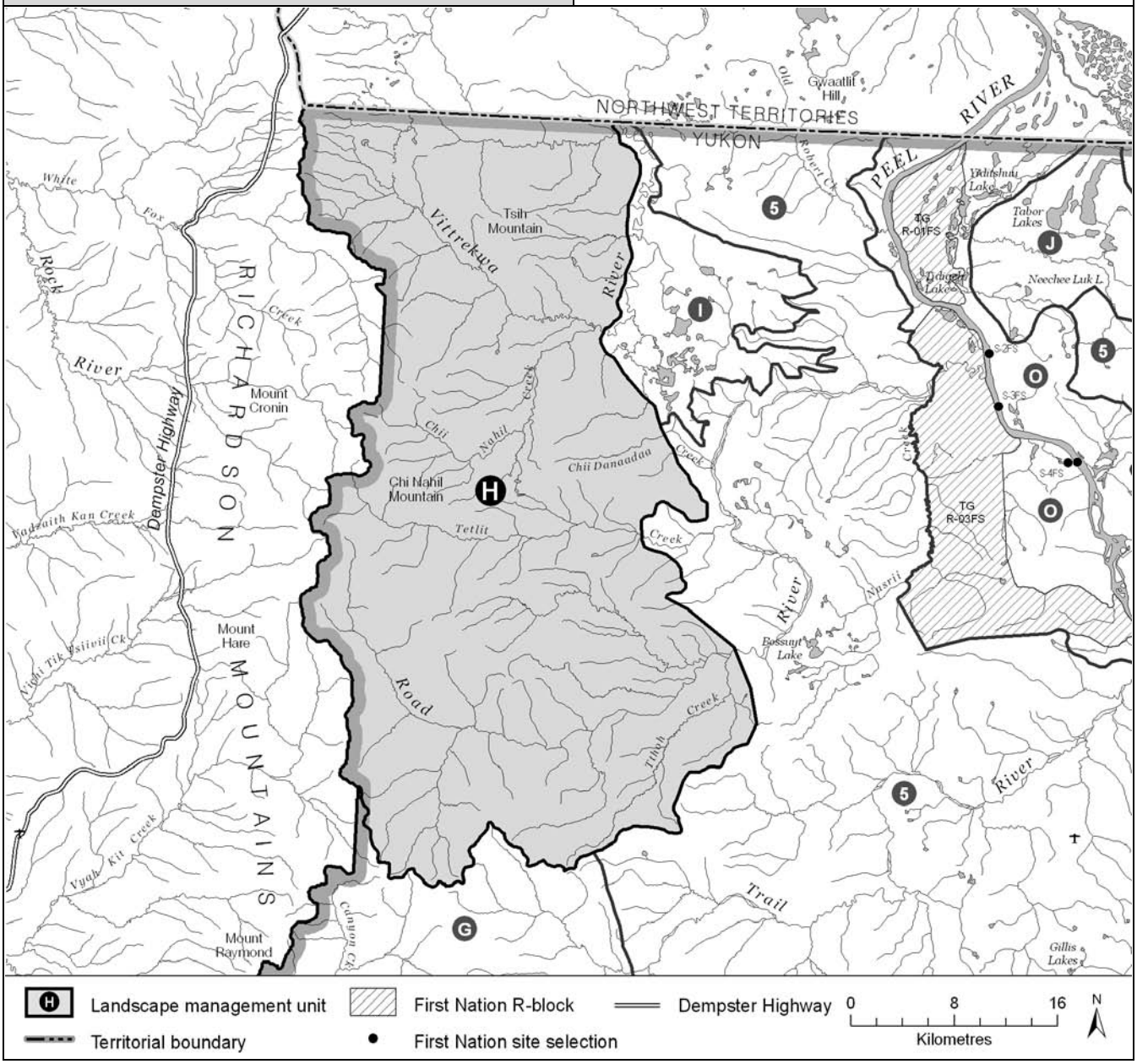
Setting: Unglaciated, sparsely forested mountains and foothills dividing Eagle Plains from the Peel Plateau



Ecoregion(s): British Richardson Mountains

Bioclimatic Zones: Alpine, Taiga Shrub and Taiga Wooded

Gentle mountains interspersed with valleys carpeted with alpine vegetation characterize much of LMU H. (CWS)



ECOLOGICAL RESOURCES	**LMU: H**
Caribou:	Extensive concentrated and general use areas for Porcupine herd for fall and winter seasons, despite low predicted habitat potential for the Porcupine herd. Exposed slopes are important foraging areas, especially in high snow years.
Moose:	Generally poor late winter habitat, though ribbons of high value habitat follow creeks.
Marten:	Generally poor winter habitat suitability, except for extensive high value winter habitat on lower slopes to the south of the unit.
Sheep:	Large areas of highly suitable winter habitat with documented (TK, scientific) habitat use. However, the population is small and isolated and is at risk of decline.
Fish:	Fish likely present on lower gradient streams; some winter open water areas, one known sea-run fish spawning site on Vittrekwa River.
Grizzly Bear:	Moderate to high habitat suitability, especially high in riparian zones.
Peregrine:	
Birds (General):	Pockets of high value waterbird habitat and in riparian areas; moderate breeding species richness and high concentration of species of conservation concern.
Vegetation:	Low – mid elev. shrub and conifer forest, subalpine shrub and alpine exposed rock.
Wetlands, Lakes and Riparian Areas:	A few scattered wetlands. Forms the upper watersheds of Vittrejwa, and Road Rivers.
Permafrost:	Continuous permafrost is predicted.
Special Features:	One documented wildlife pass and one possible pass.
HERITAGE, CULTURAL AND SCIENTIFIC RESOURCES	
Heritage Resources:	High concentration of VG and TG archaeological sites. Several TG culturally important places. Travel route through Road River from Kit Creek; Route along unnamed creek from Dempster to Peel River.
Palaeontological Resources:	
ECONOMIC DEVELOPMENT	
Transportation / Access	One old winter roads; a conceptual access route has been identified in this unit from Dempster Hwy to Road River.
Traditional Economy:	TG seasonal land use and traditional harvesting and wildlife areas.
Recreation / Tourism:	High value hiking in with access from Dempster Highway. Snowmobiling and wildlife viewing.
Forestry:	No potential for forestry.
Big Game Outfitters / Trapping:	No registered concessions.
Oil and Gas Resources:	No potential.
Mineral Resources:	Low to moderate general mineral potential.

LMU: I Vittrekwa River

General Designation: SMA **Emphasis:** Protection

Primary Regulatory Tool: Ecological Reserve

Other Regulatory Tool(s): National Wildlife Area, Migratory Bird Sanctuary

Land Status: non-settlement land, NND Traditional Territory, TG Primary Use Area.

Area (km ^{2}): 180 **% of Region:** 0.3

Desired Future State:

- Habitats are maintained for water birds and fish, along with the watershed and hydrological functions upon which they depend.
- First Nation cultural practices are maintained without significant adverse impact from other forms of land-use.

What land-use can happen in this LMU?

	Allowable	Prohibited	Not Applicable
Winter or All-season road access:	☐	☑	☐
Existing non-industrial surface activities:	☐	☑	☐
New non-industrial surface activities:	☐	☑	☐
Existing industrial surface or sub-surface activities:	☐	☐	☑
New industrial surface or sub-surface activities:	☐	☑	☐

Rationale for Designation

Most of this unit is considered a Yukon Key Wetland. The wetlands are described as "perched" as they overlay permafrost and are located near incised streams. For this reason they are vulnerable to changes in the area's hydrology. This unit is within the winter and fall ranges of the Porcupine Caribou Herd and has received moderate use in recent decades. A regionally unique and culturally important Dolly Varden spawning runs up the Vittrekwa River, has been ranked as a highly important fish habitat by TG and GTC.

There is a concentration of travel routes, archeological sites, and other culturally important places in this unit. It is also considered to have relatively low mineral potential and no existing claims. Although the unit has moderate oil and gas development potential, the Gwich'in Interim Land Use Planning Board concluded that much of this areas should be a candidate for protection. Further, the GTC does not at present, support the construction of all weather roads in their Primary Use area. For these reasons, the PWPC has also designated this unit as a Special Management Area with a preferred designation as a Wilderness Preserve.

Key Management Objectives

UFA LINK

1. To maintain the hydrology and habitat values of perched wetlands between Vittrekwa and Road Rivers.	14.8.0-14.8.3, 14.11.0, 14.12.0
2. To maintain the ecological values of the Vittrekwa riparian area,	12.17.1-12.17.5

Management Conditions (Class A)

Resource of Interest	
NA	No conditions are required at this time

Management Conditions (Class B)

Resource of Interest	
NA	No conditions are required at this time

Policy Recommendations

No specific policy recommendations are required at this time. Refer to Section 4.1 and 4.3 and Appendix B. for recommendations applicable to the planning region.

Monitoring Recommendations

No specific monitoring recommendations are required at this time. Refer to Section 4.1 and 4.3 and Appendix B. for recommendations applicable to the planning region.

Research Recommendations

No specific research recommendations are required at this time. Refer to Section 4.1 and 4.3 and Appendix B. for recommendations applicable to the planning region.

Best Management Practices

No specific Best Management Practices are recommended at this time. Refer to Section 4.1 and 4.3 and Appendix B. for recommendations applicable to the planning region.

Specific Management Considerations

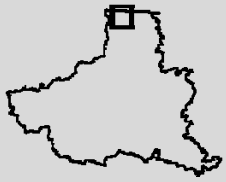
Land-use planning should give special consideration to the Yukon Key Wetland found in this unit.

LMU I: Vittrekwa River

General Designation: IMA

Emphasis: Protection

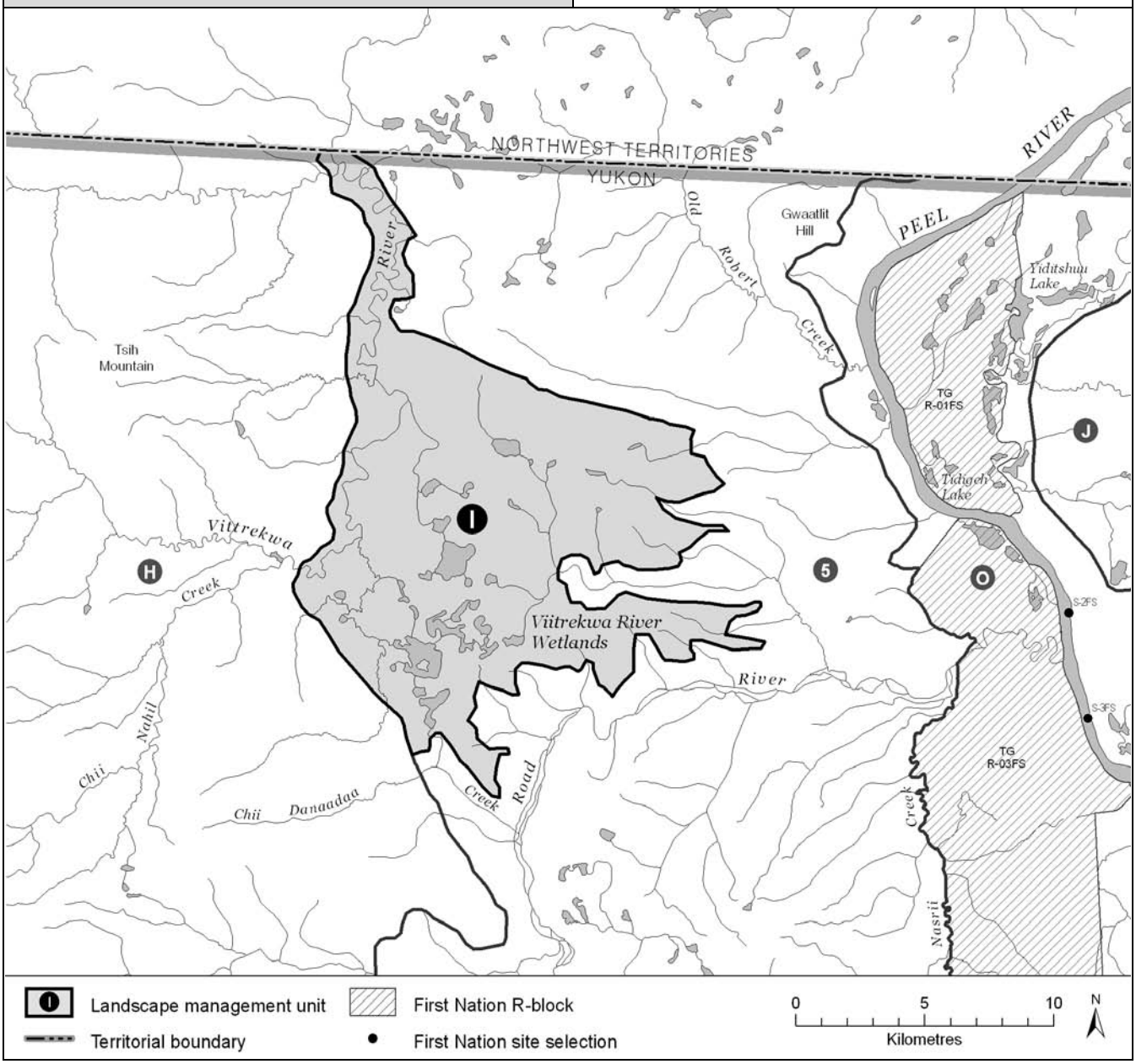
Setting: Perched wetlands and an adjacent riparian strip on the NWT border west of the Peel River.



Ecoregion(s): Peel River Plateau

Bioclimatic Zones: Taiga wooded

Deciduous forests, and steep escarpments are found along the upper Vittrekwa River (I).Scattered lakes and wetlands on a forested plateau characterize the Vittrekwa River wetlands. (CWS)



ECOLOGICAL RESOURCES	**LMU: I**
Caribou:	Variable habitat suitability for the Porcupine herd, with general use in winter and concentrated use in rutting season.
Moose:	High habitat use and quality.
Marten:	Concentrated moderate to high winter habitat suitability.
Sheep:	No sheep habitat.
Fish:	One known sea-run fish spawning site on Vittrekwa River.
Grizzly Bear:	Moderate to high habitat suitability.
Peregrine:	
Birds (General):	Moderate waterbird habitat; Moderate breeding spp. richness and species of conservation concern .
Vegetation:	Low-mid elev. dry/wet shrub and conifer forest.
Wetlands, Lakes and Riparian Areas:	Several large lakes and wetland complexes and hundreds of scattered wetlands; key wetland area (YG) around Vittrekwa River and Lakes.
Permafrost:	Extensive high water content permafrost expected. Wetlands "perched" above incised valleys and stable slopes rely on intact permafrost.
Special Features:	
HERITAGE, CULTURAL AND SCIENTIFIC RESOURCES	
Heritage Resources:	Concentration of TG travel routes; includes TG culturally important place. NND Traditional Territory and TGFN Primary Use Area (entire unit).
Palaeontological Resources:	
ECONOMIC DEVELOPMENT	
Transportation / Access	No surface access, though is bisected by several seismic lines or trails.
Traditional Economy:	TG traditional harvesting and wildlife areas and seasonal land use.
Recreation / Tourism:	No identified recreation values.
Forestry:	Little potential for forestry.
Big Game Outfitters / Trapping:	No registered concessions.
Oil and Gas Resources:	Peel Plateau and Plain basin with low potential.
Mineral Resources:	No quartz claims; lowest general mineral potential.

LMU: J Tabor Lakes

General Designation: SMA **Emphasis:** Protection

Primary Regulatory Tool: Ecological Reserve

Other Regulatory Tool(s): National Wildlife Area, Migratory Bird Sanctuary

Land Status: non-settlement land, NND Traditional Territory, TG Primary Use Area.

Area (km ^{2}): 157 **% of Region:** 0.2

Desired Future State:

- Habitats are maintained for water birds and fish, along with the watershed and hydrological functions upon which they depend.
- The movement and habitat use of Boreal caribou are unaffected by any land use activity or habitat disturbance.

What land-use can happen in this LMU?

	Allowable	Prohibited	Not Applicable
Winter or All-season road access:	☐	☑	☐
Existing non-industrial surface activities:	☐	☑	☐
New non-industrial surface activities:	☐	☑	☐
Existing industrial surface or sub-surface activities:	☐	☐	☑
New industrial surface or sub-surface activities:	☐	☑	☐

Rationale for Designation

The Tabor Lakes LMU is similar in ecological function to Jackfish Lakes but drains directly into the Peel River. Key values of this unit are Boreal Caribou, wetland hydrology, and waterbirds. Impacts to underlying permafrost, whether by surface disturbance, or climate change, or a combination, could alter the hydrology of the area. It is further noted that NND and GTC do not support all season roads through this LMU. The area also has subsistence value to Gwich'in First Nations given both its location in the TG Primary Use Area, and the historic Peel River Preserve.

The Commission recommends that the Tabor Lakes LMU be managed consistent with the Jackfish Lakes to reinforce the NWT's Boreal Caribou Action Plan. The Tabor Lakes LMU, therefore, is proposed as a Special Management Area with emphasis on general protection using regulatory tools to ensure conservation of the Boreal Caribou, waterfowl, and hydrology.

Key Management Objectives

	UFA LINK
1. To maintain the hydrology and habitat values of Tabor Lakes.	14.8.0-14.8.3, 14.11.0,

	14.12.0 GYTA 10.3.0-10.3.8 and 12.6.1-12.6.2
2. To maintain Boreal caribou habitat quality and population levels consistent with management objectives for this threatened species of wildlife (COSEWIC).	16.1.1.1, 16.6.9, 16.6.10.1, 16.7.12.2

Management Conditions (Class A)

Resource of Interest

NA — No conditions are required at this time.

Management Conditions (Class B)

Resource of Interest

NA — No conditions are required at this time.

Policy Recommendations

No specific policy recommendations are required at this time. Refer to Section 4.1 and 4.3 and Appendix B. for recommendations applicable to the entire planning region.

Monitoring Recommendations

No specific monitoring recommendations are required at this time. Refer to Section 4.1 and 4.3 and Appendix B. for recommendations applicable to the planning region.

Research Recommendations

No specific research recommendations are required at this time. Refer to Section 4.1 and 4.3 and Appendix B. for recommendations applicable to the planning region.

Best Management Practices

No specific Best Management Recommendations are required at this time. Refer to Section 4.1 and 4.3 and Appendix B. for recommendations applicable to the planning region.

Specific Management Considerations

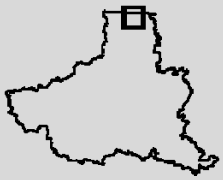
Land-use planning should give special consideration to the Yukon Key Wetland found in this unit.

LMU J: Tabor Lakes

General Designation: IMA

Emphasis: Protection

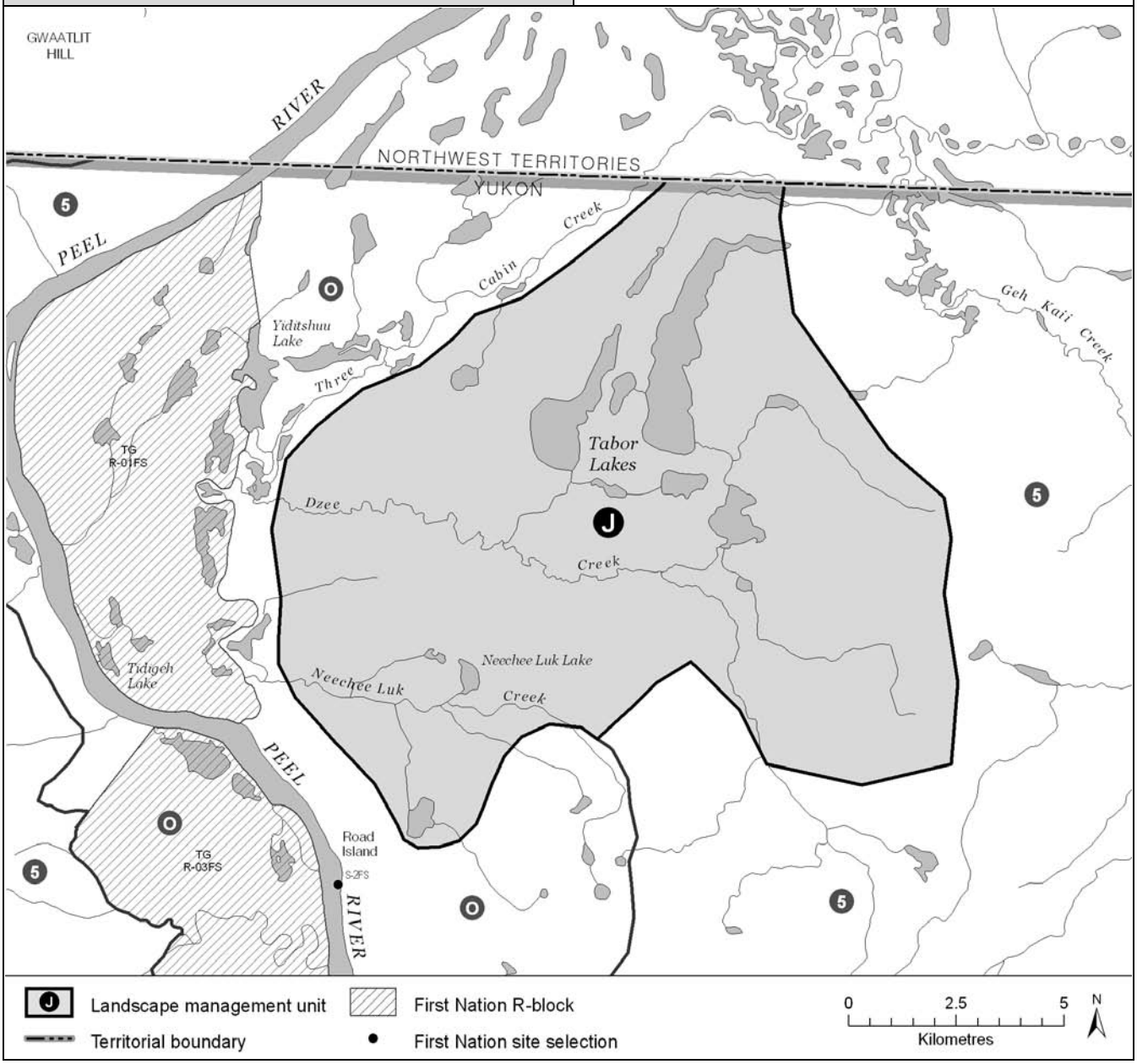
Setting: Wetland complex and upstream tributaries on bench above Peel mainstem



Ecoregion(s): Fort McPherson Plain

Bioclimatic Zones: Taiga Wooded

Numerous lakes make up the Tabor Lake complex. These lakes are surrounded by wetlands and open forests. (CWS)



ECOLOGICAL RESOURCES	**LMU: J**
Caribou:	Entire area is moderate and high habitat potential for the Boreal herd.
Moose:	Entire area is moderate value late winter habitat.
Marten:	Extensive and concentrated moderate winter habitat suitability.
Sheep:	No sheep habitat.
Fish:	Fish presence likely throughout.
Grizzly Bear:	Low habitat suitability, very little moderate suitability.
Peregrine:	Some peregrine falcon foraging habitat.
Birds (General):	Significant waterbird habitat; low-moderate breeding species richness and of conservation concern.
Vegetation:	Low-mid elev. wet herb/shrub and conifer. Forest, wetlands and open water.
Wetlands, Lakes and Riparian Areas:	Large lakes with mosaic of small lakes and wetlands; key wetland area (YG).
Permafrost:	Extensive high water content permafrost expected.
Special Features:	
HERITAGE, CULTURAL AND SCIENTIFIC RESOURCES	
Heritage Resources:	Connectivity to travel routes along the Peel River; one cabin identified. TG primary use area.
Palaeontological Resources:	
ECONOMIC DEVELOPMENT	
Transportation / Access	Extensive network of old winter roads and unclassified linear features.
Traditional Economy:	TG traditional harvesting and wildlife areas.
Recreation / Tourism:	No identified high recreation values.
Forestry:	Little potential for forestry.
Big Game Outfitters / Trapping:	No registered concessions.
Oil and Gas Resources:	Peel Plateau and Plain basin and is moderate potential; one abandoned well.
Mineral Resources:	No mineral potential.

LMU: K Jackfish Creek Lakes

General Designation: SMA **Emphasis:** Protection

Primary Regulatory Tool: Critical Habitat Protection

Other Regulatory Tool(s): Ecological Reserve,National Wildlife Area, Migratory Bird Sanctuary

Land Status: non-settlement land, NND Traditional Territory, TG Primary Use Area.

Area (km ^{2}): 772 **% of Region:** 1.1

Desired Future State:

- Habitats are maintained for water birds and fish, along with the watershed and hydrological functions upon which they depend.
- The movement and habitat use of Boreal caribou are unaffected by any land use activity or habitat disturbance.

What land-use can happen in this LMU?

	Allowable	Prohibited	Not Applicable
Winter or All-season road access:	☐	☑	☐
Existing non-industrial surface activities:	☐	☑	☐
New non-industrial surface activities:	☐	☑	☐
Existing industrial surface or sub-surface activities:	☐	☐	☑
New industrial surface or sub-surface activities:	☐	☑	☐

Rationale for Designation

The Jackfish Lakes LMU Includes an unique overlap of key habitats including Yukon's only core habitat of Boreal Woodland Caribou and a Yukon Key Wetland. Boreal Woodland Caribou are listed by COSEWIC as "Threatened" (though ranked in the NWT as "Sensitive").

DUC has repeatedly stated that these wetlands merit protection based on their importance for waterbirds and complex hydrology. Impacts to the underlying permafrost, whether by surface disturbance or climate change, or a combination, could alter the hydrology of the area. NWT's Boreal Caribou Action Plan stated that establishing conservation zones that protect habitat through regional land use planning processes is a key action in conserving boreal caribou.

This unit has moderate oil and gas development potential in only a small portion, and has low mineral potential and no existing claims. It is further noted that NND and GTC do not support all season roads through this LMU.

Based upon the high ecological significance of the area, the Jackfish Lakes

LMU is proposed as a Special Management Area with emphasis on general protection using regulatory tools to ensure conservation of the Boreal Caribou, waterfowl, and hydrology.

Key Management Objectives

	UFA LINK
1. To maintain the hydrology and habitat values of Jackfish Lakes.	11.4.5.7 GYTA 10.3.0-10.3.8 and 12.6.1-12.6.2
2. To maintain Boreal caribou habitat quality and population levels consistent with management objectives for this threatened species of wildlife (COSEWIC).	16.1.1.1, 16.6.9, 16.6.10.1, 16.7.12.2

Management Conditions (Class A)

Resource of Interest	
NA	No conditions are required at this time.

Management Conditions (Class B)

Resource of Interest	
NA	No conditions are required at this time.

Policy Recommendations

No specific policy recommendations are required at this time. Refer to Section 4.1 and 4.3 and Appendix B. for recommendations applicable to the entire planning region.

Monitoring Recommendations

No specific monitoring recommendations are required at this time. Refer to Section 4.1 and 4.3 and Appendix B. for recommendations applicable to the planning region.

Research Recommendations

No specific research recommendations are required at this time. Refer to Section 4.1 and 4.3 and Appendix B. for recommendations applicable to the planning region.

Best Management Practices

No specific Best Management Recommendations are required at this time. Refer to Section 4.1 and 4.3 and Appendix B. for recommendations applicable to the planning region.

Specific Management Considerations

Land-use planning should give special consideration to the Yukon Key Wetland found in this unit.

The Boreal Caribou Recovery Plan may be relevant to management of land-use activities in this unit.

Only one caribou sub-species, the Boreal caribou has concentrated use within the unit.

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LMU K: Jackfish Creek Lakes

General Designation: IMA

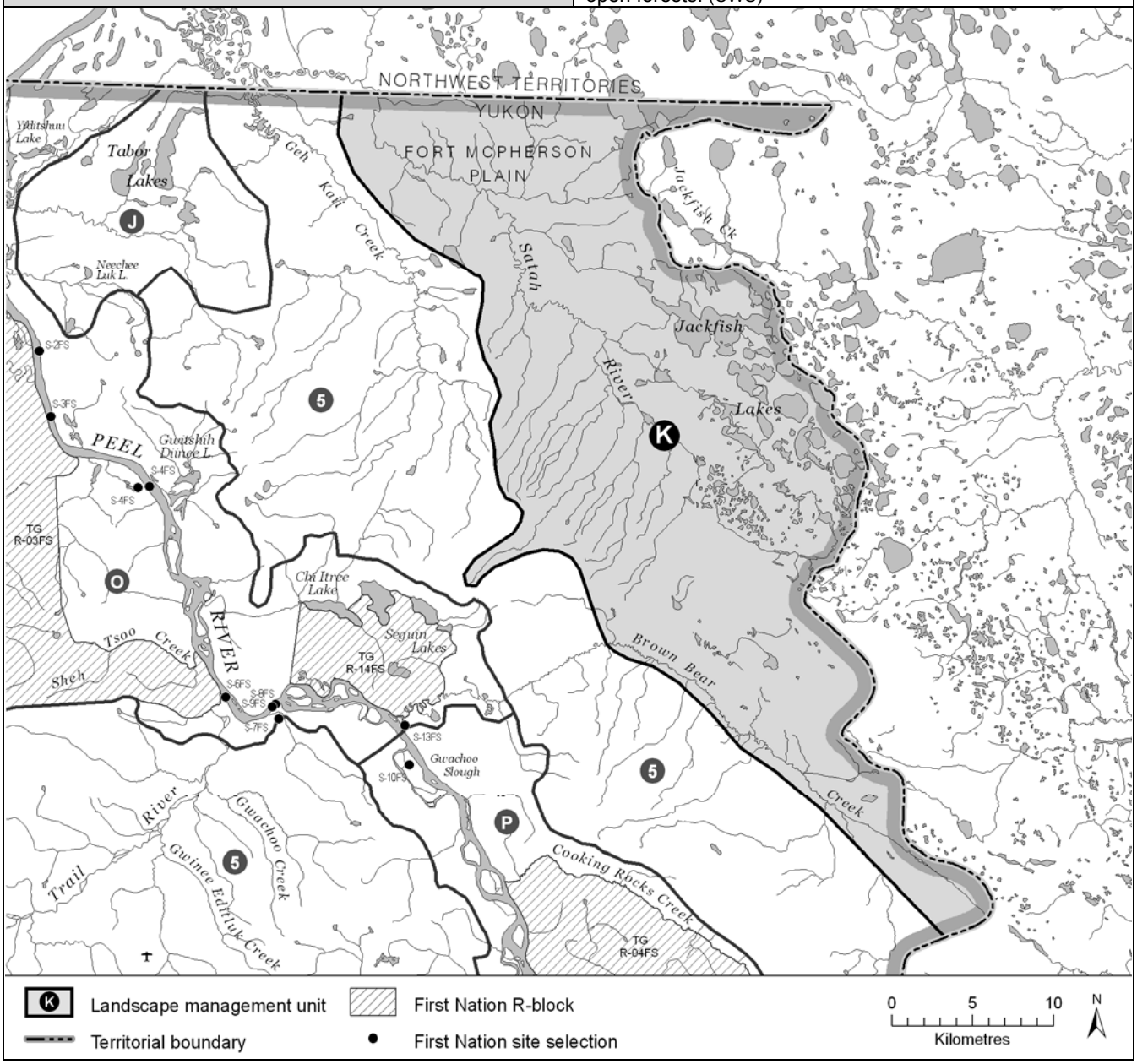
Emphasis: Protection

Setting: Wetland complex and upstream tributaries draining into the Satah River

Ecoregion(s): Fort McPherson Plain

Bioclimatic Zones: Taiga Wooded

Numerous lakes make up the Jackfish Lake complex. These lakes are surrounded by wetlands and lichen-rich open forests. (CWS)



ECOLOGICAL RESOURCES	**LMU: K**
Caribou:	Entire area is moderate and high habitat potential for the Boreal herd with concentrations of high potential around the southern lakes. Corresponding concentrated use by this herd appears around Jackfish Lakes.
Moose:	Expansive moderate value late winter habitat.
Marten:	Extensive and concentrated moderate winter habitat suitability.
Sheep:	No sheep habitat.
Fish:	Fish presence likely throughout.
Grizzly Bear:	Low habitat suitability, moderate along Satah River.
Peregrine:	
Birds (General):	Highest concentration of waterbird habitat; moderate breeding species richness and of conservation concern (pockets of high areas).
Vegetation:	Low-mid elev. Wet herb/shrub conifer forest, lichen and open water.
Wetlands, Lakes and Riparian Areas:	Many large lakes and high concentration of small to large wetlands; key wetland area (YG).
Permafrost:	Extensive high water content permafrost expected.
Special Features:	
HERITAGE, CULTURAL AND SCIENTIFIC RESOURCES	
Heritage Resources:	Travel along the Satah River; No sites identified. TG primary use area.
Palaeontological Resources:	
ECONOMIC DEVELOPMENT	
Transportation / Access	Extensive network of old winter roads and unclassified linear features.
Traditional Economy:	TG seasonal land use.
Recreation / Tourism:	No identified high recreation values.
Forestry:	Potential for very limited forestry.
Big Game Outfitters / Trapping:	No registered concessions.
Oil and Gas Resources:	Peel Plateau and Plain basin and is moderate potential; one abandoned well.
Mineral Resources:	No mineral potential.

LMU: L Chappie Lake Complex

General Designation: SMA **Emphasis:** Protection

Primary Regulatory Tool: Ecological Reserve

Other Regulatory Tool(s): Wilderness Preserve,National Wildlife Area, Migratory Bird Sanctuary

Land Status: non-settlement land, NND Traditional Territory, TG Primary Use Area., TG Yukon Land (R-10FS), NND settlement land (S-138B, S-187B)

Area (km ^{2}): 267 **% of Region:** 0.4

Desired Future State:

- Habitats are maintained for water birds and fish, along with the watershed and hydrological functions upon which they depend.
- Cultural activities of relevant First Nations occur undiminished and without significant disturbance from other land-use activities.

What land-use can happen in this LMU?

	Allowable	Prohibited	Not Applicable
Winter or All-season road access:	☐	☑	☐
Existing non-industrial surface activities:	☐	☑	☐
New non-industrial surface activities:	☐	☑	☐
Existing industrial surface or sub-surface activities:	☐	☐	☑
New industrial surface or sub-surface activities:	☐	☑	☐

Rationale for Designation

The Chappie Lakes LMU is a Yukon Key Wetland. It includes important trapping and hunting areas, and is in a hydrologically significant location between the mouths of the Wind and Bonnet Plume Rivers. The LMU is a candidate protection area identified by the Peel River Watershed Advisory pursuant to the initial implementation of the Gwich'in Comprehensive Land Claim (Appendix C).

This area is also within the range of the Porcupine Caribou Herd. There is concern for the stability of the area's hydrology, due to widespread underlying permafrost and its vulnerability to potential impacts from development or climate change. The area has low quartz mineral potential, but has potential for coal. It has no existing claims for either resource. This LMU would be closed to further staking.

TH, NND, TGC support a strong level of protection for the Peel watershed. The NND and GTC do not support all season roads, and the GTC wants an SMA at the mouths of the Wind, Bonnet Plume and Snake Rivers. Given these combined factors, the Commission recommends Special Management Area designation with emphasis on General Protection.

Key Management Objectives

	UFA LINK
1. To maintain the hydrology and habitat values of the Chappie Lake area.	14.8.0-14.8.3, 14.11.0, 14.12.0 GYTA 10.3.0-10.3.8 and 12.6.1-12.6.2

Management Conditions (Class A)

Resource of Interest	
NA	No conditions are required at this time.

Management Conditions (Class B)

Resource of Interest	
NA	No conditions are required at this time.

Policy Recommendations

No specific policy recommendations are required at this time. Refer to Section 4.1 and 4.3 and Appendix B. for recommendations applicable to the entire planning region.

Monitoring Recommendations

No specific monitoring recommendations are required at this time. Refer to Section 4.1 and 4.3 and Appendix B. for recommendations applicable to the planning region.

Research Recommendations

No specific research recommendations are required at this time. Refer to Section 4.1 and 4.3 and Appendix B. for recommendations applicable to the planning region.

Best Management Practices

No specific Best Management Recommendations are required at this time. Refer to Section 4.1 and 4.3 and Appendix B. for recommendations applicable to the planning region.

Specific Management Considerations

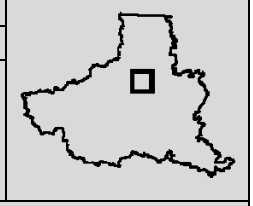
Land-use planning should give special consideration to the Yukon Key Wetland found in this unit.

LMU L: Chappie Lake Complex

General Designation: IMA

Emphasis: Protection

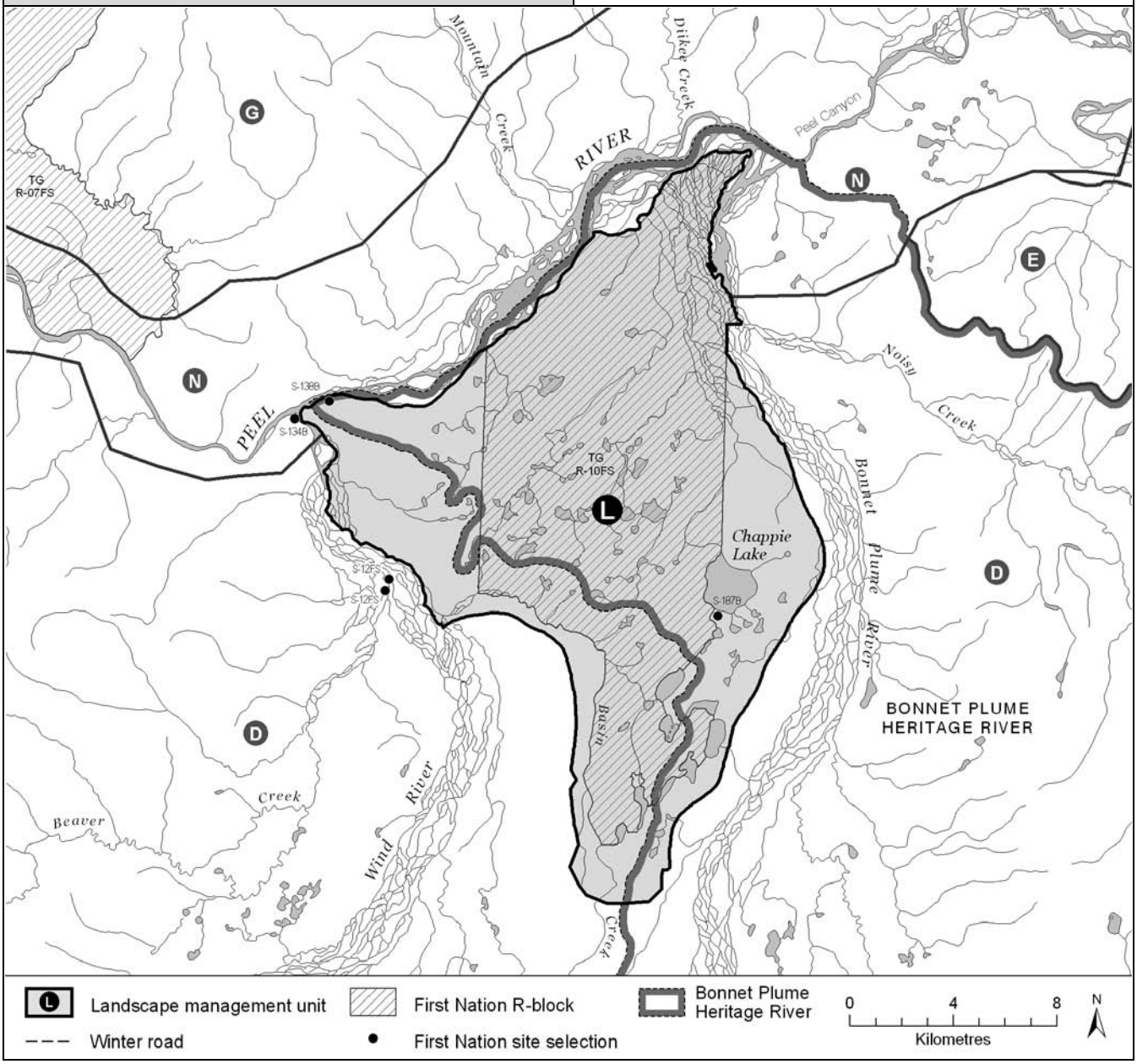
Setting: Flat plateau with many wetlands and small lakes between lower reaches of the Bonnet Plume and Wind Rivers



Ecoregion(s): Peel River Plateau

Bioclimatic Zones: Taiga Wooded

Flat terrain with many lakes is found throughout LMU L. Recent fires have resulted in extensive shrublands. (YG)



ECOLOGICAL RESOURCES	**LMU: L**
Caribou:	Extensive moderate winter habitat potential for the Porcupine herd – little use in recent decades.
Moose:	Moderate-low late winter habitat suitability.
Marten:	High quality winter habitat.
Sheep:	None
Fish:	Fish presence potential in most streams and lakes.
Grizzly Bear:	Mix of low to high habitat suitability.
Peregrine:	High potential for peregrine falcon foraging and some nesting habitat
Birds (General):	Territorial key area for waterbirds; variableh breeding birds species richness; moderate species of concern.
Vegetation:	Coniferous forest and shrub and extensive wetland vegetation.
Wetlands, Lakes and Riparian Areas:	A territorially-significant wetland complex between Bonnet Plume and Wind Rivers.
Permafrost:	Extensive high water content permafrost expected.
Special Features:	
HERITAGE, CULTURAL AND SCIENTIFIC RESOURCES	
Heritage Resources:	Several cabins in area; TG culturally important area; travel routes throughout.
Palaeontological 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.
ECONOMIC DEVELOPMENT	
Transportation / Access	Some old winter road access along Bonnet Plume to east; float plane landing at Chappie Lake.
Traditional Economy:	TG traditional harvesting and wildlife areas around Chappie Lake (primarily furs).
Recreation / Tourism:	Low tourism potential.
Forestry:	Little potential for forestry.
Big Game Outfitters / Trapping:	No BGO concessions.
Oil and Gas Resources:	Within the low potential Bonnet Plume basin.
Mineral Resources:	Potential for coal; lowest potential otherwise.

LMU: M Turner Lake Wetlands

General Designation: SMA **Emphasis:** Protection

Primary Regulatory Tool: Ecological Reserve

Other Regulatory Tool(s): Migratory Bird Sanctuary, Map Notation

Land Status: non-settlement land, NND Traditional Territory, TG Primary Use Area

Area (km ^{2}): 1611 **% of Region:** 2.4

Desired Future State:

- Habitats are maintained for water birds and fish, along with the watershed and hydrological functions upon which they depend.
- First Nation cultural practices are maintained without significant adverse impact from other forms of regulated land-use.
- The ecological and cultural-use functions of Edigii Hill are protected from adverse impact by other forms of regulated land-use.

What land-use can happen in this LMU?

	Allowable	Prohibited	Not Applicable
Winter or All-season road access:	☐	☑	☐
Existing non-industrial surface activities:	☑	☐	☐
New non-industrial surface activities:	☐	☑	☐
Existing industrial surface or sub-surface activities:	☑	☐	☐
New industrial surface or sub-surface activities:	☐	☑	☐

Rationale for Designation

Edigii Hill and surrounding area have long been identified by the GTC as requiring protection of the Porcupine Caribou Herd's winter habitat.
The Road, Trail, and Caribou Rivers are major east-west corridors across the Peel Plateau, valuable in connecting the Peel with the Richardson Mountains. As well, the Trail River is important for its fish to the Teetl'it Gwich'in, It contains key winter moose habitat.

The area has also been explored for oil and gas, evidenced by the visible footprint of seismic lines. The TG would like the Turner Lake watershed managed as a wilderness environment to minimize further surface development, in keeping with Gwich'in Elder's vision for the area. Further, YG has identified Turner Lakes as a Yukon Key Wetland.

Interest in the area's oil and gas reserves gives the area an underlying economic potential. Feasibility studies indicate, however, that prospects for development of the Peel Plateau basin are at least 25 years into the future once more accessible gas deposits prove viable in the Eagle Plains area.

Stakeholder organizations have identified environmental risks from industrial activities with specific concerns about water quality, migratory waterbird habitat and caribou habitat. Based upon the input it has received, and data collected, the Commission accepts there is sufficient reason to designate this LMU as a Special Management Area with emphasis on General Protection through either territorial or federal resource management regulatory tools.

Key Management Objectives

	UFA LINK
1. To maintain the hydrology and habitat values of perched wetlands in the Turner Lake area.	14.8.0-14.8.3, 14.11.0, 14.12.0 GYTA 10.3.0-10.3.8 and 12.3.1, 12.4.1, 12.6.1-12.6.2
2. To maintain the ecological and cultural values of Edigii Hill.	16.6.9, 16.6.10.1, 16.7.12.2, 16.7.1, 16.7.11 GYTA 9.4
3. To maintain the hydrology of the Caribou River.	14.8.0-14.8.3, 14.11.0, 14.12.0

Management Conditions (Class A)

Resource of Interest	
NA	No conditions are required at this time

Management Conditions (Class B)

Resource of Interest	
NA	No conditions are required at this time

Policy Recommendations

No specific policy recommendations are required at this time. Refer to Section 4.1 and 4.3 and Appendix B. for recommendations applicable to the entire planning region.

Monitoring Recommendations

No specific monitoring recommendations are required at this time. Refer to Section 4.1 and 4.3 and Appendix B. for recommendations applicable to the planning region.

Research Recommendations

No specific research recommendations are required at this time. Refer to Section 4.1 and 4.3 and Appendix B. for recommendations applicable to the planning region.

Best Management Practices

No specific Best Management Practices are required at this time. Refer to Section 4.1 and 4.3 and Appendix B. for recommendations applicable to the planning region.

Specific Management Considerations

This unit encompasses the "Peel Plateau" Yukon Key Wetland which is currently designated as a Map Notation signifying a conservation interest with no legal protection.

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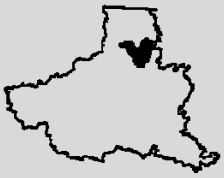
LMU M: Turner Lake Wetlands

General Designation: SMA

Emphasis: Protection

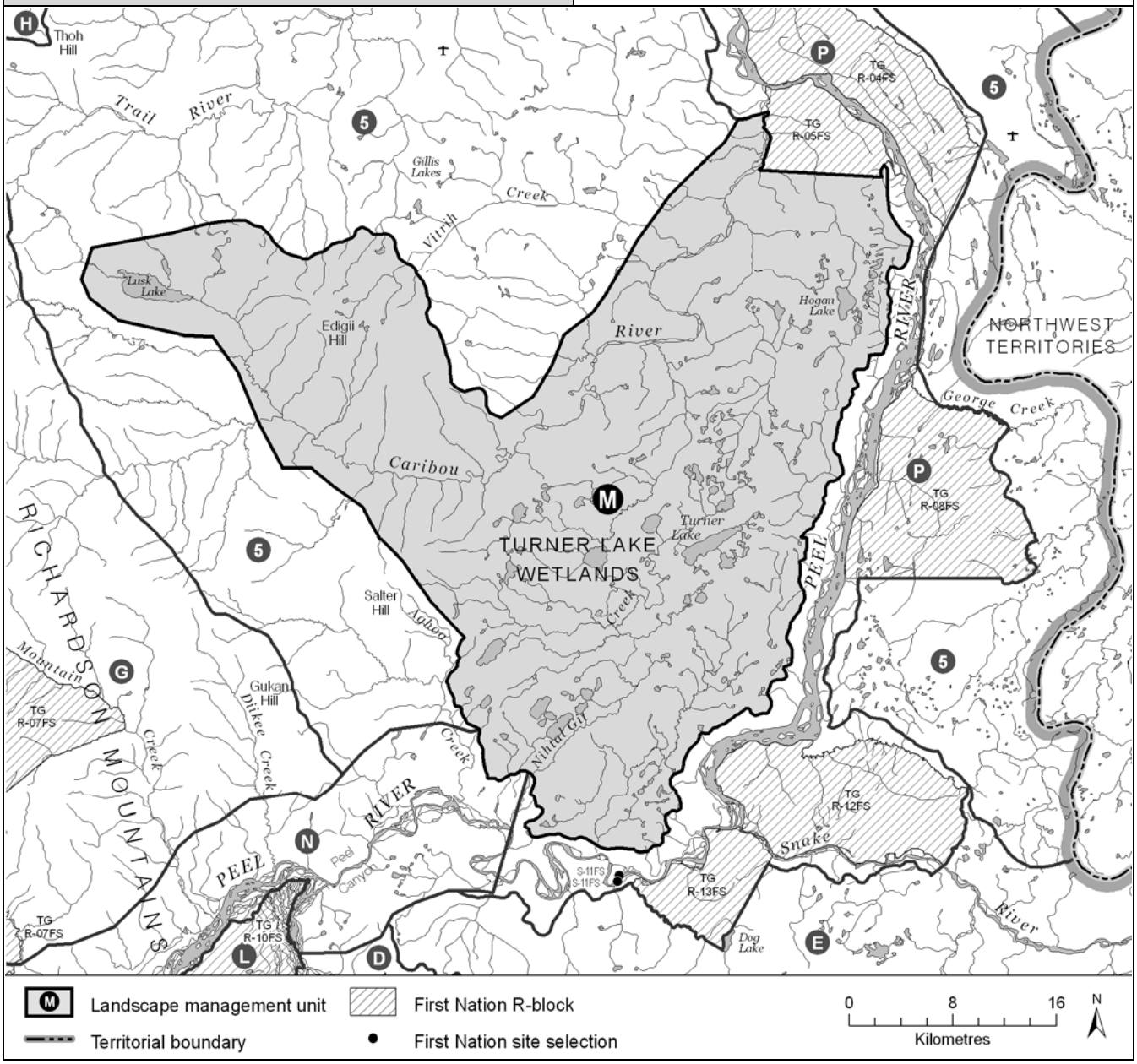
Setting: Flat wetland complex, a large incised river, and a broad flat hill rising out of the plateau



Ecoregion(s): Peel River Plateau

Bioclimatic Zones: Taiga Wooded and Taiga Shrub

Scattered lakes, wetlands and open forests underlain with lichens and permafrost are throughout this unit. The incised Caribou River valley is in the background. (CWS)



ECOLOGICAL RESOURCES	**LMU: M**
Caribou:	Virtually entire area is moderate and high habitat potential for the Porcupine herd, with concentrations of high potential around central lakes. Little use in recent decades though traditional and scientific knowledge indicate historical heavy use. Edigii hill could be a significant refuge from insects or deep/hard snow pack.
Moose:	Expansive moderate-low value late winter habitat.
Marten:	Extensive and concentrated moderate to high winter habitat suitability. A culturally-significant trapping area.
Sheep:	No sheep habitat.
Fish:	Fish presence likely throughout; several known spawning locations.
Grizzly Bear:	Low habitat suitability in wetlands, moderate to high towards Richardson foothills.
Peregrine:	Significant peregrine falcon foraging and nesting habitat.
Birds (General):	High concentration of waterbird habitat; high breeding species richness and moderate species of conservation concern.
Vegetation:	Low – mid elev. wet herb/shrub/conifer, lichen and dry coniferous forest.
Wetlands, Lakes and Riparian Areas:	Highest concentration of lakes and wetland complexes in the PWPR; wetland key area (YG) and territorially significant. Narrow riparian strip along Caribou River
Permafrost:	Extensive high water content permafrost expected. Wetlands "perched" above incised valleys and stable slopes rely on intact permafrost.
Special Features:	
HERITAGE, CULTURAL AND SCIENTIFIC RESOURCES	
Heritage Resources:	Travel route along Caribou River with connectivity to Lusk Lake and Upper Peel River; Connecting routes between Trail River and Mountain Creek to lower Peel River. A few cabins and several culturally important places (TG).
Palaeontological Resources:	The sedimentary rocks in this area have high potential to yield Mesozoic fossils.
ECONOMIC DEVELOPMENT	
Transportation / Access	Extensive network of old winter roads and unclassified linear features; a conceptual access route has been identified in this unit from Road River to the Peel River.
Traditional Economy:	TG traditional harvesting and wildlife areas. Turner lakes is known for good trapping.
Recreation / Tourism:	No identified high recreation values.
Forestry:	Little potential for forestry.
Big Game Outfitters / Trapping:	No registered concessions.
Oil and Gas Resources:	Peel Plateau and Plain basin and is moderate potential; four abandoned wells. Oil and gas permit (#0018).
Mineral Resources:	Some moderate general mineral potential.

LMU: N Tshuu tr'adaojìich'uu / Aberdeen and Peel Canyons

General Designation: SMA **Emphasis:** Heritage

Primary Regulatory Tool: National Historic Site

Other Regulatory Tool(s): Historic Site (YG)

Land Status: non-settlement land, NND Traditional Territory, NND settlement land (S-134B), TG Primary Use Area

Area (km ^{2}): 493 **% of Region:** 0.7

Desired Future State:

- Cultural practices and traditional-uses of the Tetl'it Gwich'in are encouraged and protected from adverse impact by other regulated land-uses.

Migration, overwintering, and spawning habitats of fish and the nesting habitats of Peregrine falcons are not adversely impacted by regulated land-uses.

- River-based wilderness tourism uses are managed to a sustainable level of intensity.
- Archaeological, palaeontological and other heritage resources are identified and protected. .

What land-use can happen in this LMU?

	Allowable	Prohibited	Not Applicable
Winter or All-season road access:	☐	☑	☐
Existing non-industrial surface activities:	☑	☐	☐
New non-industrial surface activities:	☑	☐	☐
Existing industrial surface or sub-surface activities:	☑	☐	☐
New industrial surface or sub-surface activities:	☐	☑	☐

Rationale for Designation

The Gwich'in Social and Cultural Institute, on behalf of the Tetłit Gwich'in nominated much of this upper Peel LMU (Tshuu tr'adaojìich'uu) as a National Historic site. This designation is also supported by the Gwich'in Tribal Council and in general by all other regional First Nations. Its heritage value includes the complete story surrounding the passage of the Peel Canyon with moose skin boats. It also includes culturally important trailheads, traplines, camps, burial sites and several named places. Prospectors on their way to the Klondike gold rush also passed this way.

Commercial river tourism and other forms of outdoor recreation are the other predominant economic activities in this corridor at present. The scenic Aberdeen Canyon and its associated portage trail attract hardy wilderness tourists, as does the traversable Peel Canyon. The mouths of the Wind and Bonnet Plume Rivers are also touristic waypoints. The Peel Watershed Advisory Committee also suggested that Aberdeen Canyon and the Peel Canyon be considered for protection. There is also potential for oil, gas and coal in this unit, however, sub-surface

exploration and development is not considered a compatible activity with First Nations cultural use or wilderness/river tourism.

Based upon its findings, the Commission recommends the Upper Peel LMU as a Special Management Area with an emphasis on Heritage Management.

Key Management Objectives

	UFA LINK
1. To ensure meaningful consultation with affected public, tenure holders and First Nations regarding issuance of new tenures that may have adverse impact on land, water or wildlife resources.	16.6.9, 16.7.1, 12.17.1-12.17.5
2. Maintain fish populations (sea-run, and non-sea-run) as a sustainable, renewable resource	16.6.9, 16.7.1, 16.9.1. 16.9.1.1 GYTA 10.3.0-10.3.8 and 12.6.1-12.6.2
3. To protect peregrine nesting habitat for ensuring reproductive success and rearing.	16.1.1.1, 16.6.9, 16.6.10.1, 16.7.12.2
4. To identify and protect culturally-important sites and areas that are of high subsistence and heritage value to First Nations.	13.1.1.8, 13.5.3.2, 13.5.3.7, 13.8.0-13.9.0 GYTA 9.4, 12.3.1, 12.4.1, 12.6.1-12.6.2
5. To maintain wildnerness tourism, archeological and cultural values.	11.4.5.7

Management Conditions (Class A)

Resource of Interest

Enhanced Consultation	Consult with affected residents and affected First Nations to identify issues and areas of concern prior to granting new land interests that would cause any disturbance to land, cultural sites, or wildlife.
	Identify appropriate protocol for consultation with affected residents and First Nations

Heritage Resources	Consult with affected residents and affected First Nation to identify issues and areas of concern prior to and when undertaking any type of granted land interest that would cause any disturbance to land, wildlife or heritage resources.

Management Conditions (Class B)

Resource of Interest	
Fish	New infrastructure should be constructed so that damage to the shoreline, escarpments, the river and lake beds, or other natural features will not lead to significant impacts on water quality or fish populations.
	Avoid or reduce activities in fish habitat during important biological periods or seasons (e.g., utilize timing windows).

Policy Recommendations

No specific policy recommendations are required at this time. Refer to Section 4.1 and 4.3 and Appendix B. for recommendations applicable to the entire planning region.

Monitoring Recommendations

Indicators of water drinking quality should be tracked on the Peel mainstem with results being communicated to the community of Fort McPherson.

Monitor water quality and fish populations for adverse significant effects due of infrastructure on shorelines, escarpments, the river and lake beds, or other natural features.

Inform local pilots of known peregrine nesting areas, sensitive timing windows (e.g., beginning of March to the end of August), and provide information on flying practices that minimize disturbance of peregrine (e.g., a minimum altitute of 650m above raptor nesting habitat).

Research Recommendations

Determine what management strategies should be adopted to ensure a high quality wilderness experience while protecting heritage values of the area.

A document describing best practices when “Flying in Peregrine Country” should be developed.

Best Management Practices

Wilderness tourists should be made aware of low-impact camping/trekking practices.

Specific Management Considerations

Enhanced community consultation required for further industrial granted land interests in this unit.

The extensive cultural value and proximity to Fort McPherson give this unit high potential for the location of cultural camps.

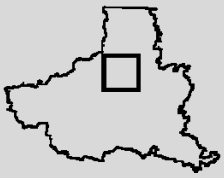
The Gwich’in Social and Cultural Institute (2003) proposed a “Heart of the TGFN National Historic Site” within this unit. The site is referred to as "Teetl'it njik which translates as "water - rough hateful". This proposal identified the site as starting at the mouth of the Wind River to below the mouth of Aghoo Creek. The site extends 5 km inland from the high water mark on both sides of the river. It is downriver from the Aberdeen Canyon and includes a smaller canyon known locally as the Peel Canyon. The management direction of this unit should be harmonious with this proposal.

LMU N: Tshuu tr'adaojìich'uu / Aberdeen and Peel Canyons

General Designation: SMA

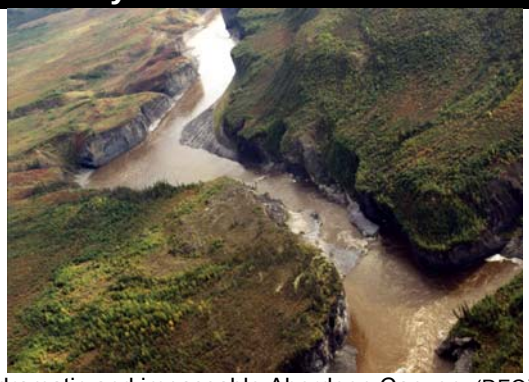
Emphasis: Heritage

Setting: The area surrounding the Peel River from the top of Aberdeen Canyon, past the broad alluvial fans at confluences of the Peel with the Wind & Bonnet Plume Rivers to the bottom of the Peel Canyon.

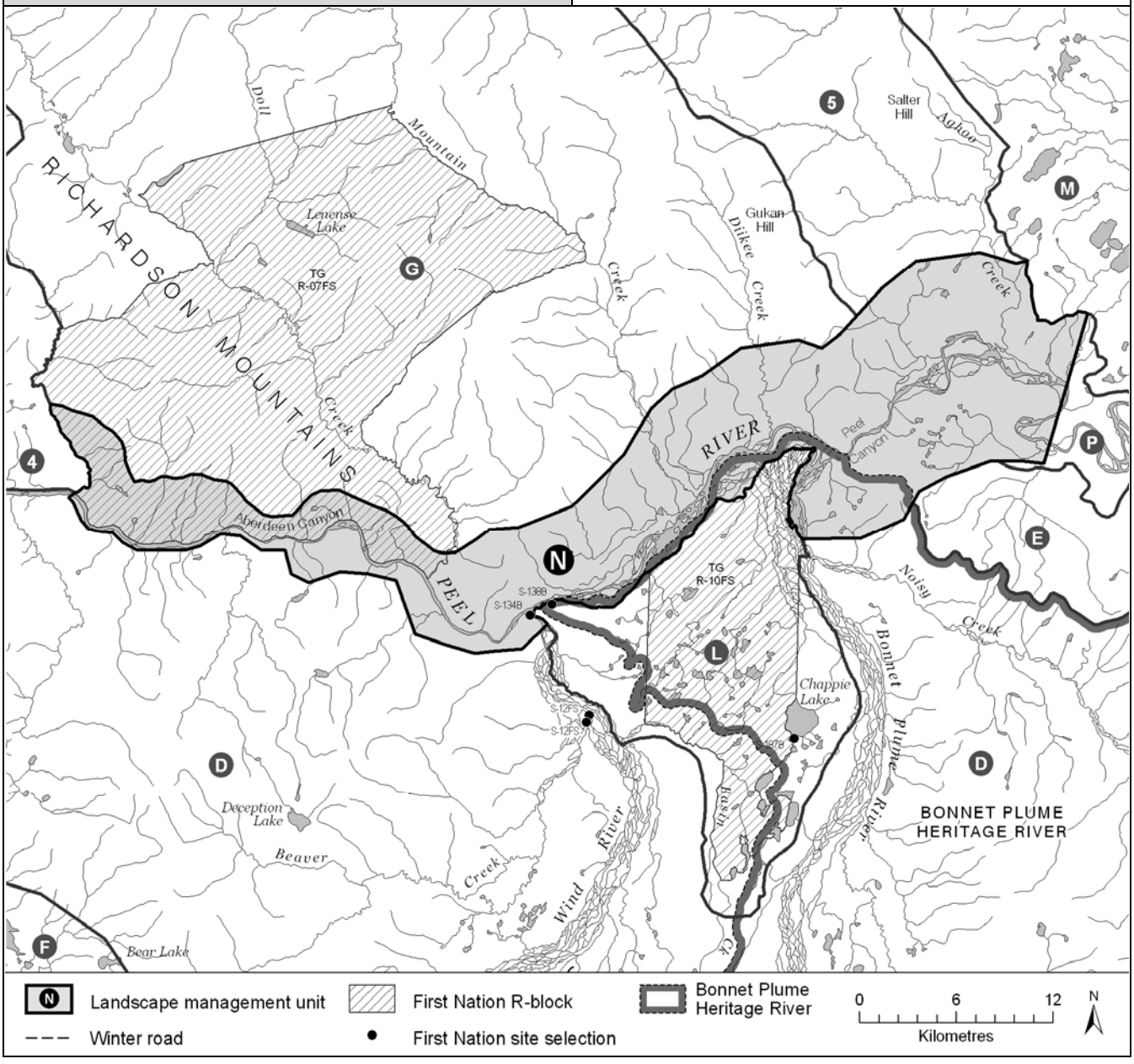


Ecoregion(s): Peel River Plateau, British Richardson Mountains and Eagle Plains

Bioclimatic Zones: Taiga wooded



The dramatic and impassable Aberdeen Canyon. (DFO)



ECOLOGICAL RESOURCES	**LMU: N**
Caribou:	Variable habitat suitability for the Porcupine herd, and low to nil habitat suitability for the Bonnet Plume herd.
Moose:	Extensive moderate valued late winter habitat with pockets of high value habitat along the Peel River. Traditional place to hunt moose.
Marten:	Generally moderate value winter habitat.
Sheep:	No sheep habitat.
Fish:	Fish present throughout, several known spawning locations, sea-run fish spawning throughout; a few winter open water sites; winter surface groundwater throughout.
Grizzly Bear:	Low to high habitat suitability, highest at river confluences and riparian areas.
Peregrine:	Very high peregrine foraging and nesting habitat along Peel River.
Birds (General):	Moderate waterbird habitat; low to mod breeding spp. richness and species of conservation concern.
Vegetation:	Low-mid elev. dry/wet herb and shrub.
Wetlands, Lakes and Riparian Areas:	Wetland complexes along Peel River and confluences; key wetland area (YG) Chappie Lake. Notable rivers with significant active riparian areas are Peel River, Wind River and Bonnet Plume River.
Permafrost:	Continuous permafrost is predicted.
Special Features:	Peel Canyon; Ezhinakàn (Burning Rock).
HERITAGE, CULTURAL AND SCIENTIFIC RESOURCES	
Heritage Resources:	High concentration of VG and TG culturally important places; One cabin identified. Several travel routes connecting to the Peel River with travel route along the Peel.
Palaeontological Resources:	The Bonnet Plume Formation sedimentary rocks have known dinosaur and plant fossil localities and have high potential to yield further fossil discoveries.
ECONOMIC DEVELOPMENT	
Transportation / Access	Many old winter roads; a conceptual access route has been identified in this unit downstream of the Bonnet Plume River confluence with the Peel River. Small motorboats can go up the Peel Canyon.
Traditional Economy:	TG seasonal land use.
Recreation / Tourism:	High value wilderness paddling.
Forestry:	Potential localized demand for fuel wood, logs for cabins.
Big Game Outfitters / Trapping:	No registered concessions.
Oil and Gas Resources:	Peel Plateau and Plain basin; moderate potential; four abandoned wells.
Mineral Resources:	A little moderate general mineral potential; coal potential.

LMU: O Teetł'it njik / Lower Peel River

General Designation: SMA **Emphasis:** Heritage

Primary Regulatory Tool: National Historic Site

Other Regulatory Tool(s): Historic Site (YG)

Land Status: non-settlement land, NND Traditional Territory, TG Primary Use Area, TG Yukon land (R-01FS, R-03FS, R-14FS, S-2FS, S-3FS, S-4FS, S-6FS, S-7FS, S-8FS, S-9FS,S-13FS),

Area (km ^{2}): 698 **% of Region:** 1

Desired Future State:

- Cultural practices and traditional-uses of the Tetl'it Gwichi'n are encouraged and protected from adverse impact by other regulated land-uses.
- Fish migration, overwintering, and spawning habitats, and the nesting habitats of Peregrine falcons are not adversely impacted by regulated land-uses.
- River-based wilderness tourism activities are managed to a sustainable level of resource-use intensity.
- Archaeological, palaeontological and other heritage resources are identified and protected.
- First Nation cultural practices are maintained without significant adverse impact from other forms of regulated land-use.
-

What land-use can happen in this LMU?

	Allowable	Prohibited	Not Applicable
Winter or All-season road access:	☐	☑	☐
Existing non-industrial surface activities:	☑	☐	☐
New non-industrial surface activities:	☑	☐	☐
Existing industrial surface or sub-surface activities:	☐	☐	☑
New industrial surface or sub-surface activities:	☐	☑	☐

Rationale for Designation

The Teetl'it njik LMU is the most northerly extent of the planning region. The area has fee simple land holdings by TG which were originally selected because of their cultural importance and proximity to significant wildlife and fish resources. The TG, NND, and TH feel that industrial development is not a compatible land use in this unit due to potential adverse effects on key fish and wildlife species, and infringement on community social and cultural activities from noise or loss of aesthetic amenities.

On behalf of the TG, the GCSI have nominated most of this area as a National Historic site along with the Peel Canyon upstream – in large part due to the Gwich'in's early relationship to the fur-trade, exploration, and Klondike historical events. This proposal, which has support from

stakeholder organizations and governments, is considered the best option for maintaining the heritage importance of this landscape.

Based upon its understanding of its natural and cultural values, the PWPC recommends the Teetl'it njik LMU be designated as a Special Management Area with emphasis on Heritage. Further, this recommendation provides endorsement from the PWPC regarding the 2003 GSCI Application to the Historic Sites and Monument Board of Canada concerning National Historic Site designation. That submission received strong endorsement by a range of stakeholder organizations, First Nations, and territorial government agencies but was referred to the PWPC for its review and determination.

Key Management Objectives

	UFA LINK
1. To ensure meaningful consultation with affected public, tenure holders and First Nations regarding issuance of new resource tenures that may have adverse impact on land, water or wildlife resources.	16.6.9, 16.7.1, 12.17.1-12.17.5 GYTA 12.3.1, 12.4.1, 12.6.1-12.6.2
2. To maintain fish populations (sea-run, and non-sea-run) as a sustainable, renewable resource	16.6.9, 16.7.1, 16.9.1. 16.9.1.1 GYTBA12.3.1, 12.4.1, 12.6.1-12.6.2
3. To protect peregrine nesting habitat for ensuring reproductive success and rearing.	16.1.1.1, 16.6.9, 16.6.10.1, 16.7.12.2
4. To maintain the wildnerness, archeological and cultural values important to tourists and First Nations.	12.17.1-12.17.5

Management Conditions (Class A)

Resource of Interest

Enhanced Consultation	Consult with affected residents and affected First Nations to identify issues and areas of concern prior to granting new land interests that would cause any disturbance to land, cultural sites, or wildlife.
	Identify appropriate protocol for consultation with affected residents and First Nations

Management Conditions (Class B)

Resource of Interest	
Fish	New infrastructure should be constructed so that damage to the shoreline, escarpments, the river and lake beds, or other natural features will not lead to significant impacts on water quality or fish populations.
	Avoid or reduce activities in fish habitat during important biological periods or seasons (e.g., utilize timing windows).

Policy Recommendations

No specific policy recommendations are required at this time. Refer to Section 4.1 and 4.3 and Appendix B. for recommendations applicable to the entire planning region.

Monitoring Recommendations

Monitor water quality and fish populations for adverse significant effects due of infrastructure on shorelines, escarpments, the river and lake beds, or other natural features.

Research Recommendations

Determine what management strategies should be adopted to ensure a high quality wilderness experience while protecting heritage values of the area

A document describing best practices when “Flying in Peregrine Country” should be developed.

Best Management Practices

Inform local pilots of known peregrine nesting areas, sensitive timing windows (e.g., beginning of March to the end of August), and provide information on flying practices that minimize disturbance of peregrine (e.g., a minimum altitute of 650m above raptor nesting habitat). A document describing best practices when “Flying in Peregrine Country” should be developed.

Wilderness tourists should be made aware of low-impact camping/trekking practices.

Specific Management Considerations

Enhanced community consultation required for further industrial granted land interests in this unit.

The Gwich’in Social and Cultural Institute (2003) proposed a “Heart of the TGFN National Historic Site” within this unit. The site is referred to as "Tshuu tr'adaojiich'uu" which translates as "in the middle (people) - flowing through (river)". This proposal identified the site as the area bounded in the north by the confluence of the Peel River and Mackenzie River to the mouth of the Trail River. The site extends 5 km inland from the high water mark on both sides of the river. The management direction of this unit should be harmonious with this proposal.

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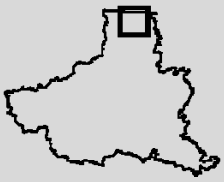
LMU O: Teetł'it njik / Lower Peel River

General Designation: SMA

Emphasis: Heritage

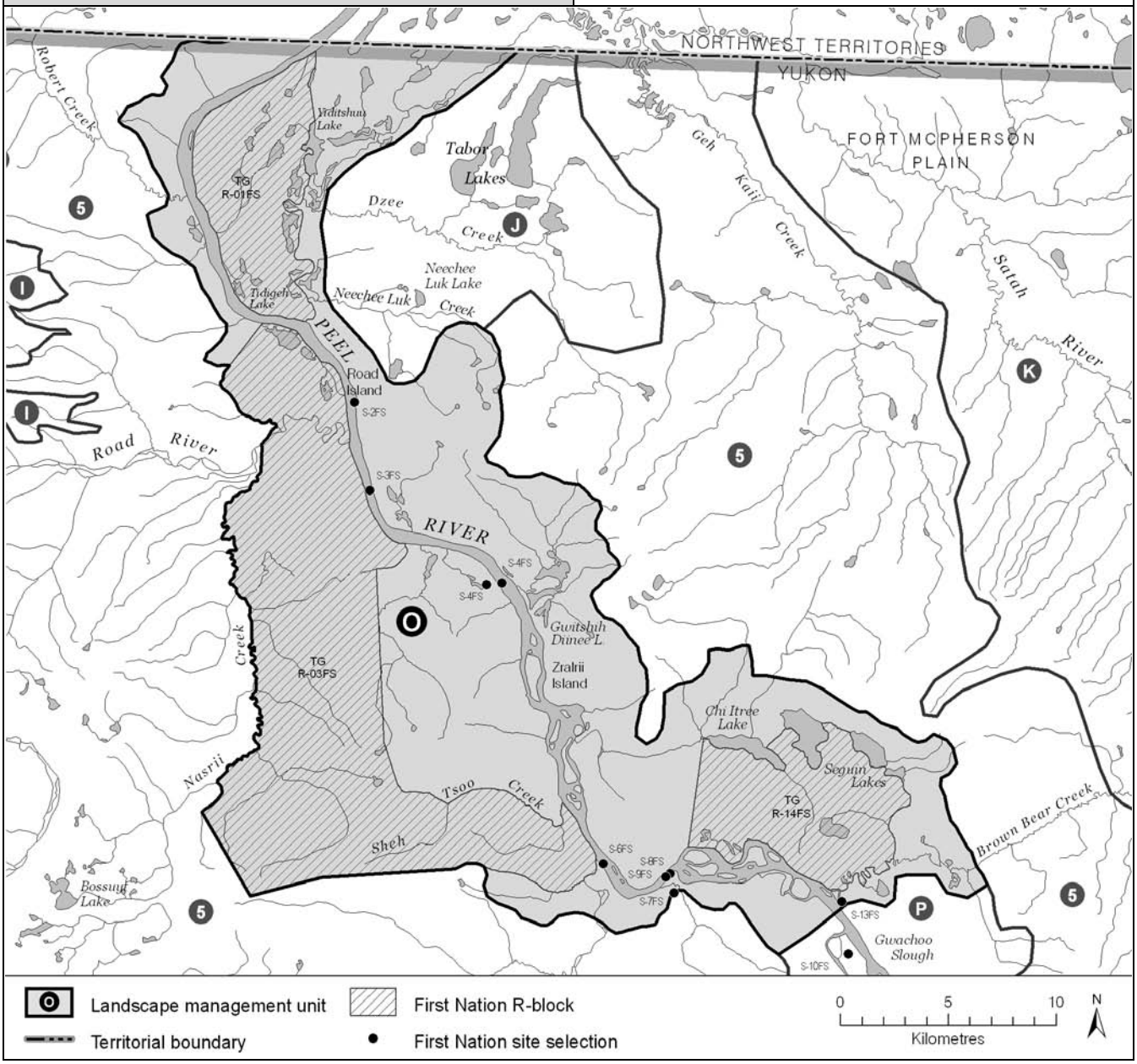
Setting: Broad alluvial flats of the lower Peel River, adjacent banks and plateau



Ecoregion(s): Peel River Plateau

Bioclimatic Zones: Taiga wooded

Riparian forests and wetlands and often steep escarpments line the Peel River. (CWS)



ECOLOGICAL RESOURCES	**LMU: O**
Caribou:	Variable habitat suitability for the Porcupine herd, and moderate to high habitat suitability for the Boreal herd.
Moose:	Extensive moderate valued late winter habitat with pockets of high value habitat along the Peel River. Traditional place to hunt moose.
Marten:	Generally moderate to high value winter habitat.
Sheep:	No sheep habitat.
Fish:	Fish present throughout; several known spawning sites, sea-run fish spawning at southern end.
Grizzly Bear:	Mostly low to moderate habitat suitability.
Peregrine:	Very high peregrine foraging and nesting habitat along Peel River.
Birds (General):	Moderate waterbird habitat, riparian areas; low to mod breeding spp. richness and species of conservation concern.
Vegetation:	Low-mid elev. dry/wet shrub and coniferous forest, and some dry herb.
Wetlands, Lakes and Riparian Areas:	Wetland complexes scattered along Peel River. Chi Itree and Seguin Lakes. Notable rivers with significant active riparian areas are Peel River, Trail River, Road River and several large tributaries.
Permafrost:	Continuous permafrost is predicted.
Special Features:	
HERITAGE, CULTURAL AND SCIENTIFIC RESOURCES	
Heritage Resources:	Travel route along the Peel River, several connecting routes from the Peel River to the east; highest concentration of TG cabins and culturally important places. Highest concentration of VG and TG archaeological sites.
Palaeontological Resources:	Sedimentary rocks in this area have known invertebrate fossil localities and have high potential to yield further discoveries.
ECONOMIC DEVELOPMENT	
Transportation / Access	Many old winter roads, use of Peel River for winter access, limited barging.
Traditional Economy:	TG fishing location; VG general harvesting location; TG traditionally harvesting and wildlife areas and seasonal land use areas. LMU is within the TGFN Primary Use Area.
Recreation / Tourism:	High value wilderness paddling; one primitive campsite.
Forestry:	Localized demand for fuel wood, logs for cabins. Potential for very limited forestry.
Big Game Outfitters / Trapping:	No registered trapping concessions.
Oil and Gas Resources:	Peel Plateau and Plain basin; moderate potential; two abandoned wells.
Mineral Resources:	No mineral potential.

LMU: P Mid-Peel River and Big Eddy

General Designation: SMA **Emphasis:** Fish and Wildlife

Primary Regulatory Tool: Wilderness Management Area

Other Regulatory Tool(s):

Land Status: non-settlement land, NND Traditional Territory, TG Primary Use Area, TG Yukon land (R-04SF, R-05SF, R-08SF, R-12SF, R-13SF, S-10FS, S-11FS)

Area (km ^{2}): 987 **% of Region:** 1.5

Desired Future State:

- Migration, overwintering, and spawning habitats of fish and the nesting habitats of Peregrine falcons are not adversely impacted by regulated land-uses.
- River-based wilderness tourism activities are managed to a sustainable level of resource-use intensity.
- Archaeological, palaeontological and other heritage resources are identified and protected.
- First Nation cultural practices are maintained without significant adverse impact from other forms of regulated land-use.

What land-use can happen in this LMU?

	Allowable	Prohibited	Not Applicable
Winter or All-season road access:	☐	☑	☐
Existing non-industrial surface activities:	☑	☐	☐
New non-industrial surface activities:	☑	☐	☐
Existing industrial surface or sub-surface activities:	☐	☐	☑
New industrial surface or sub-surface activities:	☐	☑	☐

Rationale for Designation

The Peel mainstem LMU contains the alluvial flats of the lower Snake River and mid Peel River. It has significant holdings of TG fee-simple lands held by the GTC, and is within their Primary Use area. The LMU has high fish overwintering and spawning value, and Peregrine Falcon habitat. There is a concentration of travel routes, culturally important places, private First Nation-owned camps/cabins and year-round subsistence activity with emphasis on fishing, moose hunting, and fuel-wood gathering. This unit has moderate oil and gas development potential, and has regionally low mineral potential and no existing claims.

The Peel mainstem is an important wilderness tourism route. Some wilderness river expeditions get picked-up at Taco Bar below the mouth of the Snake River. The Peel River Watershed Advisory Committee concluded that the "Big Eddy" area immediately up the Peel from the Snake confluence should be a candidate for protection and the GTC also proposed that this area be proposed as an SMA. Neither the NND, nor TG/GTC support all-season road through this

part of the river valley.

For these reasons, the Commssion accepts there to be sufficient grounds for designating this LMU as a Special Management Area, with emphasis on fish and wildlife.

Key Management Objectives

	UFA LINK
1. To maintain the migration, overwintering, and spawning habitats of fish.	16.1.1.1, 16.6.9, 16.6.10.1, 16.7.12.2
2. To sustain First Nation traditional-use and food harvesting practices.	16.4.0-16.5.0, 16.9.0, 16.11.0 GYTA 12.3.1, 12.4.1, 12.6.1-12.6.2
3. To maintain wilderness, archeological and cultural values.	11.1.1.6, 11.4.5.9, 11.2.1.2, 11.4.5.8 GYTA 9.4

Management Conditions (Class A)

Resource of Interest	
Heritage Resources	No land-use activity will cause significant interference with the use and peaceful enjoyment of Tetlit Gwich'in Yukon land by the Tetlit Gwich'in

Management Conditions (Class B)

Resource of Interest	
Fish	Avoid or reduce activities in fish habitat during important biological periods or seasons (e.g., utilize timing windows).
	New infrastructure should be constructed so that damage to the shoreline, escarpments, the river and lake beds, or other natural features will not lead to significant impacts on water quality or fish populations.
Peregrine	New infrastructure should be constructed more than 250m from raptor nest sites.

Policy Recommendations

No specific policy recommendations are required at this time. Refer to Section 4.1 and 4.3 and

Appendix B. for recommendations applicable to the entire planning region.

Monitoring Recommendations

Monitor water quality and fish populations for adverse significant effects due of infrastructure on shorelines, escarpments, the river and lake beds, or other natural features.

Research Recommendations

No specific research recommendations are required at this time. Refer to Section 4.1 and 4.3 and Appendix B. for recommendations applicable to the planning region.

Best Management Practices

A document describing best practices when “Flying in Peregrine Country” should be developed.

Wilderness tourists should be made aware of low-impact camping/trekking practices.

Wilderness tourists should be made aware of respectful treatment of heritage resources.

Inform local pilots of known peregrine nesting areas, sensitive timing windows (e.g., beginning of March to the end of August), and provide information on flying practices that minimize disturbance of peregrine (e.g., a minimum altitute of 650m above raptor nesting habitat).

Specific Management Considerations

No specific research recommendations are required at this time. Refer to Section 4.1 and 4.3 and Appendix B. for recommendations applicable to the planning region.

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LMU P: Mid-Peel River and Big Eddy

General Designation: SMA

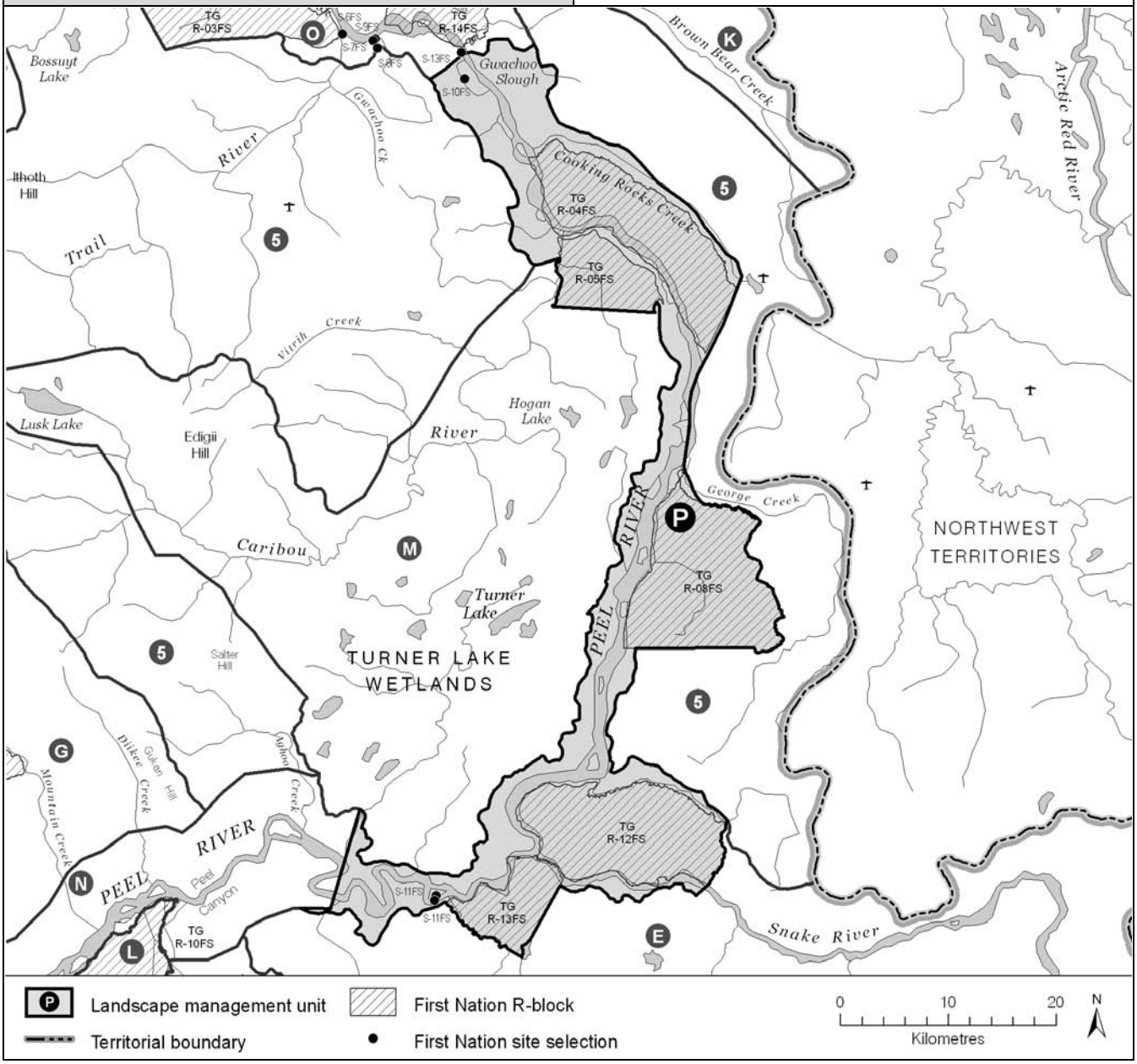
Emphasis: Fish and Wildlife

Setting: Broad alluvial flats of the lower Snake River and mid Peel River, adjacent banks and plateau

Ecoregion(s): Peel River Plateau

Bioclimatic Zones: Taiga wooded

The Snake River about 3km about its mouth. Riparian forests, gravel bars and escarpments are common along the lower Snake and Peel Rivers. (YG)



ECOLOGICAL RESOURCES	**LMU: P**
Caribou:	This area is a general border between the Porcupine (west & south), Bonnet Plume (south), and Boreal herds (north & east), and generally contains moderate habitat potentials.
Moose:	Extensive moderate valued late winter habitat with pockets of high value habitat along the Peel River. Traditional place to hunt moose.
Marten:	Generally moderate to high value winter habitat.
Sheep:	No sheep habitat.
Fish:	Fish present throughout Peel River, several known spawning locations, sea-run fish spawning throughout; a few winter open water sites.
Grizzly Bear:	Mostly low to moderate habitat suitability.
Peregrine:	Very high peregrine foraging and nesting habitat along Peel River.
Birds (General):	Moderate waterbird habitat, riparian areas; low to mod breeding spp. richness and species of conservation concern.
Vegetation:	Low-mid elevation dry/wet shrub and coniferous forest.
Wetlands, Lakes and Riparian Areas:	Large lake and wetland complexes along Peel River. Notable rivers with significant active riparian areas: Peel River, Snake River, George Creek and Caribou River mouth.
Permafrost:	Continuous permafrost is predicted.
Special Features:	
HERITAGE, CULTURAL AND SCIENTIFIC RESOURCES	
Heritage Resources:	High concentration of VG and TG cabins along the Peel River (especially Caribou River and Brown Bear Creek); several culturally important places on the Peel. This unit has extensive cultural value to the Teetł'it Gwich'in.
Palaeontological Resources:	Peel Mainstem - Sedimentary rocks in this area have high potential to yield further discoveries.
ECONOMIC DEVELOPMENT	
Transportation / Access	Many old winter roads, use of Peel River for winter access; one floatplane landing.
Traditional Economy:	Many fishing locations, big game/fur-bearer locations; TG traditional harvesting and wildlife areas and seasonal land use.
Recreation / Tourism:	High value wilderness paddling; one primitive campsite.
Forestry:	Little potential for forestry.
Big Game Outfitters / Trapping:	
Oil and Gas Resources:	Peel Plateau and Plain basin; moderate potential; two abandoned wells.
Mineral Resources:	No - low mineral potential; one coal occurrence found.

LMU: 1 Lower Ogilvie River

General Designation: IMA **Emphasis:**

Primary Regulatory Tool: n/a

Other Regulatory Tool(s):

Land Status: non-settlement land, TH Traditional Territory, VG Traditional Territory.

Area (km ^{2}): 2772 **% of Region:** 4.1

Desired Future State:

- All permitted land use activity ensures caribou populations, movement and habitats are not adversely impacted
- Meaningful consultation is done with the TH, and VGFN, regarding any new significant land-use activities that might cause surface disturbance

What land-use can happen in this LMU?

	Allowable	Prohibited	Not Applicable
Winter or All-season road access:	☐	☑	☐
Existing non-industrial surface activities:	☑	☐	☐
New non-industrial surface activities:	☑	☐	☐
Existing industrial surface or sub-surface activities:	☐	☐	☑
New industrial surface or sub-surface activities:	☑	☐	☐

Rationale for Designation

The Lower Ogilvie River watershed, set in the Taiga Ranges Ecodistrict, contains both mountainous terrain and flatter terrain characteristic of LMU A.

The TH indicated a need to better understand the impacts of future development in this central area west of the Dempster Highway. The area also has relative ease of access into the Richardson Mountains from the Dempster Highway for various tourism and outdoor recreation activities and tourism such as wildlife viewing sites and scenic hiking. The Commission established that the area is important for PCH, sheep and Grizzly and well as being extensively used for subsistence purposes. TH elders are concerned that subsurface resource use activities (oil/gas and mineral exploration and development) could result in adverse impacts to wildlife health of wildlife and soils or other environmentally-sensitive features.

The Peel River Watershed Advisory Committee concluded that the Blackstone Uplands (the flat terrain of this unit is part of the Blackstone Uplands ecodistrict) should be a candidate for protection. The PCMB also note the importance of the Kandik plateau as a Porcupine Caribou seasonal-feeding area and migration route. While suggesting that the area could be managed to accommodate some level of integrated resource development, the PCMB suggests that only small-scale industrial operations could be managed through the use of timing windows.

Through designation of this LMU as an Integrated Management Area, conditional access to existing land-use tenures may be possible if so determined through a proposed Dempster Corridor sub-regional plan and enhanced community consultation. In the interim, the PWPC recommends that the issuance of new sub-surface resource tenures would be conditional on maintaining the ecological and cultural-use integrity of this LMU. Given the range of values and issues, the Commission is recommending the unit be designated as an Integrated Management Area with conditions to guide future use including enhanced consultation with affected First Nations concerning the issuance of industrial land-use dispositions.

Key Management Objectives

	UFA LINK
1. To maintain caribou habitat and movement corridors.	16.6.9, 16.6.10.1, 16.7.12.2, 16.7.1, 16.7.11 GTBA12.3.1, 12.4.1, 12.6.1-12.6.2
2. To minimize disturbance from land-use activities on Porcupine and Hart River caribou movements and habitats.	16.6.9, 16.6.10.1, 16.7.12.2, 16.7.1, 16.7.11
3. To ensure sustainable and integrated development through coordinated resource management and land-use policies, regulations and practices.	11.4.5.9, 11.2.1.2, 11.4.5.8

Management Conditions (Class A)

Resource of Interest	
Caribou Habitat	Manage levels and types of land-use in advance of significant declines in habitat quality or alteration in caribou behaviour.
	Minimize change to caribou habitat as a result of a land use activity or disturbance
Enhanced Consultation	Consult with affected residents and affected First Nations to identify issues and areas of concern prior to granting new land interests that would cause any disturbance to land, cultural sites, or wildlife.
	Identify appropriate protocol for consultation with affected residents and First Nations

Management Conditions (Class B)

Resource of Interest

Caribou Movement	No effect on caribou movement and migration patterns as a result of a land use activity or disturbance

Policy Recommendations

No specific policy recommendations are required at this time. Refer to Section 4.1 and 4.3 and Appendix B. for recommendations applicable to the entire planning region.

Monitoring Recommendations

Periodically monitor the effects of human use of caribou habitat.

Research Recommendations

Conduct rare plant inventory to identify areas of regionally or locally-significant rare plants

Best Management Practices

No specific Best Management Practices are required at this time. Refer to Section 4.1 and 4.3 and Appendix B. for recommendations applicable to the entire planning region.

Specific Management Considerations

The upcoming Northern Mountain Caribou Action Plan may be relevant to activities in this unit.

Enhanced community consultation required for further industrial granted land interests in this unit.

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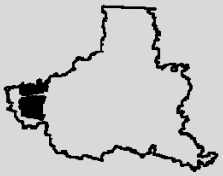
LMU 1: Lower Ogilvie River

General Designation: IMA

Emphasis: N/A

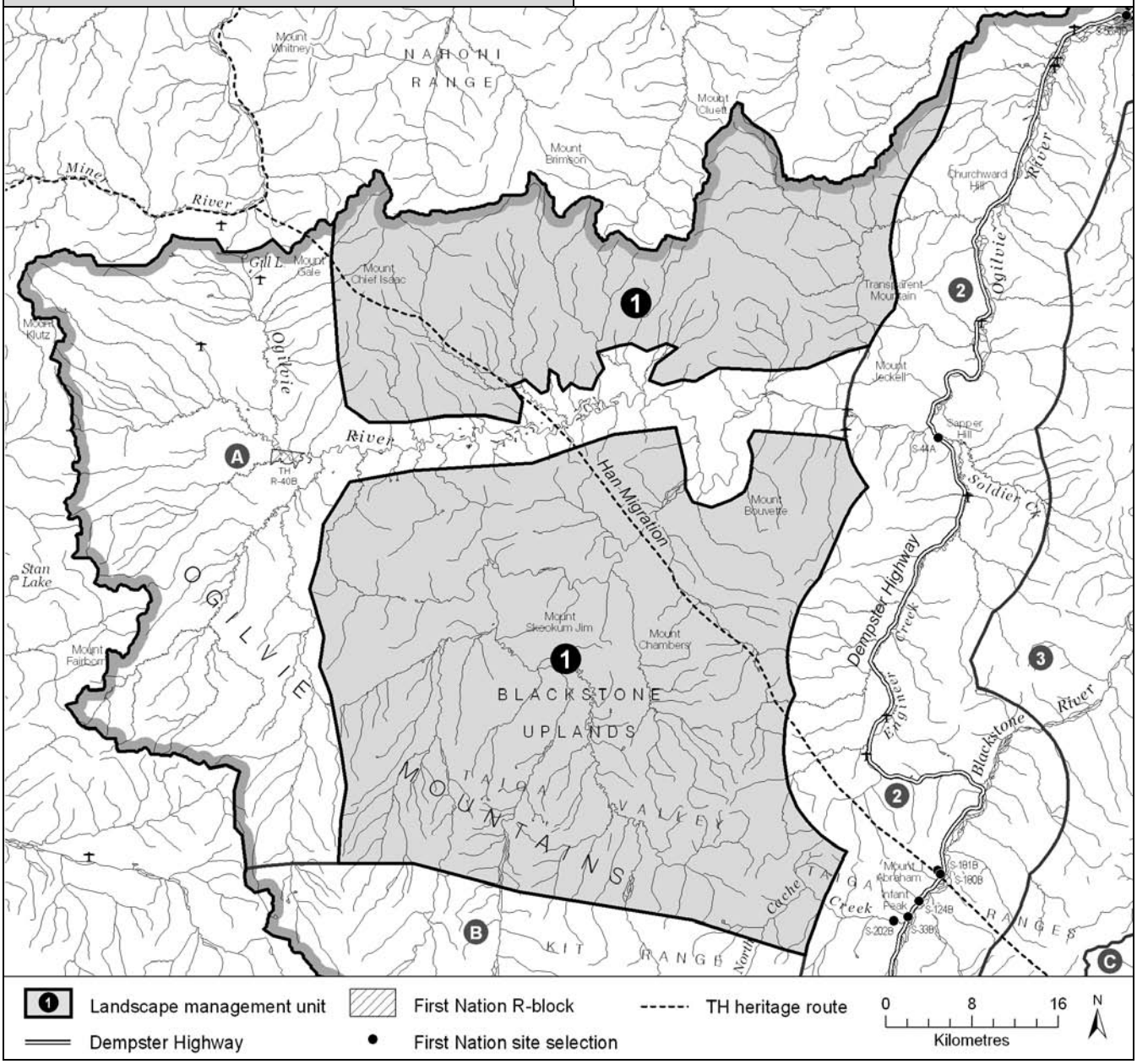
Setting: An area of tundra-like plains and mountains lying between the Blackstone Watershed to the east and Upper Ogilvie Watershed to the west.



Ecoregion(s): Taiga Wooded, Taiga Shrub and Alpine

Bioclimatic Zones: Taiga Wooded, Taiga Shrub and Alpine

The rounded Ogilvie Mountains and broad sparsely forested valleys characterize LMU 1. (YG)



ECOLOGICAL RESOURCES	**LMU: 1**
Caribou:	High value winter habitat of the Porcupine herd on flat plains. Extensive concentrated and general use areas for the Porcupine herd. Southern portion has overlapping concentrated and general use areas for the Porcupine herd and key winter and fall areas of the Hart River 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 elev.; high in riparian areas and subalpine zones. TK of a good denning area.
Peregrine:	High potential for peregrine falcon foraging near Ogilvie River; high value waterbird habitat in riparian areas; low to moderate breeding birds species richness; high number species of conservation concern.
Birds (General):	High value waterbird habitat in riparian areas; low to moderate breeding birds species richness; high 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:	Several possible wildlife passes.
HERITAGE, CULTURAL AND SCIENTIFIC RESOURCES	
Heritage Resources:	Cabins (THFN). Culturally important places for TGFN, THFN, VGFN. N-S THFN heritage routes.
Palaeontological 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 / Access	Some old unclasified trails; a few airstrips of unknown status.
Traditional Economy:	TH traditional harvesting and wildlife area and big game/fur-bearing locations.
Recreation / Tourism:	Little tourism potential.
Forestry:	Little potential for forestry.
Big Game Outfitters / 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 has low development potential.
Mineral Resources:	Very few quartz claims; some moderate zinc-lead potential.

LMU: 2 Dempster Highway

General Designation: IMA **Emphasis:** Sub-Regional Planning Area (11.8.0 UFA)

Primary Regulatory Tool: Dempster Highway Development Area Regulations

Other Regulatory Tool(s): Historic Site (YG), National Historic Site

Land Status: non-settlement land, NND Traditional Territory, TH Traditional Territory, VG Traditional Territory, TH settlement lands (R-19B, S-124B, S-180B, S-181B, S-202B, S-30B,S-33B), VG settlement land (S-44A, S-56A/D)

Area (km ^{2}): 1899 **% of Region:** 2.8

Desired Future State:

A sub-regional plan prepared with participation of TH and is implemented to:

- maintain viewsheds and front-country tourism values,
- maintain key habitats and movement corridors of caribou, sheep, Peregrine falcon, fish and other species

What land-use can happen in this LMU?

	Allowable	Prohibited	Not Applicable
Winter or All-season road access:	☑	☐	☐
Existing non-industrial surface activities:	☑	☐	☐
New non-industrial surface activities:	☑	☐	☐
Existing industrial surface or sub-surface activities:	☑	☐	☐
New industrial surface or sub-surface activities:	☑	☐	☐

Rationale for Designation

The Dempster Highway Corridor is currently managed by regulations that apply to an 8 km corridor on either side of the highway's centre line.

The Dempster Corridor boundaries are arbitrary. The Corridor should be determined by what is needed to maintain visual integrity for the recreational experience. The visual impacts of incompatible use should be taken into account.

Consultations with TH strongly advise that sub-regional planning for the Dempster Corridor be undertaken. The area has very high significance for community subsistence, cultural and spiritual use. It also incorporates several TH settlement lands and heritage sites. TH feels that the current land-use regulatory regime does not adequately consider their interests and values at a landscape level, nor in an integrated manner. It is therefore accepted that a sub-regional planning exercise is necessary to address the range of existing and future First Nation land-use and Dempster highway-use issues.

The PWPC recognizes that the Dempster Highway and adjacent lands are an important tourism corridor/area for both road and off-road visitors, backcountry travelers, including commercial, tourism and recreational users. It is also the mostly likely route for any proposed pipeline development through a southern route (Alaska Highway) or a northern route (Mackenzie Delta). There is also the potential for expansion of other highway-related infrastructure (tele-communications) or settlement. Community consultations with TH indicated that sub-regional planning for this corridor should emphasize objectives of the Tombstone Corridor Draft Management Plan 2002, rather than the general management intent of the North Yukon RLUP. A strategic vision for this LMU, with clearly articulated local management strategies, would satisfy TH objectives and provide a foundation for long-term economic development through this important regional corridor.

The PCMB also recognizes the value of a more detailed corridor management plan to address issues related to potential access development and control. Based upon the information it has received, the Commission recommends the Corridor area be designated as a Integrated Management Area and for affected Parties to jointly undertake development of a Sub-Regional Plan.

Key Management Objectives

	UFA LINK
1. To maintain the visual quality of viewscapes along the Dempster Highway.	12.17.1-12.17.5
2. To ensure sustainable and integrated development through coordinated resource management and land-use policies, regulations and practices.	11.1.1.6, 11.4.5.9, 11.2.1.2, 11.4.5.8
3. To develop a sub-regional plan for this corridor that seeks to achieve consistency with objectives of adjacent land management plans along the Dempster Highway.	11.8.1, 11.8.4
4. To minimize cumulative land-use impacts on wildlife and fish habitat, water quality, and people.	12.17.0, 12.4.1.2 GYTA 12.3.1, 12.4.1, 12.6.1-12.6.2, 10.3.0-10.3.8
5. To manage both front-country and back-country areas for sustainable outdoor recreation and tourism.	11.1.1.6, 11.4.5.9, 11.2.1.2, 11.4.5.8, 12.17.1-12.17.5

6. To minimize adverse impacts on environmental, social, cultural, heritage, wildlife habitat, tourism, and recreation values.	12.17.1-12.17.5
7. To manage all identified heritage and culturally-important landscapes and sites.	13.1.1.8, 13.5.3.2, 13.5.3.7, 13.8.0-13.9.0
8. To ensure meaningful consultation with affected public, tenure holders and First Nations regarding issuance of new resource tenures that may have adverse impact on land, water or wildlife resources.	11.4.5.7, GYTA 10.3.0-10.3.8, 12.3.1, 12.4.1, 12.6.1-12.6.2
9. To minimize significant adverse changes to terrestrial and aquatic habitats as a result of permafrost failure.	12.17.1-12.17.5
10. To maintain fish populations (both sea-run, and non-sea-run) as a sustainable, renewable resource.	16.6.9, 16.7.1, 16.9.1. 16.9.1.1 GYTA12.3.1, 12.4.1, 12.6.1-12.6.2
11. To protect peregrine nesting habitat for ensuring reproductive success and rearing.	16.1.1.1, 16.6.9, 16.6.10.1, 16.7.12.2

Management Conditions (Class A)

Resource of Interest	
Caribou Habitat	New surface access routes should be effectively controlled to minimize facilitated access by the general public. When no longer needed, such routes should be decommissioned in order to discourage continued use.
	Manage levels and types of land-use in advance of significant declines in habitat quality or alteration in caribou behaviour.
Fish	No winter in-stream water withdrawals in, or upstream of, sensitive overwintering fish habitat.
Permafrost	Minimize impacts and land-use disturbance on the ground thermal regime.
	Minimize soil and vegetation disturbance during winter exploration.
Sheep	Where necessary, take appropriate actions to prevent seasonal or chronic harassment of sheep.

Tourism	New infrastructure should adhere to the values and mnagement objectives of this LMU.

Management Conditions (Class B)

Resource of Interest

Caribou Habitat	New all-season infrastructure should be minimized, and where possible, should be placed on already disturbed ground.
	Minimize significant adverse effect of a land-use activity or disturbance on caribou habitat.
Caribou Movement	No effect on caribou movement and migration patterns as a result of a land use activity or disturbance
Fish	Avoid or reduce activities in fish habitat during important biological periods or seasons (e.g., utilize timing windows).
Peregrine	New infrastructure should be constructed more than 250m from raptor nest sites.
Tourism	Develop management strategies to minimize impacts to the visual landscape along this segment of the Dempster Highway.
	Design and locate exploration facilities and activities to minimize impacts on cultural/heritage sites, recreation features, aesthetics.

Policy Recommendations

No specific policy recommendations are required at this time. Refer to Section 4.1 and 4.3 and Appendix B. for recommendations applicable to the entire planning region.

Monitoring Recommendations

Periodically monitor the effects of human use of caribou habitat.

Monitor all tourism/recreations and exploration facilities for compliance with environmental standards and permits.

Monitor the effects of human activities (including wildlife viewing) on sheep behaviour.

Research Recommendations

Sub-regional planning Commission, PWPC and YFWMB will work towards devising land-use management conditions that further support harvest management decisions for wildlife populations within this unit.

Undertake visual landscape inventory along this segment of the Dempster Highway.

Detailed ground temperature and engineering studies should be done in advance of any land-use disturbance to determine ice content, distribution, ground temperature etc. Relevant engineering methods should then be applied in order to minimize impacts on the ground thermal regime.

Best Management Practices

No specific Best Management Practices are required at this time. Refer to Section 4.1 and 4.3 and Appendix B. for recommendations applicable to the entire planning region.

Specific Management Considerations

The Commission recommends that the Parties alter the Peel Watershed planning boundary along this LMU and Tombstone Park so that the Peel boundary shares a common boundary with the Tombstone Park. This will affect TH R-Block 19-B.

The upcoming Northern Mountain Caribou Action Plan may be relevant to management of land-use activities in this unit.

Enhanced community consultation required for further industrial granted land interests in this unit.

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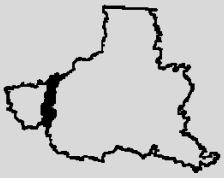
LMU 2: Dempster Highway

General Designation: IMA

Emphasis: Sub-Regional Planning Area (11.8.0 UFA)

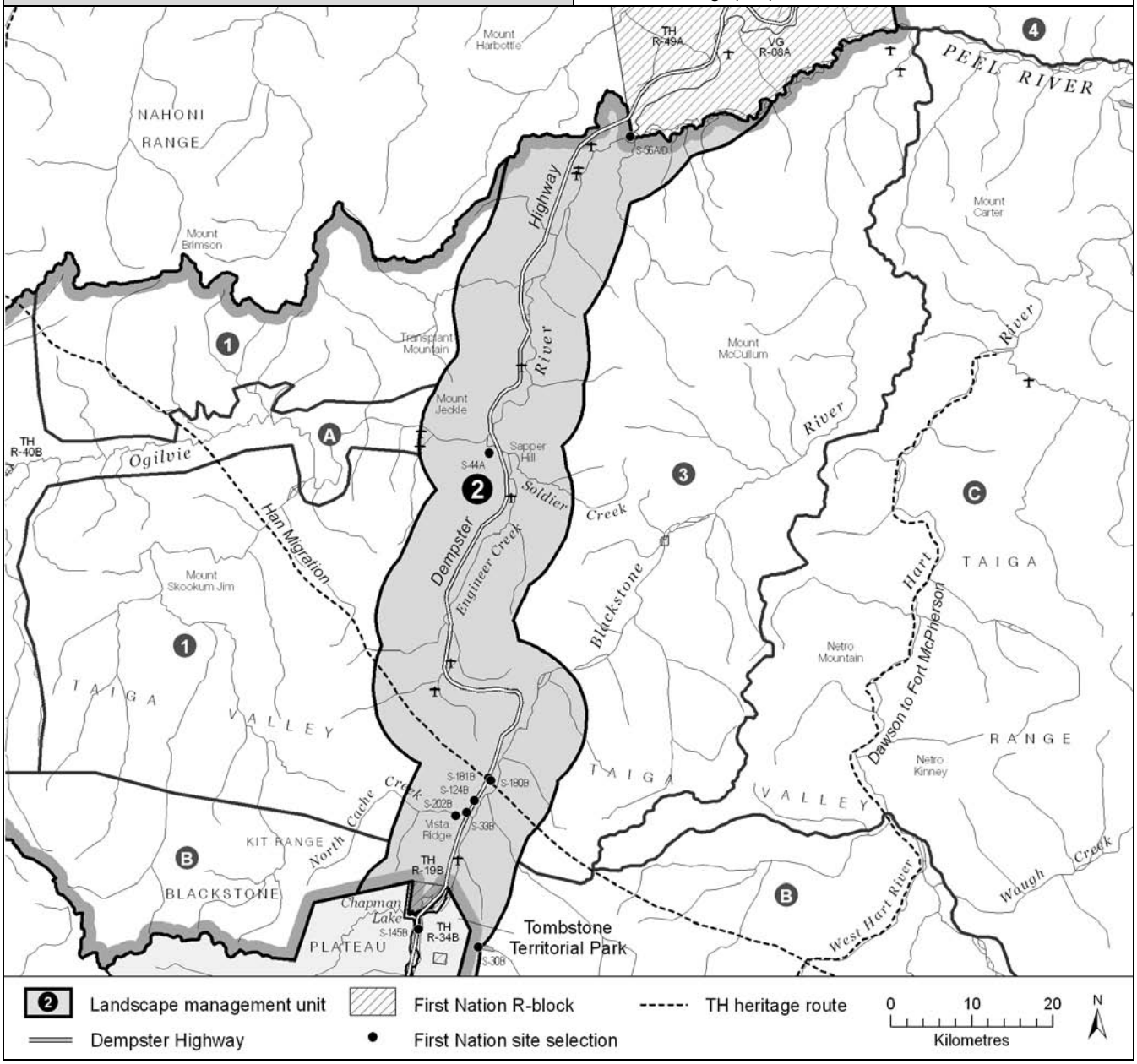
Setting: A varied band of terrain 8km on either side of the Dempster Highway.



Ecoregion(s): North Ogilvie Mountains

Bioclimatic Zones: Taiga Wooded, Taiga Shrub and Alpine

Mountainous terrain (foreground) and flatter taiga forest (background) surround the Dempster Highway. Engineer Creek crossing. (YG)



ECOLOGICAL RESOURCES	**LMU: 2**
Caribou:	Hart River and Porcupine herds often overlap at the southern end of the unit. 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:	Territorially significant sheep viewing at mineral lick near Dempster. Large 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.
Grizzly Bear:	Mostly moderate habitat suitability in low to mid elevation, high in riparian areas and subalpine zones.
Peregrine:	High potential for peregrine falcon foraging and nesting along Ogilvie River. Several known nesting sites along Dempster Highway that are prone to disturbance.
Birds (General):	High value waterbird habitat in riparian areas; low to moderate breeding birds 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. Riparian strip along Blackstone and Ogilvie Rivers and major tributaries.
Permafrost:	Well know permafrost features are found along the Dempster Highway, especially around Chapman Lake.
Special Features:	Several mineral licks, especially near Engineer Creek; wildlife viewing; possible wildlife passes.
HERITAGE, CULTURAL AND SCIENTIFIC RESOURCES	
Heritage Resources:	A few travel corridors around Engineer Creek. Several cabins (THFN, VGFN, TGFN, NND) along Dempster Hwy. TH culturally important area in northern and southern sections of this unit.
Palaeontological 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 / Access	Dempster Highway, Dempster Highway Development Area; Proposed pipeline ROW; a number of airstrips.
Traditional Economy:	TH traditional harvesting area, especially around North Cache Creek - the site of the TH First Hunt. TG traditional harvest and wildlife area along Dempster Hwy. Some VG traditional harvesting and wildlife area in northern section of unit.
Recreation / Tourism:	High recreation potential along Dempster Highway with great scenery available to motorists/"front-country" tourists.
Forestry:	Localized demand for forest products - especially fuel wood.
Big Game Outfitters / Trapping:	Blackstone Outfitting Ltd.; high value hunting.
Oil and Gas Resources:	No potential.
Mineral Resources:	Some low copper/gold/uranium potential; some moderate zinc-lead potential and related claims.

LMU: 3 Blackstone River

General Designation: IMA **Emphasis:**

Primary Regulatory Tool: n/a

Other Regulatory Tool(s):

Land Status: non-settlement land, NND Traditional Territory, TH Traditional Territory, VG Traditional Territory, TG Secondary Use Area. TH settlement land (R-35B), Teetl'it Gwich'in Secondary Use Area (partial)

Area (km ^{2}): 2773 **% of Region:** 4.1

Desired Future State:

- Movement and habitats for Porcupine and Hart River caribou herds, Dall's sheep and other large mammals are not adversely impacted by land use activities.
- Meaningful consultation with all affected First Nations regarding land use activities that might impact upon their traditional and cultural use.
- Recreation and tourism opportunities and values are maintained.

What land-use can happen in this LMU?

	Allowable	Prohibited	Not Applicable
Winter or All-season road access:	☐	☑	☐
Existing non-industrial surface activities:	☑	☐	☐
New non-industrial surface activities:	☑	☐	☐
Existing industrial surface or sub-surface activities:	☑	☐	☐
New industrial surface or sub-surface activities:	☑	☐	☐

Rationale for Designation

This LMU straddles the Blackstone River and has a lower level of current land-use, but is considered to have significant value as a Porcupine/Hart River caribou herd migration corridor and as a subsistence use area. It also contains overwintering and spawning habitat for fish. Some mineral occurrences have been found (e.g. Michelle properties), but there has been little detailed exploration The Commission concurs with the PCMB that this LMU can be effectively managed as an Integrated Management Area, with specific resource management conditions including no new permanent road access. An enhanced level of consultation is recommended for this area given its importance to the TH for subsistence activities.

Key Management Objectives

	UFA LINK
1. To ensure meaningful consultation regarding issuance of new resource tenures that might adversely impact upon fish and wildlife, and sensitive terrain/vegetation.	16.6.9, 16.7.1, 12.17.1-

	12.17.5
2. To protect Peregrine Falcon nesting habitat as a means of supporting reproductive success and rearing.	16.1.1.1, 16.6.9, 16.6.10.1, 16.7.12.2
3. To minimize impacts to visual quality and aesthetics for outdoor recreation and commercial tourism.	12.17.1-12.17.5
4. To minimize impacts of land-use activities on wildlife movements and habitats.	12.17.1-12.17.5, 16.1.1.1, 16.6.9,
5. To promote sustainable and compatible land-uses for economic development	11.1.1.6, 11.4.5.9, 11.2.1.2, 11.4.5.8

Management Conditions (Class A)

Resource of Interest

Caribou Habitat	Manage levels and types of land-use in advance of significant declines in habitat quality or alteration in caribou behaviour.
Enhanced Consultation	Consult with affected residents and affected First Nations to identify issues and areas of concern prior to granting new land interests that would cause any disturbance to land, cultural sites, or wildlife.
	Identify appropriate protocol for consultation with affected residents and First Nations
Tourism	Manage levels and types of use in advance of significant declines in touristic values.
	Manage levels and types of use in advance of significant declines in touristic values.

Management Conditions (Class B)

Resource of Interest

Caribou Habitat	No change to caribou habitat as a result of a land use activity or disturbance
Caribou Movement	No effect on caribou movement and migration patterns as a result of a land use activity or disturbance
Peregrine	New infrastructure should be constructed more than 250m from raptor nest sites.

Policy Recommendations

No specific Policy Recommendations are required at this time. Refer to Section 4.1 and 4.3 and Appendix B. for recommendations applicable to the entire planning region.

Monitoring Recommendations

Where possible, monitor the effects of tourism and outfitting use on touristic values.

Periodically monitor the effects of human use of caribou habitat.

Research Recommendations

No specific Research Recommendations are required at this time. Refer to Section 4.1 and 4.3 and Appendix B. for recommendations applicable to the entire planning region.

Best Management Practices

No specific Best Management Practices are required at this time. Refer to Section 4.1 and 4.3 and Appendix B. for recommendations applicable to the planning region.

Specific Management Considerations

The upcoming Northern Mountain Caribou Action Plan may be relevant to management of land-use activities in this unit.

Enhanced community consultation required for further industrial granted land interests in this unit.

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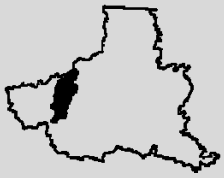
LMU 3: Blackstone River

General Designation: IMA

Emphasis: N/A

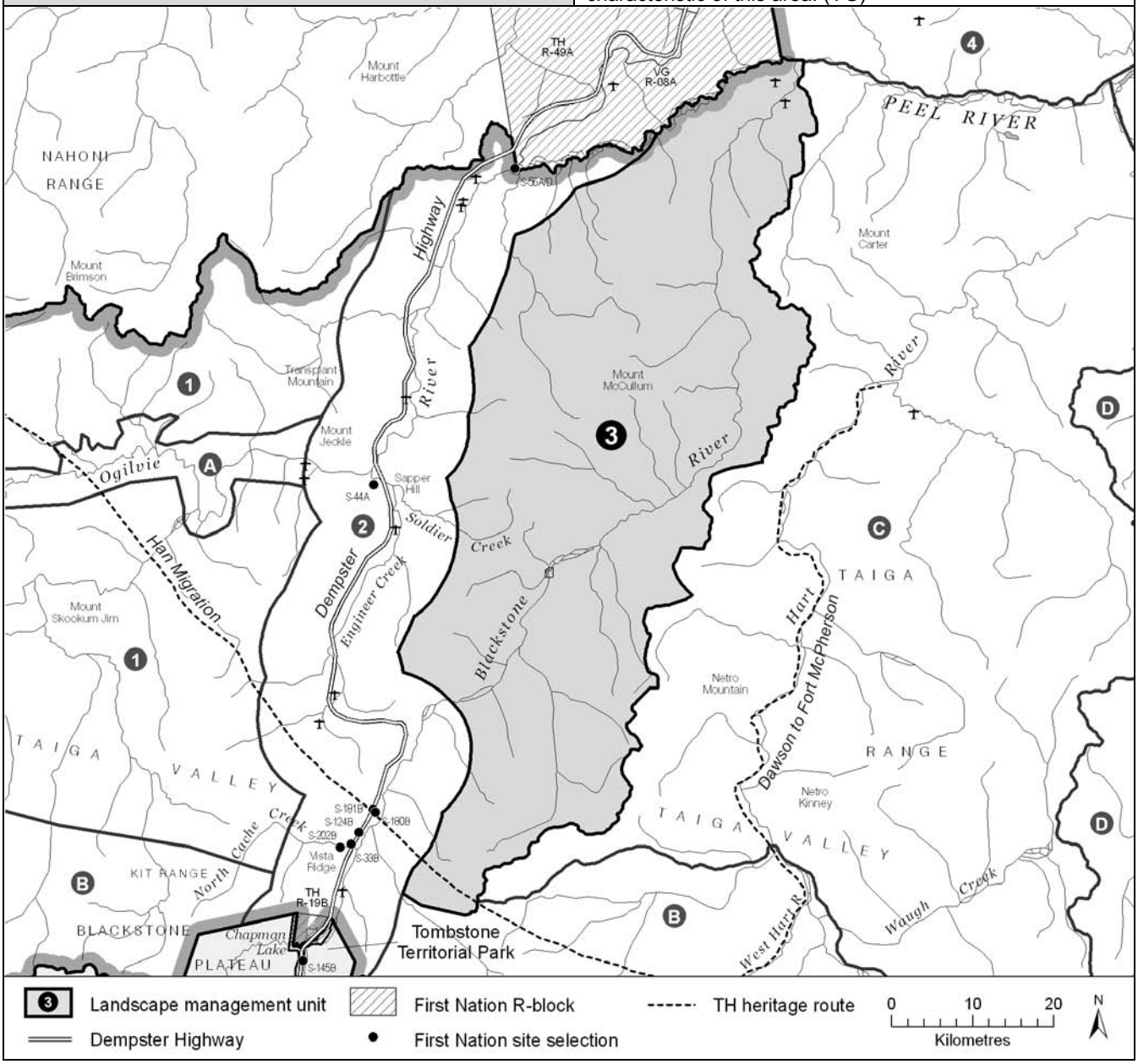
Setting: Generally mountainous terrain with forested valley bottoms and slopes.



Ecoregion(s): North Ogilvie Mountains

Bioclimatic Zones: Taiga Wooded, Taiga Shrub and Alpine

Weathering and lack of glaciation and have resulted in pillars of rocks called tors. Deep forested valleys are also characteristic of this area. (YG)



ECOLOGICAL RESOURCES	**LMU: 3**
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 presence likely in rivers and lower gradient tributaries.
Grizzly Bear:	Mostly moderate habitat suitability in low to mid elev.; high in riparian areas and subalpine zones.
Peregrine:	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 birds species richness; moderate number species of conservation concern.
Vegetation:	High endemism/rarity. Alpine exposed rock, low-mid elevation dry herb/shrub.
Wetlands, Lakes and Riparian Areas:	One large wetland along Blackstone River, scattered wetlands.
Permafrost:	Continuous permafrost is predicted.
Special Features:	Mineral lick; likely wildlife passes.
HERITAGE, CULTURAL AND SCIENTIFIC RESOURCES	
Heritage Resources:	Culturally important area, few culturally important sites and several cabins (THFN, NND) along Blackstone River; important travel routes along Blackstone River and across unit from Engineer Creek to Hart River.
Palaeontological Resources:	Sedimentary rocks in this region have high potential to yield Paleozoic fossils.
ECONOMIC DEVELOPMENT	
Transportation / Access	The Blackstone River is accessable by canoe and motorboat.
Traditional Economy:	TH traditional harvesting and wildlife areas in lower Blackstone River; TH fish harvesting.
Recreation / Tourism:	Wilderness hiking and road-accessible “wilderness” paddling opportunities.
Forestry:	Little potential for forestry.
Big Game Outfitters / Trapping:	Blackstone Outfitters Ltd. and high value hunting.
Oil and Gas Resources:	No potential.
Mineral Resources:	Some low copper/gold/uranium potential; some moderate zinc-lead potential.

LMU: 4 Dalglish Creek

General Designation: IMA **Emphasis:**

Primary Regulatory Tool: n/a

Other Regulatory Tool(s):

Land Status: non-settlement land, NND Traditional Territory, VG Traditional Territory, TG Primary and Secondary Use Area

Area (km ^{2}): 1599 **% of Region:** 2.4

Desired Future State:

- The movement and habitat use by Porcupine caribou herd are not adversely impacted by any land use activity
- Meaningful consultation is done with the TG/GTC, and VGFN, regarding any new significant land-use activities that might adversely impact First Nations traditional or cultural use.

What land-use can happen in this LMU?

	Allowable	Prohibited	Not Applicable
Winter or All-season road access:	☐	☑	☐
Existing non-industrial surface activities:	☑	☐	☐
New non-industrial surface activities:	☑	☐	☐
Existing industrial surface or sub-surface activities:	☑	☐	☐
New industrial surface or sub-surface activities:	☑	☐	☐

Rationale for Designation

This LMU is situated on the north-east boundary of the planning region, and is shared First Nations traditional territory of the TH, NND, VGFN and TG (primary use area). The area contains two blocks of settlement land, the Dempster Highway, and has front-country tourism access to the upper Peel River area. It represents the southern-most extent of the Eagle Plains oil & gas basin and is considered to be one of Yukon's most promising deposits due in part to its proximity to the Dempster Highway corridor. Exploration activity is occurring to the north of this LMU where the North Yukon RLUP has enabled a high threshold of gas development activity.

The PCMB also refers the area as "the Horseshoe" – a strategic habitat used by the Porcupine caribou herd in the fall, and for migration through to wintering grounds in the south or east Peel River region. That Board, other RRC's and affected FN's are of the view that Integrated Management is possible for this LMU consistent with the NY RLUP, however it cautions against recommending the same level (category IV) of land-use intensity as provided in that plan. This view is consistent with a need to recognize other interests including traditional First Nation and historical travel routes, culturally important places, and outdoor recreation pursuits.

Given the multiple resource use values, and the ecological sensitivity of the area, this LMU is designated as a low intensity Integrated Management Area within a results-based management framework to track surface and linear disturbance, and other wildlife habitat management measures. Priority for management is on sustaining the Porcupine Caribou Herd movements and habitats. A low-intensity industrial activity is possible in this LMU pending the results of enhanced level of consultation with each affected First Nation, including the Tetlit Gwich'in. The Commission is satisfied that the YG consultation process for tenure disposition is adequate for this purpose.

With key management conditions addressed, the IMA designation will enable a limited degree of oil/gas development based upon an understanding of gas field viability and adequate pre-development planning for access and environmental impact mitigation.

Key Management Objectives

	UFA LINK
1. To ensure meaningful consultation with affected public, tenure holders and First Nations regarding issuance of new resource tenures that may have adverse impact on land, water or wildlife resources.	11.4.5.7 GYTA 10.3.0-10.3.8, 12.6.1-12.6.2
2. To minimize impacts of land-use activities on wildlife movements and habitats.	16.6.9, 16.6.10.1, 16.7.12.2, 16.7.1, 16.7.11
3. To facilitate development of oil and gas development subject to management conditions having been met.	11.4.5.9, 11.2.1.2, 11.4.5.8

Management Conditions (Class A)

Resource of Interest	
Caribou Habitat	Manage levels and types of land-use in advance of significant declines in habitat quality or alteration in caribou behaviour.
Enhanced Consultation	Consult with affected residents and affected First Nations to identify issues and areas of concern prior to granting new land interests that would cause any disturbance to land, cultural sites, or wildlife.
	Identify appropriate protocol for consultation with affected residents and First Nations

Management Conditions (Class B)

Resource of Interest	
Caribou Movement	No effect on caribou movement and migration patterns as a result of a land use activity or disturbance

Policy Recommendations

No specific policy recommendations are required at this time. Refer to Section 4.1 and 4.3 and Appendix B. for recommendations applicable to the planning region.

Monitoring Recommendations

Periodically monitor the effects of human use of caribou habitat.

Research Recommendations

No specific research recommendations are required at this time. Refer to Section 4.1 and 4.3 and Appendix B. for recommendations applicable to the planning region.

Best Management Practices

No specific Best Management Pracitices are required at this time. Refer to Section 4.1 and 4.3 and Appendix B. for recommendations applicable to the planning region.

Specific Management Considerations

Enhanced community consultation required for further industrial granted land interests in this unit.

Much of unit was affected by fire in the summer of 2005.

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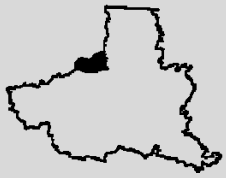
LMU 4: Dalglish Creek

General Designation: IMA

Emphasis: N/A

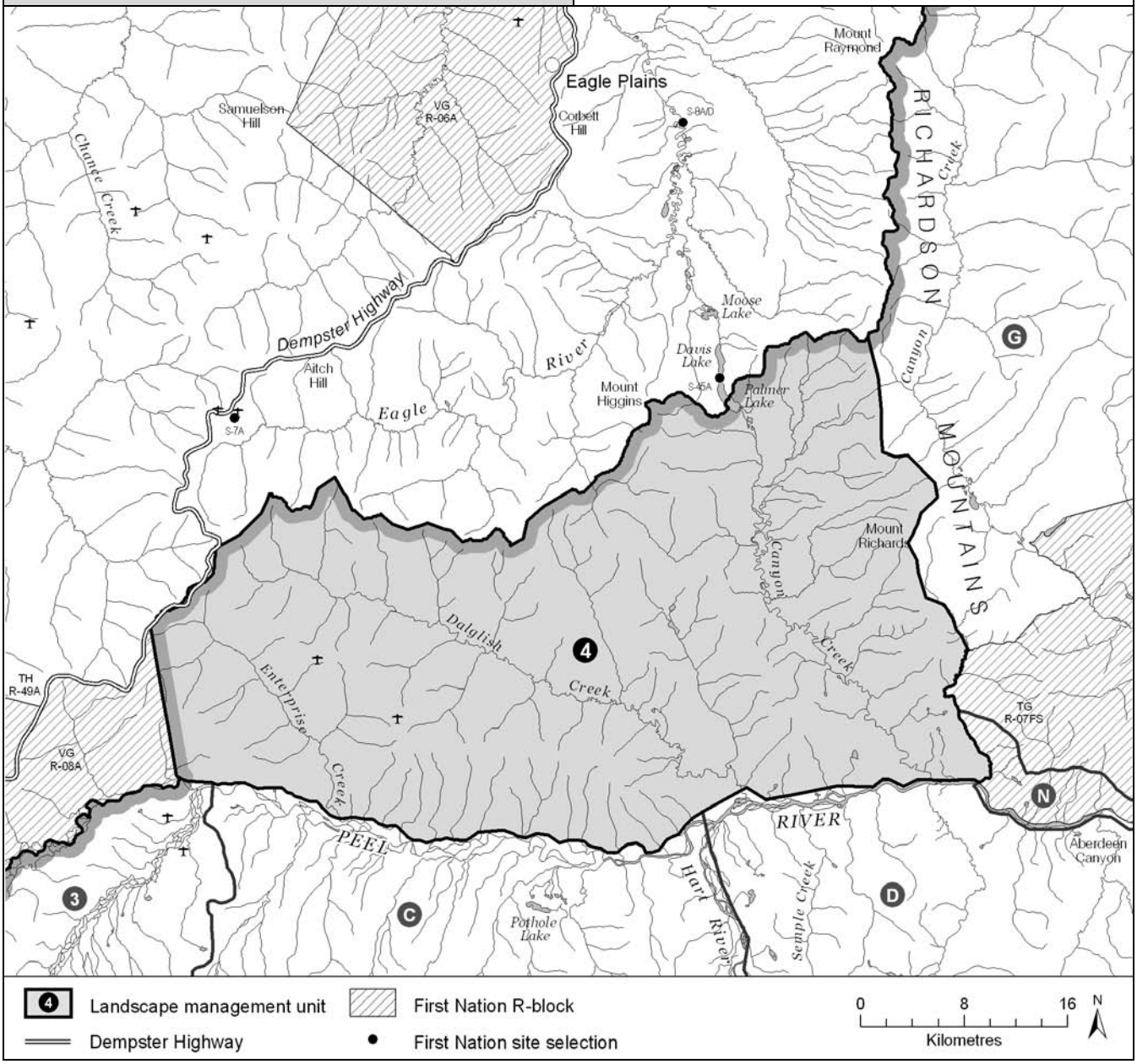
Setting: Rolling forested plateau with incised creeks north of the Peel River and west of the Richardson Mountains



Ecoregion(s): Eagle Plains

Bioclimatic Zones: Taiga wooded

LMU 4 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)



ECOLOGICAL RESOURCES	**LMU: 4**
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:	Some peregrine foraging habitat along Peel River.
Birds (General):	High value waterbird habitat along riparian areas; low to high breeding spp. richness and moderate species of conservation concern (high pockets)
Vegetation:	Low endemism/rarity. Low-mid elev. 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, CULTURAL AND SCIENTIFIC 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.
Palaeontological 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 (YG-Aug-19-2009)
ECONOMIC DEVELOPMENT	
Transportation / 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 / Tourism:	Little current tourism, though the canyon on Canyon Creek has very high tourism potential.
Forestry:	Little potential for forestry.
Big Game Outfitters / 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.

LMU: 5 Peel Plateau

General Designation: IMA **Emphasis:**

Primary Regulatory Tool: n/a

Other Regulatory Tool(s):

Land Status: non-settlement land, NND Traditional Territory, TG Primary Use Area, TG Yukon land (S-13FS)

Area (km ^{2}): 4004 **% of Region:** 5.9

Desired Future State:

- The movement and habitat use by Porcupine caribou herd are not adversely impacted by any land use activity
- Meaningful consultation is done with the TG/GTC, and VGFN, regarding any new significant land-use activities that might adversely impact First Nations traditional or cultural use.

What land-use can happen in this LMU?

	Allowable	Prohibited	Not Applicable
Winter or All-season road access:	☐	☑	☐
Existing non-industrial surface activities:	☑	☐	☐
New non-industrial surface activities:	☑	☐	☐
Existing industrial surface or sub-surface activities:	☑	☐	☐
New industrial surface or sub-surface activities:	☑	☐	☐

Rationale for Designation

We have heard from the Tetłit Gwich'in, GTC, Fort MacPherson RRC, other Mackenzie Delta RRC's and the GLUPB that the Caribou, Trail, and Road Rivers in this unit are environmentally sensitive valleys. This area has had winter roads and drilling programs for oil and gas exploration in the 1960's - 70's and remains an intact ecosystem. Affected First Nations (TG, TH, and NND) are concerned, however, that unchecked exploration will result in development that will harm their cultural values, including travel routes, and places of cultural and spiritual significance. Further, they suggest that adverse environmental effects on water quality could result from gas exploration/development operations including drilling, well-site/infrastructure construction, waste disposal and accidental environmental discharges. They insist that such risks would need to be considered together with First Nation rights to maintain basic harvest needs as provided for under the Gwich'in Comprehensive Final Agreement.

The Tetłit Gwich'in do not support intense industrial access designation for this LMU. New tenures nor road access should be proposed until they are clear about all potential risks and benefits to this important resource area.

Other Gwich'in authorities suggest that with meaningful consultation, the current oil and gas management regime may be adequate to achieve conservation objectives and/or protection of wildlife for existing subsurface tenures. In view of the above, the Commission supports an IMA designation for this unit for existing tenures, and potential expanded gas exploration and development tenures subject to proposed management conditions and Plan conformity reviews.

Key Management Objectives

	UFA LINK
1. To ensure meaningful consultation with affected public, tenure holders and First Nations regarding issuance of new resource tenures that may have adverse impact on land, water or wildlife resources.	16.6.9, 16.7.1, 12.17.1-12.17.5 GYTA 10.3.0-10.3.8 and 12.6.1-12.6.2;
2. To minimize significant adverse impacts to terrestrial and aquatic habitats resulting from permafrost degradation.	14.8.0-14.8.3, 14.11.0, 14.12.0 12.17.1-12.17.5
3. To maintain fish populations (sea-run, and non-sea-run) as a sustainable, renewable resource	16.6.9, 16.7.1, 16.9.1. 16.9.1.1 GYTA 12.3.1, 12.4.1, 12.6.1-12.6.2
4. To protect peregrine nesting habitat for ensuring reproductive success and rearing.	16.1.1.1, 16.6.9, 16.6.10.1, 16.7.12.2
5. To minimize impacts of land-use activities on wildlife movements and habitats.	11.4.5.7 GYTA 12.3.1, 12.4.1, 12.6.1-12.6.2
6. To facilitate development of oil and gas development subject to management conditions having been met.	11.4.5.9, 11.2.1.2, 11.4.5.8

Management Conditions (Class A)

Resource of Interest

Caribou Habitat	Manage levels and types of land-use in advance of significant declines in habitat quality or alteration in caribou behaviour.

Enhanced Consultation	Consult with affected residents and affected First Nations to identify issues and areas of concern prior to granting new land interests that would cause any disturbance to land, cultural sites, or wildlife.
	Identify appropriate protocol for consultation with affected residents and First Nations
Permafrost	Minimize impacts and land-use disturbance on the ground thermal regime.
	Minimize soil and vegetation disturbance during winter exploration.

Management Conditions (Class B)

Resource of Interest

Caribou Movement	No effect on caribou movement and migration patterns as a result of a land use activity or disturbance
Fish	Avoid or reduce activities in fish habitat during important biological periods or seasons (e.g., utilize timing windows).
	New infrastructure should be constructed so that damage to the shoreline, escarpments, the river and lake beds, or other natural features will not lead to significant impacts on water quality or fish populations.
Peregrine	New infrastructure should be constructed more than 250m from raptor nest sites.

Policy Recommendations

No specific policy recommendations are required at this time. Refer to Section 4.1 and 4.3 and Appendix B. for recommendations applicable to the planning region.

Monitoring Recommendations

Monitor water quality and fish populations for adverse significant effects due of infrastructure on shorelines, escarpments, the river and lake beds, or other natural features.

Periodically monitor the effects of human use of caribou habitat.

Research Recommendations

Detailed ground temperature and engineering studies should be done in advance of any land-use disturbance to determine ice content, distribution, ground temperature etc. Relevant engineering methods should then be applied in order to minimize impacts on the ground thermal regime.

Best Management Practices

No specific Best Mangement Practices are required at this time. Refer to Section 4.1 and 4.3 and Appendix B. for recommendations applicable to the planning region.

Specific Management Considerations

The "Action Plan: Boreal Woodland Caribou Conservation in the Northwest Territories" may be relevant to management of land-use activities in this unit.

Enhanced community consultation required for further industrial granted land interests in this unit.

Several slopes have failed in recent years, thus underscoring slope instabilities.

LMU 5: Peel Plateau

General Designation: IMA

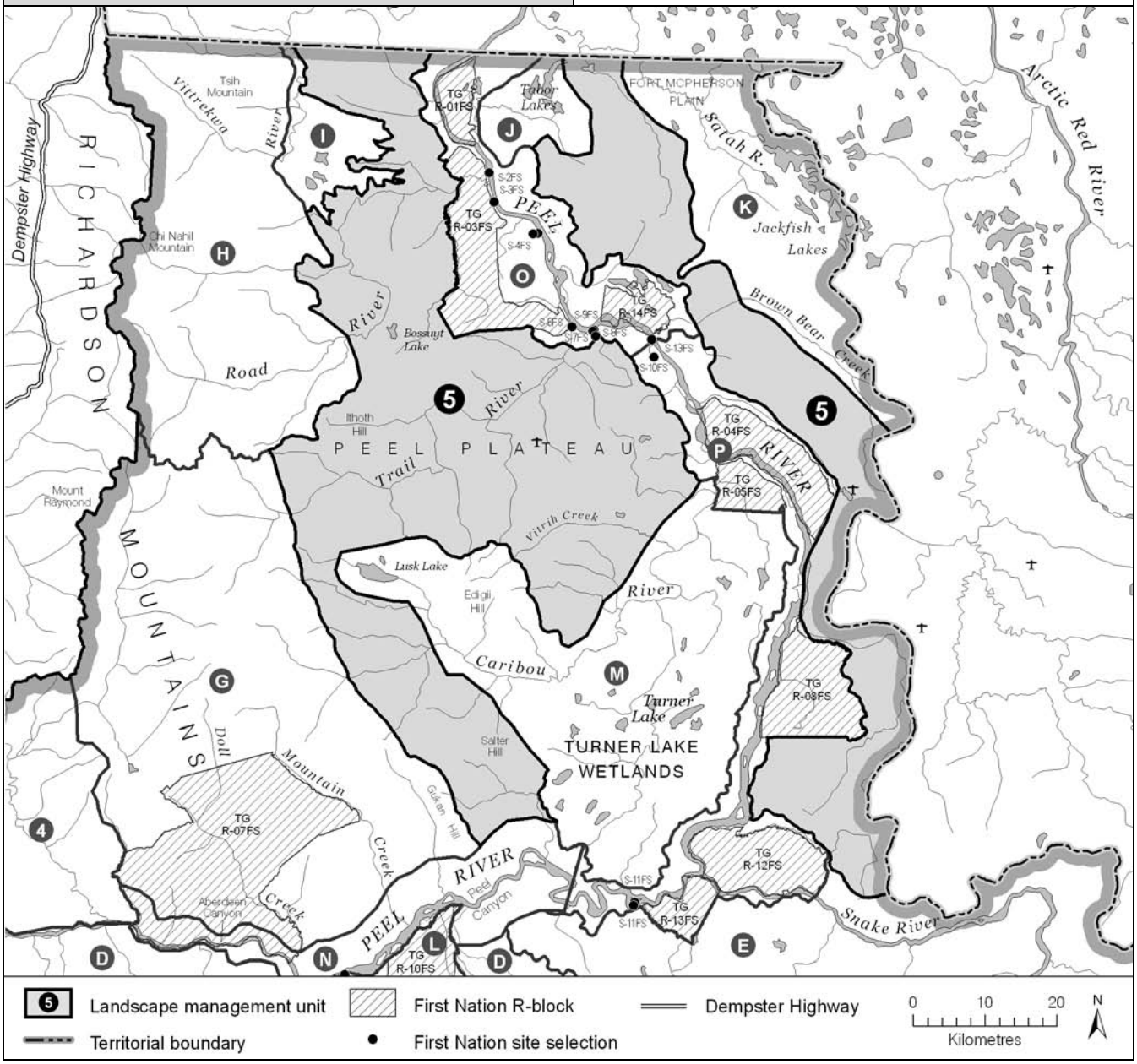
Emphasis: N/A

Setting: Sparsely treed plateau and plain and plain with deeply incised rivers

Ecoregion(s): Peel River Plateau (west of Peel River) and Fort McPherson Plain (east of Peel River)

Bioclimatic Zones: Taiga Wooded and Taiga Shrub

Plateau with forests, lakes and wetlands are characteristic of LMU 5. (CWS)



ECOLOGICAL RESOURCES	**LMU: 5**
Caribou:	Variable habitat suitability for the Porcupine herd. Evidence of more frequent and intense use in the past.
Moose:	Variable quality late winter moose habitat – generally moderate, with ribbons of high. High habitat use along incised tributaries.
Marten:	Extensive and concentrated moderate to high winter habitat suitability.
Sheep:	No sheep habitat.
Fish:	Fish presence likely throughout; Trail River upstream of key sea-run fish spawning site; other known fish spawning sites; and known winter overflow site.
Grizzly Bear:	Low habitat suitability increasing to moderate towards the Richardson foothills and riparian areas.
Peregrine:	Very high peregrine foraging and nesting habitat at northern end of unit.
Birds (General):	Scattered high quality waterbird habitat; varied breeding spp. richness and species of conservation concern.
Vegetation:	Low endemism/rarity. Low-mid elev. dry/wet shrub and conifer forest; riparian forests and shrubs
Wetlands, Lakes and Riparian Areas:	Several large lakes and wetland complexes and hundreds of scattered wetlands. Riparian along Road and Trail Rivers.
Permafrost:	Extensive high water content permafrost expected. Wetlands "perched" above incised valleys and stable slopes rely on intact permafrost.
Special Features:	Wildlife passes. Perched wetlands.
HERITAGE, CULTURAL AND SCIENTIFIC RESOURCES	
Heritage Resources:	Highest concentration of connecting travel routes between the Peel River (upper and lower) and Richardson Mountains; concentration of VG and TG archeological sites on the foothills on the Richardson Mountains; several TG and VG culturally important places.
Palaeontological Resources:	Sedimentary rocks in this area have high potential to yield fossil discoveries.
ECONOMIC DEVELOPMENT	
Transportation / Access	Highest concentration of old winter roads and linear features (e.g., seismic lines); a conceptual access route has been identified in this unit connecting Road River to the Bonnet Plume River watershed; one airstrip.
Traditional Economy:	TG traditional harvesting and wildlife areas and seasonal land use; TG fish harvest on Trail River.
Recreation / Tourism:	No identified current recreation values, though high potential along Road and Caribou Rivers
Forestry:	Little potential for forestry.
Big Game Outfitters / Trapping:	No registered concessions.
Oil and Gas Resources:	Peel Plateau and Plain basin; low (west) to moderate (east) potential on either side of the Trevor fault; five abandoned wells. Oil and gas permit (#0018).
Mineral Resources:	A few quartz claims; generally low mineral potential.

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4.3. Management of Land Use by Resource Issue

Besides those for specific economic sectors and specific geographic areas, there are other more general land-use issues that apply to the entire planning region. This section is divided into several subcategories that deal with the management of land use by resource issue. The Commission considers the management of these issues an essential and indivisible part of the Plan.

Each section below gives a description of the issue, followed by policy or research recommendations known as General Management Directions (GMDs). The recommendations outline specific one-time or periodic tasks that help to reach an objective. The parties need to consider these recommendations during Plan implementation. Appendix B gives supplementary recommendations about best management practices, objectives and strategies. Most of these management directions can be included in existing processes, such as the Yukon Environmental and Socio-economic Assessment Act (YESAA). (See Section 1.6 and Appendix F for information about other existing or emerging management plans for the region).

Section 2 gives an overview of the values and resources discussed in this section. The Conservation Priorities Assessment Report (Peel Watershed Planning Commission, 2008a) and the Resource Assessment Report (Peel Watershed Planning Commission, 2008b) contain detailed maps and descriptions of resource values. These materials are available from the PWPC website (www.peel.planyukon.ca).

4.3.1. Environmental Effects and Management

Sector-specific recommendations, LMU zoning and management conditions, and best management practices (4.1, 4.2 and Appendix B, respectively) are all instrumental in limiting environmental impacts in the region. This section begins by discussing cumulative effects, and then describes potential human-caused effects that may still happen once the Plan is implemented, particularly in the Integrated Management Areas. This section also outlines indicators and policy or research recommendations that can be used to track harmful effects and reduce them to a minimum. Appendix B gives related strategies.

Cumulative Effects in the Yukon

Project proposals in the Yukon may be assessed and regulated by a number of bodies (e.g., Yukon Environmental and Socio-economic Assessment Board (YESAB), Yukon Water Board, etc.). These assessments often recommend or even insist on changes to individual projects to reduce environmental and socio-economic effects to a minimum. This approach is intended to mitigate or reduce harmful effects, and increase positive effects.

Despite these precautions, harmful effects will probably never be completely eliminated. Over time, effects from a series of activities can accumulate, and may become harmful to other land users or the environment. This Plan provides guidance on how to track cumulative effects and how to reduce them to a minimum at a regional scale. The goal is to avoid reaching unacceptable levels of effects.

What happened to the cumulative effects indicators listed in the Draft Plan?

The Draft Peel Watershed Regional Land Use Plan (PWPC, 2009b) discussed a number of cumulative effects indicators.

These six were recommended:

1. Linear density
2. Surface disturbance (or footprint)
3. Water quality indices (aquatic life)
4. Water flow indices (aquatic life)
5. Water quality indices (human consumption)
6. River corridor zone crossings

These indicators are not included in this Recommended Plan because:

1. Some indicators were developed for flatter landscapes with only one caribou herd in mind (1 and 2).
2. There is not enough current data to develop a meaningful indicator level (3-5).
3. The zoning framework has changed, and monitoring of cumulative effects is now less essential to the Plan.

Nonetheless, this Plan recommends the research and development of effective indicators for:

1. Habitat of all regional caribou herds
2. Wilderness
3. Stream health
4. Wetland health
5. Stream crossings

4.3.1.1. Management of Cumulative Effects

Cumulative effects are harmful changes to the environment and/or society caused by a series of land-use activities over time (past, present, and sometimes expected future activities). One activity may have only a small effect, but the combination of a number of activities may have a major impact.

Using a range of actions and processes for land management that are connected and coordinated is the best way to manage cumulative effects. Assessment, mitigation, government policy, and legislation can all play a role. However, in the Yukon, these processes typically apply to individual projects or activities without looking at "the big picture." Without regional land-use management, cumulative effects can reach unacceptable levels.

This Plan provides some guidance so that cumulative effects may be better managed over time. Tracking cumulative effects indicators in this Plan is less important than in some other Yukon regional plans (e.g., the North Yukon Regional Plan) because of the strength of the other management tools. Nevertheless, this planning tool is still included in our framework.

On its own, this Plan is not enough to manage cumulative effects. However, these tools and approaches provide a framework for cumulative effects management to government agencies and land users. It will be up to the Parties to make decisions on compliance with the approved Plan through their respective regulatory processes and legislation. Resource users will also be involved in keeping disturbance within acceptable ranges. They will also be expected to use this Plan as a guide in developing project proposals, carrying out operations, and decommissioning projects.

Key issues related to managing cumulative effects:

- Assessing and mitigating land-use activities on a project-by-project basis are not effective strategies for managing cumulative effects.

- 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 to evaluate potential cumulative effects.
- Indicators used in other regional land use plans may not be the right ones for tracking this Plan's goals and objectives. The goals and objectives of other plans, or the features of the other regions, may be different. It is often difficult to choose quantitative indicator levels because complex (and often inadequate) modeling is needed.

POLICY RECOMMENDATIONS	• *The amount of disturbance in a landscape management unit should be kept below the recommended indicators levels for cumulative effects in any future amendment of this Plan.* • *Regulators should consider alternative options and strategies to reduce cumulative effects when assessing new development proposals.*

4.3.1.2. Surface Disturbances

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 the overall wholeness of natural systems.

Historical oil, gas, and mineral exploration created roughly 7,000 kilometres of roads and other linear features, adding up to thousands of hectares of surface disturbance (Map 6, Appendix A). Almost all historical linear features are seismic lines, tote roads, and winter trails. They are in various stages of recovery.

Some disturbances are relatively permanent and will remain visible for decades. However, many historical roads and trails have recovered to the point that they no longer function as surface disturbances. Very few of these linear features are actively used by people.

As surface disturbances recover through natural re-vegetation or active reclamation, they are subtracted from the total amount of disturbed area. If surface disturbances are restored when activities end, it will allow higher levels of land use to occur (taking into account recommended surface-disturbance and linear-density indicator levels).

Key issues related to managing surface disturbances:

- 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.
- Current levels of surface disturbance must be compared to recommended indicator levels in order to monitor and track the cumulative effects of land use.
- Some indicators of surface disturbance in other regional plans (e.g., footprint and linear density of the North Yukon Regional Plan) may not reflect whether the goals and objectives for the entire Peel Watershed Planning Region are being met. These other indicators generally assume that both disturbance and ecological values are evenly distributed across the landscape. In the mountainous portions of the Peel Watershed, this assumption is not valid, as both disturbance and ecological values are mainly concentrated along valley bottoms.

Desired Future State

- Sustainable wildlife populations that continue to support traditional harvesting, culture, economy, and recreation of First Nations and local residents.
- Healthy terrestrial ecosystems and their species within natural ranges of population size and habitats.
- Intact connections between habitats and no change to natural movements of animals.
- Intact wilderness character for most of the region.

Ecosystem Recovery:
Recovery of Human-Caused Surface Disturbances

A human-caused surface disturbance is considered recovered, or returned to its natural state, when it:

1. No longer enables travel or access by wildlife and people
2. When increased run-off and sediment loading is no longer significant
3. When its contours roughly match the original contours.

Practically speaking, this means:

1. In forested or shrubby areas, a feature can be considered recovered when at least 25% is covered by woody vegetation (trees and shrubs) at least 1.5m in height.
2. In areas mostly covered with low-growing vegetation (i.e., <1.5m), a feature can be considered recovered when (a) it is covered with native species roughly the same height as the surrounding dominant vegetation, and (b) the coverage is equal to at least 50% of the surrounding undisturbed terrain.
3. 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.

RESEARCH RECOMMENDATIONS	• *Determine the effectiveness of the Plan's definition of "ecosystem recovery" in dealing with run-off and sediment loading, especially in non-forested/shrubby areas.* • *Set a benchmark for existing surface disturbances against which changes in future surface disturbance will be monitored.* • *Determine the relationship between the rates of re-vegetation of disturbed areas, the time since disturbance, and the biophysical features to track footprint and linear-density levels.* • *Determine the effects of roads and other linear features and structures on wildlife populations (e.g., Porcupine Caribou Herd).* • *Have staff of Yukon Environment and/or Environment Canada determine indicators and indicator levels of the following values before major developments take place :* o *Habitat of all regional caribou herds** o *Wilderness*** **Indicators and their levels may not be the same for each herd or LMU.* ***Indicator level may vary according to the desired future state of each LMU. One possible indicator of wilderness is the proportion of the landscape without a human footprint (see the NYPC, 2009 for definitions).*

4.3.1.3. Disturbances to Hydrology and Aquatic Habitats

Fish populations are affected by a variety of habitat disturbances. We have very little understanding of fish and fish habitat in the region despite their high value as a subsistence food. Waterbirds (e.g., ducks, geese, swans, loons, grebes, gulls, terns, and shorebirds) are an indicator of the health of taiga lakes and wetlands, and many have cultural and subsistence importance for local First Nations. Their key migratory and nesting habitats include wetlands, lakes, and riparian (river and stream valley) areas – places that are fairly uncommon in this generally mountainous region.

Human-caused disturbances to water systems are less obvious than surface disturbances. Nevertheless, people often raised water issues first at community consultations. Alterations to water quality and flow increase the risks to fish populations and other aquatic species, and to the wholeness of natural systems. Reduced water quality also can affect the health of people living in camps or on the land downstream.

Water quality and flow in the planning region are essentially unaltered by human activity. Over time, however, increased land use may create harmful effects, depending on the type and place of the activities. In general, contaminants are diluted over distance as they travel downstream. However, a single large spill or landslide event, or several smaller spills or slides, could harm water quality and/or flow beyond acceptable levels. Both tributaries and potentially the Peel River itself could be affected. Water indicators are a means of measuring the cumulative effects of deposits from both point and non-point sources. Water indicators are especially useful in mountainous areas where land-based indicators are less useful measures.

Water flows have been measured for decades at a small number of gauging stations in the watershed. Water quality and chemistry have been measured at more locations, but only from time to time. These studies generally show that the water quality and flows in the Peel Watershed are very dynamic, or changeable. Winter flows are typically very low but high quality, while in the summer flows reach their highest level with lower water quality. Water quality also varies naturally with the underlying rock formations. It may be difficult to use certain water indicators that measure cumulative effects because of the dynamic nature of water in the Peel, inconsistent measurements, and the overall effects of climate change.

Section 4.1.1 also contains issues and recommendations about hydrological disturbances.

Key issues related to managing hydrological disturbances:

- Water quality and flows are critically important for fish populations that are culturally and economically important, but are potentially vulnerable to the effects of greater land-use activity.
- The planning region is the only one in the Yukon defined by its watershed boundaries. This underscores the interest of downstream communities in having water quality as a prime indicator of land-use management. Aklavik, for example, was particularly concerned about the potential for water-borne disease because the community relies on Peel River water from the Yukon. All other First Nation parties have emphasized the importance of maintaining water quality and flows.
- Historical data of water quality and flows is sparse and may not be enough to determine meaningful cumulative effects indicators.
- According to the Yukon Government's Water Resources Branch, there is no funding to expand existing water quality monitoring (on Blackstone River and on Peel River near Canyon Creek).Other hydrometric stations operated by Environment Canada and the Yukon Government on Peel River tributaries have been shut down because of funding cuts.
- The effects of climate change, including natural variations according to area and season, could make it difficult to measure the cumulative effects on water systems. However, it is important to measure these effects.
- Water flow rates and storage capacity are considered inadequate to support industrial activities in the winter months.

- Minor alterations to wetland water systems from the construction of all-season roads, well pads, and similar features can produce major environmental harm.
- Large volumes of aggregate (gravel) are typically required to support all-season structures in wetland environments. The amount of gravel makes it difficult to restore the wetland to its natural state, creating a potential source of sediment loading.
- Wetlands, lakes, and rivers are important to several resource users, making land-use conflicts especially likely along river corridors and at fly-in lakes.
- The Mackenzie River Basin Transboundary Water Management Agreement applies to water management in this region.
- CCME (Canadian Council of Ministers of the Environment, see also www.ccme.ca) water quality methods may not meet the site-specific objectives outlined in the Mackenzie River Basin Transboundary Water Management Agreement.

Key issues related to managing waterbird habitat:

- Waterbirds are highly dependent on wetlands, which makes them sensitive to wetland disturbances.
- Open water, vegetated wetlands, and riparian areas are key related elements for the feeding, nesting, raising of young, and moulting of waterbirds.
- Lakes and wetlands are fairly uncommon elements in the planning region.
- Migratory waterbirds use wetlands in the region as staging and stop-over sites, a seasonal but important use.
- All waterbird species that use the region are regulated under the Migratory Bird Act. This act may identify areas for protection of migratory birds in the region, or provide management guidance.
- Many waterbird species are declining in western North America.

Desired Future State

- Sustainable fish populations that continue to support traditional harvesting, culture, economy, and recreation of First Nations and local residents.
- Healthy riparian, aquatic, and wetland ecosystems and their species within natural ranges of population size and habitats.
- Unaltered relationships in water systems.
- Water flows and qualities that are within their natural range of variation.

POLICY RECOMMENDATIONS	• *Complete a Watershed Management Plan for the Peel Watershed, consistent with the objectives of the Yukon-NWT Transboundary Water Management Agreement.* • *Review the CCME guidelines to develop regionally-relevant objectives that protect the wholeness of aquatic ecosystems within the Peel River watershed. Wetlands should also be addressed.*

RESEARCH RECOMMENDATIONS	• *Support and, if possible, expand current water quality and flow monitoring programs to every major tributary, to provide a benchmark for monitoring the indicators of cumulative effects.* • *Have water experts determine indicators of stream health, and related monitoring and analysis methods, before major development takes place. Samplings of benthic invertebrate communities and water chemistry based on the CABIN protocol (http://cabin.cciw.ca) have already been carried out in the region (D. Davidge, personal communication). This protocol, which compares potentially affected streams to unaffected streams (i.e., reference streams), appears to be an adequate tool.* • *Have wetland experts determine indicators of wetland health, and related monitoring and analysis methods, before major development takes place. An indicator similar to the stream health indicator could lead to more comparable results.* • *Develop a stream crossing density indicator with critical levels before major development takes place. In comparison to CABIN-type indicators, this indicator should be more preventive and less reactive. Stream crossings relate to the generation of suspended sediments.* • *Carry out further research into the features and location of spawning habitat, natural history, and population trends of anadromous (sea-run) fish species in the Peel Watershed before major developments occur.* • *Carry out further research into the features and location of overwintering habitat, natural history, and population trends of potadromous (freshwater) fish species in the Peel Watershed before major developments occur.* • *Determine biologically relevant limits to water withdrawal upstream of key overwintering habitats before major developments.* • *Map Peel wetlands using a Yukon Wetland Classification based on the Canadian Wetland Classification System. This wetland inventory should be done before any major development.*

4.3.1.4. Disturbance to Wildlife and Terrestrial Habitats

The region contains important ecological resources and sensitive habitats for a variety of species. Several First Nations have relied on the wildlife of the region for thousands of years, and First Nations and non-First Nations people continue to rely on them today.

Sustaining regional wildlife requires maintaining the integrity of important habitats. Management directions in Sections 4.1 and 4.2 go a long way towards this goal. However, direct disturbance to these populations, or to critical habitats, must also be considered when making land-use decisions.

Key issues related to managing wildlife and their habitat:

- Industrial land-use activities, and the increased access made possible, may cause wildlife to avoid or reduce their use of key habitats such as nesting sites, mineral licks, prime foraging habitat, or movement routes.

Desired Future State

- Animal distribution, abundance, and behavior remain essentially unaltered.

RESEARCH RECOMMENDATION	• *Map habitats critical for wildlife movement, reproduction, forage, and cover at an appropriate scale before major developments occur. This information should be provided to regulatory agencies and other relevant development planning processes.* • *Develop and distribute a document describing best practices when "Flying [or operating] in Peregrine Country." This document should include discussion on timing windows and setbacks.* • *Develop and distribute a document describing best practices around mineral licks. This document should include discussion on timing windows, setbacks, and the importance of hydrology.*

4.3.1.5. 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) need remediation, and eleven need updated assessments. One or more sites have been decontaminated. Most sites consist of empty fuel drums and assorted garbage left over 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 wholeness or the health of wildlife and fish populations. Nonetheless, contaminated sites are a

concern for the region's communities and local land users. They also affect the perception of wilderness desired by tourism and big game outfitting.

The most important strategy to reduce potential contaminated-site effects to a minimum in the region is preventing new contaminated sites through careful mitigation, operating practices, and monitoring.

POLICY RECOMMENDATION	*Contaminated sites should be cleaned up. The priority should be those sites with most potential to affect water quality or tourism and big game outfitting.*

4.3.1.6. Climate-Change Effects

The Peel Watershed is expected to undergo some of the largest climate-related changes in Canada. Residents of the region are concerned about the effects of future climate change on the land, water, wildlife, and fish, and the resulting changes to the culture and traditional economy of the First Nations.

Key issues related to managing climate-change effects:

- Annual temperature is expected to increase 4 to 6° C by 2080-2100 in this region (one of the largest temperature increases in Canada).
- Winter will see the greatest rise in temperature: 9 to 12° C by 2080-2100;
- Precipitation is expected to increase by 0-20%[1], probably with a high degree of variability between seasons and geographic areas.
- Changes to rain, snow, and permafrost will all affect water systems. Combined with rising temperatures, this will accelerate landscape change.
- With warming and more variable precipitation, wildfires are expected to increase. They may be of concern along river corridors where there is increased human activity.
- Most habitat types are at risk of change due to altered vegetation, changes to water systems, and permafrost degradation. Of particular concern are wetlands perched on permafrost.
- Slope stability in areas underlain with permafrost is expected to decrease. This would have negative effects on local water quality or any human structure like roads or pipelines. Several failed slopes have been discovered in the Peel Plateau, an area underlain with permafrost and with large steep slopes.
- Changes in slope stability will increase the overall turbidity (muddiness) of streams. Combined with changes to hydrology, stream habitat will be affected.

[1] Climate figures on this page 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).

- Industries that rely on water use and/or permafrost will need to be designed for current and projected conditions.
- Changing winter snow and ice conditions may affect caribou distribution, foraging migration patterns, and range use.
- While many climate change effects have already been noticed, the rate of change is expected to be higher in coming decades. The biophysical and ecological responses are complex.
- People's ability to read the climate, travel on the land, and subsist on country foods may be challenged by the rapid changes.

POLICY RECOMMENDATIONS	• *Detailed ground temperature and engineering studies should be done before the development of any new roads (where permitted) and other structures to measure ice content, ice distribution, ground temperature, etc.*

Climate Change

A land use plan cannot manage climate-change effects. It is vital to consider and account for any climate change using both scientific investigation and traditional and local knowledge/observations. While there will always be some uncertainty, it is important to use the fullest information to manage risks and adapt to climate and other landscape change.

The Plan considers and accounts for potential climate-change effects by recommending a higher level of conservation. Setting aside large intact ecosystems is a good way to help ecological values to persist in the face of climate change. This strategy was an important consideration in the zoning of the LMUs (Section 4.2) and other recommendations in this Plan.

4.3.2. Socio-Economic Assessment

As the Commission developed its Recommended Plan, it became apparent that current methods for socio-economic assessments are inadequate for regional planning needs. While YESAB's project-specific assessments may be successful in measuring cultural, social and economic effects, there is a lack of information about how to deal with regional socio-economic issues. The same is true of the cost/benefits of projects to existing resource users/sectors and to government revenues (royalties, rents, etc.).

Comparable and consistent data about both renewable and non-renewable land use were not available. As a result, it was not possible to find out how various sectors actually contributed to local communities, Yukon society, or elsewhere. Those contributions include direct, indirect, induced, or multiplier effects from existing or proposed land uses.

Information provided to the Commission varied greatly in methods, scope, and time period. It was either too general, not specific to the planning region, and/or not evaluated for economic leakages beyond the territorial border. The development of the region's "socio-economic base-case" (a common practice elsewhere in Canada) would help to describe the region and allow

regulators to consider the implications of the Recommended Plan for land-use change. This is particularly important at the Plan review stage. Key social and economic indicators include employment, income, and educational levels of resource users affected by land-use change. It is also possible to find indicators that measure the value of the traditional food harvest, and other quality of life values.

POLICY RECOMMENDATIONS	• *Evaluate current YESAB practice and methods for assessing regional socio-economic impact. Include current best practice in multiple accounts methodology, in cost-benefit analysis, and in genuine progress and wealth analyses*[2]*.* • *Use enhanced consultation recommendations to make sure that First Nations' traditional use, country food harvest, and other socio-economic objectives are fully analyzed and included in any socio-economic assessment for major projects.*

RESEARCH RECOMMENDATIONS	• *Develop state-of-the-art techniques for regional socio-economic and quality-of-life indicators relevant to the Peel region.* • *Prepare a regional base-case socio-economic profile*[3]*.* • *At the Plan review stage, carry out a regional socio-economic assessment of the Plan to measure net costs/benefits to individual sectors and public revenues.* • *Carry out heritage, palaeontological, and archaeological research and inventory at a scale appropriate to proposed developments.*

[2] Definitions from Anielski, Mark et al. Alberta Sustainable Trends 2000: Genuine Progress Indicators Report 1961-1999. Pembina Institute for Appropriate Development. 2001.

[3] Examples: (i) Socio-Economic Assessment of the Cassiar Stikine LRMP, Gary Holman, M.A., Aug 2000; (ii) Socio-Economic and Environmental Impact Assessment for the Peace Moberly Tract: The Base Case (*MAL,* March 2006)

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5. Plan Implementation and Revision

Implementation is a crucial stage in the planning process, providing clear directions for key Plan recommendations. It is intended mainly to demonstrate the Commission's regard for its guiding documents. Its terms of reference, in particular, require the Plan to give effect to certain provisions of the following agreements:

1) Yukon First Nation Land Claim Agreements of the Vuntut Gwitchin First Nation, Tr'ondëk Hwëch'in First Nation, and First Nation of the Na-Cho Nyak Dun;
2) Gwich'in Comprehensive Land Claim Agreement (Yukon Transboundary Agreement, Chapter 3 and Chapter 7); and,
3) Yukon Northern Affairs Program Devolution Transfer Agreement (Chapter 2, Chapter 7, Appendix D).

It is during implementation that the guiding principles, goals, and objectives of the Plan are put into action. Periodic monitoring of Plan implementation provides an opportunity to evaluate its effectiveness, to decide if goals and objectives are being met, and to find out whether the Plan has been used in land and resource decision-making processes. If land-use circumstances change in the region, changes to the Plan may be needed.

The Parties will develop a detailed implementation strategy at the same time as, or following, the approval of a final Peel Watershed Regional Land Use Plan.

5.1. Plan Implementation Responsibilities

The governments of the Yukon, Na-Cho Nyak Dun, Tr'ondëk Hwëch'in, Vuntut Gwitchin, and the Gwich'in Tribal Council are the Parties to the Peel Watershed Regional Land Use Plan. They have primary responsibility for implementation. These responsibilities may also involve other groups, including the following:

- Peel Watershed Planning Commission (PWPC);
- Yukon Land Use Planning Council (YLUPC);
- Yukon Environmental and Socio-economic Assessment Board (YESAB);
- Government of Canada; and,
- Umbrella Final Agreement boards and committees.

Until the Parties reach an agreement on implementation, the roles and responsibilities for other groups are uncertain.

RECOMMENDATION	*A detailed implementation strategy should be developed at the same time as the review and approval process for a Final Land Use Plan.*

5.2. Proposed Implementation Activities

A number of specific implementation activities are necessary and will evolve through submission of a Final Recommended Plan. They can be grouped under four general categories:

1) Adopting Plan concepts, framework, and general management directions/objectives/strategies;
2) Implementing recommendations (land-use management, research and policy);
3) Developing and implementing monitoring and reporting protocols that will determine if Plan goals and objectives are being met; and,
4) Creating and maintaining efficient procedures to review and modify the Plan.

Proposed implementation activities for the parties to consider are listed in Table 5.1. Specific tasks will include identifying roles for various land management authorities and advisory bodies. Such work will be specified and agreed in a detailed implementation strategy.

The Commission took a comprehensive approach in developing its Plan recommendations. This reflects the complexity of the planning region's environment, key information deficiencies, untested land management tools, and the Commission's understanding of the resource management and regulatory capacities of the parties.

The Plan emphasizes the Commission's primary recommendation for (a) general zone designations (SMA or IMA) and (b) the most effective regulatory designation under Yukon Government legislation for achieving the objectives for each LMU (Section 4.2). The Plan provides a rationale to support these recommendations, followed by management conditions and special management considerations when new land uses are being proposed. For these higher-level Plan designations and management objectives, linkages to relevant Umbrella Final Agreement/First Nation Final Agreement Chapters have been identified, based upon the Commission's interpretation of these documents. The parties, however, are strongly advised to make sure such linkages are accurate during the Recommended Plan review stage, including deferring to expert opinion on UFA interpretation.

Other sections of the Plan provide further guidance to individual industry sectors (Section 4.1) and general management directions on other important issues (Section 4.3), along with strategies and best management practices (Appendix B). Finally, the Commission offers various recommendations throughout the document in the form of policy development, research, monitoring, and future modifications.

Table 5.1: Proposed implementation tasks, actions, and timelines.

Task	Actions/Details	Timeline
Detailed Implementation Strategy		
1. Prepare detailed implementation strategy	**Prepare a detailed implementation strategy as a separate document**. • Develop the implementation strategy concurrently with the Plan approval process • Initiate an interim land-withdrawal from mineral staking and new gas tenures until completion of Recommended Plan review	Final Plan Review and approval
2. Project conformity process	**Develop protocol for YESAB project conformity check with all First Nation parties.** • As per Final Agreement clause 12.17.0, develop detailed protocols for YESAB project conformity checks. • Involve PWPC in project conformity checks for large projects assessed under YESAA Screenings and Reviews.	Protocols in place by date of Final Plan approval
Plan Framework and Key Recommendations		
1. Apply regulatory designation tool	**Select appropriate regulatory tool for each LMU.** • Apply selected regulatory tool for each LMU, and undertake all necessary notices to affected tenure holders, affected communities, and the general public. • All parties develop or amend all required legislation to enable the appropriate regulatory designations.	Within one year following Final Plan approval
2. Apply land designation	**Adopt and implement Landscape Management Units and Land-Use Designation.** • Incorporate landscape management units and land-use designation into existing Yukon land-status databases and land-use decision-making processes.	Final Plan approval
3. Establish the following types of Special Management Areas	In accordance with Section 10.3.0 of the Umbrella Final Agreement, Vuntut Final Agreement, Tr'ondëk Hwëch'in Final Agreement, and Na-Cho Nyak Dun Final Agreement, **undertake to establish the following types of Special Management Areas:**	
	Establish a contiguous Special Management Area for "Heritage Emphasis" as per Section 10.2.0 for the following areas: • **LMU F: Hungry Lakes** • **LMU N: Tshuu tr'adaojìich'uu / Aberdeen and Peel Canyons** • **LMU O: Teetl'it njik / Lower Peel River**	Within one year following Final Plan approval
	Establish a contiguous Special Management Area with "Fish and Wildlife Emphasis" as per Section 10.2.0 for the following areas: • **LMU A: Ogilvie River Headwaters** • **LMU C: Hart River** • **LMU G: Richardson Mountains - South** • **LMU P: Mid-Peel River and Big Eddy**	Within two years following Final Plan approval

Task	Actions/Details	Timeline
Continued…	**Establish a contiguous Special Management Area for "Watershed Protection" as per Section 10.2.0 for the following areas:** • **LMU D: Wind/Bonnet Plume River**	Within two years following Final Plan approval
	Establish a contiguous Special Management Area for "General Environmental Protection" as per Section 10.2.0 for the following areas: • **LMU B: Blackstone River Uplands** • **LMU E: Snake River** • **LMU H: Richardson Mountains - North** • **LMU I: Vittrekwa River** • **LMU J: Tabor Lakes** • **LMU K: Jackfish Creek Lakes** • **LMU L: Chappie Lakes Complex** • **LMU M: Turner Lakes Wetlands**	Within three years following Final Plan approval
4. Prepare Sub-Regional Plan	**Prepare a "Sub-Regional Plan" in accordance with UFA 11.8.0 and Management Plan for LMU 2: Dempster Highway.**	Within three years following Final Plan approval
	Prepare sub-regional plans as may be recommended by the relevant RRC for each Special Management Area listed above, including creation of a Management Advisory Board consistent with Final Agreements, Sections 10.5.2. and 10.5.7or otherwise specified, specifically NND Implementation Plan for SMAs in their traditional territory (p. 104)	Within three years following Final Plan approval
5. Prepare research action agenda	**Develop an action agenda based upon all PWPC research and monitoring recommendations.**	
4. Establish cumulative effects indicators and thresholds	**Adopt and implement cumulative effects indicators and thresholds where applicable in Integrated Management Areas:** • Refine current surface-disturbance estimates. • Refine exemptions list for surface-disturbance and linear-disturbance calculations. • Determine re-vegetation rates and standards for surface disturbances. • Confirm use of other land-management indicators (ecosystem, socio-economic).	Final Plan approval; TBD
5. Develop heritage route management guidelines	**Develop management guidelines for identified heritage routes.**	Final Plan approval; TBD
6. Develop and maintain regional database	**Compile and make accessible the regional maps and information collected during planning process.** • Provide central repository for storage and public distribution of maps and resource information through Yukon Planning Atlas project. • Determine ongoing information collection requirements. • Perform annual updates of regional resource status, including indicator status.	One year for development Ongoing annual maintenance
7. Perform annual	**State of region reporting.**	Initial assessment in year following Final Plan

Task	Actions/Details	Timeline
regional assessment	• Following Final Plan approval, carry out an annual general evaluation of land-use activities (type, level, and location) and land status from the previous year. • Discuss current and anticipated land uses. • Evaluate the status of cumulative effects indicators in relation to thresholds as part of this assessment,. • Summarize results of annual assessment in a brief State of the Region report. • Decide on potential course of management action for the upcoming year(s) if cautionary thresholds are reached. (Decision to be made by parties.) • Include indicator status and evaluation results as part of Yukon State of the Environment reporting.	approval Ongoing annual reporting
	Report on status of implementation tasks • Carry out annual monitoring and reporting of progress toward completing identified implementation tasks.	Initial assessment in year following Final Plan approval Ongoing annual reporting

RECOMMENDATIONS	• *As per Final Agreement clause 12.17.0, the PWPC recommends that an assessment of individual project conformity with the Plan, where such projects are evaluated at the level of a YESAB Designated Office, be undertaken on an annual basis as part of an annual regional assessment, rather than on a project-by-project basis.* • *The PWPC believes that the Plan establishes adequate management direction for YESAB to assess conformity of most individual projects, as part of a Designated Office evaluation. Where land-use variances are being considered within areas designated for protection and conservation, the PWPC recommends that such technical reviews be done by a qualified professional planner serving as a representative of the PWPC.* • *Where Plan amendments are required, the PWPC recommends that it be reconvened to consider such proposals.*

5.3. Plan Revision

As outlined in detail in Section 3, the task of Plan conformity evaluation and revision is a fundamental cornerstone of this Plan. Based upon the First Nation Final Agreements, the Plan identifies three ways of allowing land uses to change from their current status in the Plan. The procedures will need the formal establishment of a process when the Plan is approved:

- by authorizing a Plan variance (non-conforming uses that are inconsistent with the Plan);
- by amendments to the Plan (alterations to Plan framework, policy, or management directions);
- through a Plan review (a systematic process for updating the Plan, either after a five to seven year period or when the Yukon and signatory First Nation Governments require a review). Plan review would occur either on an agreed-upon schedule or whenever the parties decide it is needed. The development of methods and timelines for changing the Plan will be part of the detailed implementation strategy.

RECOMMENDATION	*To support adaptive management and provide a periodic process to evaluate Plan effectiveness, the maximum length of time between Plan reviews should be seven years.*

5.3.1. Plan Review check-list

The status of Plan recommendations should be evaluated at the first Plan review. While consulting on the Draft Plan, the PWPC received comments about additional research or management items to consider. Some have been deferred for the future, while Table 5.2 lists suggested items to consider at the first Plan review.

Table 5.2: Suggested items for consideration at first Plan review.

Task	Actions
Plan Review	
1. Evaluate success of Plan in achieving goals and objectives	• Determine if recommendations from Plan were successfully implemented. • Consider if the goals and objectives of Plan were met and/or if they are still achievable. • If required, revise Plan content.
2. Develop and implement additional indicators for sustainable development (ecosystem and socio-economic sustainability)	• Consider inclusion of habitat targets for focal species for 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 ecosystem and socio-economic sustainability indicators, to be determined in consultation between YESAB and the parties to the Plan
3. Consider zoning system for Dempster Highway corridor	• Consider Dempster Highway corridor zoning system that is complementary to the existing land designation system proposed in the Plan.
4. Refine application of cumulative effects indicators and thresholds	• Consider weighting of linear disturbance effects within different habitat types (e.g., floodplains versus upland habitats). • Incorporate new information on re-vegetation rates and standards for surface disturbances.

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Glossary of Terms

Active Riparian Area: *See* Riverine ecosystems.

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 Development Area 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 Development Area Act) are 30 years old (formed April 18, 1979) and applies to the Dempster Highway Development Area (DEHDA). The DEHDA follows the Dempster Highway from kilometer 68 to the Northwest Territories boundary and extents 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.

Community Area: A land-use category in the Plan land-use designation system. Community Areas are located around communities or municipalities, such as Old Crow, where local planning is undertaken.

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 (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.

Ecological Reserve: A park established to protect an area of unique natural significance, unique ecological characteristics, or importance for a population of rare or endangered flora or fauna, which is intended to remain in its natural state (*Parks and Land Certainty Act*).

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 is entirely within the Taiga Cordillera Ecozone.

Endangered Species: Those species listed in Part 2 of Schedule 1 to the *Species at Risk 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.

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

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 (YESAA).

Focal Species: The species of most value and interest, either socially or economically, to residents of a region. The focal species in this Plan (Porcupine caribou, moose, and marten) were determined by Vuntut Gwitchin First Nation and other Plan Partners.

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.

Habitat Protection Area (HPA): An area identified as requiring special protection under the Yukon *Wildlife Act*. The level of protection varies depending on the management plan developed for each particular HPA.

Heritage Resources: Sites and objects that are 45 years old or older and relate to human history, including archaeological and historic sites and artefacts. 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. Within the planning region, Rampart House and Lapierre House are designated Yukon Historic Sites. National Historic Sites are designated under the federal *Historic Sites and Monuments Act*.

Hydric (soil): Soils with a high water content and poor drainage capacity (i.e., wet soils).

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

Inactive Riparian Area: *See* Riverine ecosystems.

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: (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.

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.

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. Some LMUs may contain sub-units that require special consideration. 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.

Landscape Type: A generalized vegetation-terrain association or land-cover class that is readily observable and has definable characteristics. Landscape types are the biophysical “building blocks” of

landscapes. The February 2006 version of the North Yukon biophysical map recognizes 28 distinct landscape types.

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 or sub-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 landscape management unit or sub-unit (measured in km^2). Linear density is expressed as km/km^2. 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 rivers in the region, with the greatest ecological and cultural significance. In this Plan, Major River Corridors are the Ogilvie, Blackstone, Hart , Wind, Bonnet Plume, Snake and Peel Rivers.

Mesic (soils): Soils of moderate moisture content and drainage capacity.

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 public land in Yukon not affected by First Nation settlement lands. *See* Settlement Land.

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.

Palaeontological 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. Old Crow Basin 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 N'y'ak 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.

Riverine ecosystems: Riverine ecosystems are described as being Active Riparian and Inactive Riparian. The Inactive Riparian area is derived from the Regional Terrain level 4 Stream attribute (Steffan 2005). The Active Riparian area is within, and extends beyond the Regional Terrain level 4 Stream attribute (Steffen 2005). Riverine ecosystems capture major rivers. In the case of rivers dissecting plateaus this captures the entire river valley from the upper slope break to active channels, and in mountainous settings, the mountain toe slope break to active channels. Examples include the main branch of the Bonnet Plume and Peel Rivers. Also captured in this framework are major tributaries such as Rapitan Creek and the West Hart River. (Steffan, N. 2005. North Yukon Regional Terrain Mapping (1:250,000) Metadata. Gartner Lee Ltd., Whitehorse. 15 pp.)

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 N'y'ak 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 of 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, VGFNFA).

Subsistence Harvesting (for VGFN): Defined as "(a) the use of Edible Fish or Wildlife Products, or edible Plant products, by Vuntut Gwitchin for sustenance and for food for traditional ceremonial purposes including potlatches; and (b) the use by Vuntut Gwitchin of Non-Edible By-Products of harvests of Fish or Wildlife under (a) for such domestic purposes as clothing, shelter or medicine, and for domestic, spiritual and cultural purposes; but (c) except for traditional production of handicrafts and implements by Vuntut Gwitchin, does not include commercial uses of: (i) Edible Fish or Wildlife

Products; (ii) Non-Edible By-Products; or (iii) edible Plant products." (Chapter 10, VGFN Final Agreement)

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

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.

Threatened Species: Those species listed in Part 3 of Schedule 1 to the *Species at Risk 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 are 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. Old Crow maintains both a wage-based and traditional economy.

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 (YESAA).

Watercourse: A natural waterway, water body or water supply, including one that contains water intermittently, and includes groundwater, springs, swamps, and gulches (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.

Wilderness Preserve: A park established with a view to protecting an ecological unit or representative core area by conserving biodiversity and ecological viability (*Parks and Land Certainty Act*).

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'ondek Hwech'in First Nation; Kluane First Nation; Kwanlin Dun First Nation; Liard First Nation; Little Salmon/Carmacks First Nation; First Nation of Nacho 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.

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Appendix A: Maps

Map 1 – Current Status

Map 2 – Proposed Land Use Zones

Map 3 – Ecologically Important Areas

Map 4 – Heritage and Cultural Resources and Land Use

Map 5 – Economic Development Potential and Interests – Renewable Resources

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

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Appendix B: Supplementary Management Considerations

As the Commission developed this land use plan, we evaluated a number of land use management objectives, strategies, and best management practices. Ultimately we decided that these directions were mostly superfluous to the plan components in Section 4. However, these directions are included in this Appendix to provide more detail on how the plan's goals may be met. The list of directions in this Appendix is not exhaustive; other strategies and practices compatible with the Plan may be used by regulatory agencies and/or proponents. The subsection headings of this Appendix parallel those of section 4.1 and 4.3, and can be seen as extensions of those sections.

Objectives, Strategies, Recommendations, and Best Management Practices

There are four categories of management directions: Recommendations, Objectives, Strategies, and Best Management Practices (BMPs). The definitions of these terms overlap somewhat. However, in general:

Recommendations describe specific one-time or periodic tasks that contribute towards reaching Plan goals. These tasks are generally carried out by the parties as they implement the Plan. Recommendations are the primary management directions of Sections 4.1 and 4.3.

Objectives describe specific visions or conditions that the Commission believes are important in achieving the goals for this Plan. They are set out in Section 1.3.

Strategies describe specific approaches and actions needed to reach an objective. These approaches should be considered with every new or changed land use activity.

Best Management Practices are specific practices or methods that reduce the time, intensity, or duration of activities on the land base and/or by users of that land base, and contribute towards reaching one or more objectives. Best management practices are dynamic – they often change as technology improves. This plan does not rely solely on best management practices because they can change and because their focus is often narrow.

B.4.1. Management of Specific Land Uses

B.4.1.1. Industrial Activities

OBJECTIVES	STRATEGIES AND BEST MANAGEMENT PRACTICES
1. Minimize effects to the land base and meet environmental regulatory standards.	1.1. Monitor exploration sites and new developments for compliance of on-site activities with environmental standards. 1.2. To the extent possible, coordinate operational timing windows for exploration, development, and associated access needs with the needs of other resource values/users, such as wildlife habitat and existing commercial activities (e.g., guide-outfitting).
2. Minimize effects to other land-users and/or ecology in the area.	2.1. Tenure holders should consult affected trappers, guide outfitters, and wilderness tourism operators before starting activities. 2.2. Avoid or reduce activities in current subsistence and traditional-use areas during important seasonal-use periods (e.g., utilize timing windows). 2.3. Avoid developments near historic travel routes and heritage trails (including road development). Only consider exceptions to this strategy after fairly assessing and weighing all implications (ecological, economic, safety, etc.) 2.4. Consider local recreation use areas during project-level planning. 2.5. All-season structures should be discouraged within active riparian areas. 2.6. Employees of proponents must agree not to hunt at any time while on, or travelling to or from, a work assignment, including during off-time at a work camp. Failing this, a "no firearms in camp" policy should be adhered to. 2.7. Work camps for resource exploration and development activity should be sited near areas of resource production, away from identified heritage routes, historic sites, and traditional-use areas. 2.8. Memorandums of Understanding (MOUs) should be drafted between industrial development companies and regional big-game outfitters, trappers, and tourism operators before substantial fieldwork begins. These MOUs should be updated yearly or as needed.

B.4.1.1.1. Mineral Resources

B.4.1.1.2. Oil and Gas Resources

B.4.1.2. Non-industrial Activities

B.4.1.2.2. Subsistence Harvesting

B.4.1.2.3. Trapping

B.4.1.2.3. Big-Game Outfitting

B.4.1.2.4. Tourism and Recreation

OBJECTIVES	STRATEGIES
3. Identify opportunities for tourism and recreation development.	3.1. Update and continue to develop tourism-resource inventories for a range of front- and back-country tourism activities. 3.2. Recognize the need for facilities to support tourism (front-country and back-country), where appropriate. 3.3. Provide opportunities for back-country recreation and tourism development.
4. Provide a secure land base to support environmentally and culturally sensitive tourism/ recreation development.	4.1. Make land available to support development of commercial recreation.
5. Manage natural, cultural, and recreation resources in front-country (e.g., along the Dempster Highway) and back-country areas to support high-value wilderness tourism opportunities.	5.1. Design and locate tourism/recreation facilities and activities to minimize effects on sensitive ecosystems, cultural/heritage sites, and recreation features. 5.2. Manage levels of commercial recreation use in areas with potential carrying capacity limitations (e.g., float-plane accessed lakes, Snake River corridor). 5.3. Make sure facilities (front-country and back-country) are designed and located to respect scenic/aesthetic qualities, ecological values, and public use. Specific examples follow. 5.4. Design facilities to be aesthetically compatible with the surrounding area. 5.5. Avoid disturbance to sensitive aquatic and terrestrial ecosystems. 5.6. Avoid proliferation of trails and, where possible, concentrate access along a single trail. 5.7. Integrate tourism/recreation values and inventories into other resource planning and approval processes (e.g., sub-regional planning, environmental assessment, access management, or recommended protected area plans, etc.). 5.8. Promote environmentally and culturally sensitive tourism and recreation through the following methods: 5.8.1. Hold public consultation in the awarding of land tenures for commercial recreation. 5.8.2. Encourage wilderness tourists to follow best practices (e.g., “Into the Yukon Wilderness” (Environment Yukon, 2009)). 5.8.3. Monitor recreational activities, including wildlife viewing activities, and, where necessary, take action to prevent seasonal or chronic harassment of wildlife.
6. Promote development of locally based, viable tourism opportunities consistent with long-term tourism goals for the area.	6.1. Incorporate local knowledge into tourism/ recreation inventories, opportunity studies, etc. 6.2. Emphasize local employment and business creation as criteria for awarding land tenures for commercial recreation.
7. Maintain or increase opportunities for local recreation use.	7.1. Consider local recreation use areas during project-level planning.

8. Minimize effects to other land users and/or ecology in the area.	8.1. All-season structures should be discouraged within active riparian areas. 8.2. Employees of proponents must agree not to hunt at any time while on, or travelling to or from, a work assignment, including during off-time at a work camp. Failing this, a "no firearms in camp" policy should be adhered to.

B.4.1.2.5. Forest Resources

B.4.1.3. Access

B.4.1.3.1. Dempster Highway

9. Minimize disturbance to critical fish and wildlife habitats.	9.1. Disturbance, including road maintenance and other industrial activities, should be avoided near Peregrine Falcon nesting sites during the nesting cycle (May to mid-August). 9.2. Continue monitoring the interaction between the Hart River herd and the Dempster Highway that is the basis of the current caribou hunting closure in Game Management Subzone 2-28 (this GMS straddles the Dempster Highway at the north end of Tombstone Park) and any potential similar closures within the PWPR.

B.4.1.3.2. Wind River Trail

B.4.1.3.3. New Surface Access

10. Minimize disturbance to critical fish and wildlife habitats.	10.1. To the extent practicable, avoid or minimize the creation of new access roads and trails.

B.4.1.3.4. Off-Road Vehicle (ORV) Access

B.4.1.3.5. Air Access

11. Minimize disturbance to fish and wildlife during critical periods.	11.1. To the extent possible, avoid repeated flights in or near sheep areas during biologically important timing windows. This strategy applies to air access for mining activities, recreation, and sightseeing. 11.2. Encourage the development of MOUs between tourism operators and regional aircraft operators to avoid or mitigate conflicts and evaluate adequacy of existing BMPs (e.g., scheduling flights by time period, concentration of flights to agreed days of the week or weeks of the year, consultation and communication protocols to minimize land use conflicts).

B.4.1.3.6. Water Access

B.4.1.3.7. New or Experimental ORV Technologies

B.4.3. Management of Land Use by Resource Issue

B.4.3.1. Environmental Effects Management

B.4.3.1.1. Cumulative Effects Management

B.4.3.1.2. Surface Disturbances

12. Minimize disturbance to critical fish and wildlife habitats.	12.1. Design and locate roads and other structures to avoid or otherwise minimize effects to high-value habitats and key areas, including migratory or movement corridors.

B.4.3.1.3. Disturbances to Hydrology and Aquatic Habitats

13. Minimize disturbance to hydrology and aquatic habitats.	13.1. If land use activities are required in wetlands or riparian areas, hydrology, water flow, and natural drainage patterns should be maintained. 13.2. Activities in the vicinity of wetlands and wetland complexes should be carried out during the winter. 13.3. Surface disturbance and land use activities within and adjacent to active riparian areas should not result in diminished water quality, quantity, or flow.

B.4.3.1.4. Disturbance to Fish and Wildlife

14. Minimize disturbance to fish and wildlife during critical periods.	14.1. Avoid or reduce activities in wetland habitat during important biological periods or seasons (e.g., nesting, breeding, and moulting) for breeding waterbirds and other wetland-dependent organisms (e.g., utilize timing windows). 14.2. Avoid or reduce activities in fish over-wintering (potadromous) and spawning (anadromous) habitats, especially during important biological periods (e.g., utilize timing windows). 14.3. Avoid or minimize the size, extent, duration, and level of activities in high-value habitats and key areas, including migratory or movement corridors. 14.4. Where activities in high-value habitats and key areas, including migratory or movement corridors, is unavoidable, operational timing windows should be used to avoid seasonal habitat. 14.5. Various documents describing best management practices on flying (e.g., “Flying in Sheep Country,” MERG, 2002) should be distributed to pilots operating in the region. 14.6. Project proponents should be required to work with the relevant First Nation to hire a trained wildlife monitor; the monitor should have the authority to shut down or alter project activity if it affects wildlife behavior.

B.4.3.1.5. Contaminated Sites

B.4.3.1.6. Climate-Change Effects

B.4.3.2 Socio-Economic Assessment

15. First Nations are able to share in economic opportunities.	15.1. Before deciding whether to authorize a land use or its terms, require applicants to demonstrate meaningful community involvement with affected communities and individuals. The degree and nature of community involvement required will be appropriate to the scale and potential effects of the proposed land use. 15.2. Community involvement will begin before the application and will continue throughout the life of the proposed land use at intervals appropriate to the nature of activities. 15.3. A First Nations wildlife/cultural monitoring program would help mitigate industrial activity or inappropriate activities at important ecological or cultural sites, would provide employment, and could be integrated with a traditional skills program. 15.4. Encourage developers/proponents operating within the Peel region to report their contribution to the local economy (Keno City, Mayo, Fort MacPherson, Dawson City). 15.5. Proponents should support investigations into the effects of development activities on culturally or archeologically important sites or on culturally important species.
16. Maintain opportunities for traditional subsistence activities.	16.1. Recognize the importance of the subsistence harvest for local residents in all land use management decisions
17. Track economic contributions by regional activity to better inform future planning decisions.	17.1. Encourage developers/proponents operating within the Peel region to report their contribution to the local economy (Keno City, Mayo, Fort MacPherson, and Dawson City).

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Appendix C: Yukon Land Use and Resource Management

The Yukon Fish and Wildlife Management Board

"The Yukon Fish and Wildlife Management Board (the "Board") is an advisory body consisting of 12 members appointed by the Minister of Environment. Six members are nominated by the Council of Yukon First Nations and six by the Government of the Yukon.

Since its responsibility lies with issues that affect the entire Yukon, the Board focuses its efforts on territorial policies, legislation and other measures to help guide management of fish and wildlife conserve habitat and enhance the renewable resources economy. The Board influences management decisions through public education and by making recommendations to Yukon, Federal and First Nations governments. Recommendations and positions are based on the best technical, traditional and local information available.

In order to develop an understanding of issues and form recommendations, the Board works in partnership with federal, territorial and First Nations Governments as well as Renewable Resources Councils and other Umbrella Final Agreement (UFA) boards and councils. The Board relies on its partners and the public for technical information, advice and local or traditional knowledge. The governments are responsible for gathering information on fish and wildlife resources and designing management processes, as well as day to day management of fish and wildlife and the enforcement of laws."

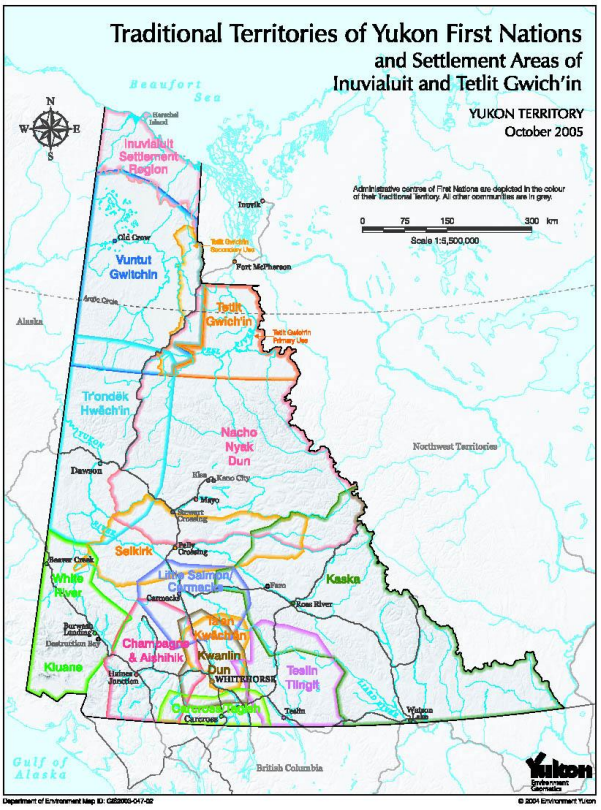

Figure C.1: Traditional Territories of Yukon First Nations (Source: Yukon Government)

Renewable Resource Councils (RRCs)[1]

"Renewable Resource Councils (RRCs) are local management bodies in the Yukon established in areas where individual land claim agreements have been signed. RRCs are a voice for local community members in managing renewable resources, such as fish, wildlife, habitat and forestry matters, specific to their Traditional Territories (see Figure C.1). RRCs provide strong input into planning and regulation by the territorial, federal and First Nations governments. RRCs also

[1] Source: http://www.yfwmb.yk.ca/rrc

play an important advisory role to the YFWMB by raising awareness of specific issues and providing local and traditional information."

Porcupine Caribou Management Board[2]

"The Porcupine Caribou Management Board is a joint management board established under the Porcupine Caribou Management Agreement signed in 1985. The Board consists of eight members representing six signatories (Government of Canada, Government of Yukon, and Government of the Northwest Territories, Inuvialuit Game Council, Gwich'in Tribal Council, and the Council of Yukon First Nations). A Chair and a Secretariat are contracted to provide support to the Board. The Board meets at least twice per year, often in the Porcupine Caribou user communities, and holds conference calls between scheduled meetings. Workshops are held throughout the year as needed.

The main duties of the Board are to:

- Co-operatively manage the Porcupine Caribou Herd and its habitat in Canada to ensure continuance of the herd for subsistence use by native users while recognizing that other users may also share the harvest.
- Maintain communication with the native users of the Porcupine Caribou.
- Review technical and scientific information relevant to the management of the Porcupine Caribou Herd and its habitat and make recommendations on its adequacy.
- Encourage native users and other harvesters of Porcupine Caribou to participate in the management of the herd.
- Maintain a list of eligible native users for each native user community and keep up-to-date information on the sub-allocation of the native user allocation among communities."

The Gwich'in Land Use Planning Board[3]

"Provision for establishment of the Gwich'in Land Use Planning Board was made through the Gwich'in Comprehensive Land Claim Agreement in 1992. Soon after the Land Claim was signed, the Planning Board operated as an interim board until it was officially established by the Mackenzie Valley Resource Management Act in 1998. The Planning Board developed and will implement a land use plan for the Gwich'in Settlement Area. In following the principles outlined in the Land Claim and the Mackenzie Valley Act, the Planning Board developed a land use plan that provides for the conservation, development and utilization of land, water and resources. The plan is

[2] Source : http://www.taiga.net/pcmb/
[3] Source: http://www.gwichinplanning.nt.ca/

particularly devoted to the needs of the Gwich'in, while considering the needs of all Canadians.

The Planning Board has five members. The Gwich'in Tribal Council nominates two members and the Government of the Northwest Territories and Government of Canada each nominate one member. These four members then nominate a chairperson. The Planning Board is a public board and the Minister of Indian and Northern Affairs appoints each of the nominees to be members. Once appointed, members represent the interests of the public, not the interests of the group that nominated them. They have a three year term."

The Yukon-NWT Transboundary Water Management Agreement Committee[4]

A joint Committee made up of representatives from the Water Resources Branch of the Yukon Government, First Nation representatives and the Government of the North West Territories was established to oversee the Yukon-NWT Transboundary Water Management Agreement. They meet periodically to review various water management issues on trans-boundary waters in the Peel River, Coppermine, Liard, Hay and Slave River system.

[4] Source: pers communication: Heather.Jirousek, Water Resources Branch

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Appendix D: LMU Descriptions and Summary Statistics

Table D.1: Summary of allowable and prohibited land-use by LMU and areas where enhanced community consultation applies where ✓ = allowable (with specific conditions) and × = prohibited.

Table D.2: Existing Subsurface Dispositions within Land Use Management Units

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Table D.1: Summary of allowable and prohibited land-use by LMU and areas where enhanced community consultation applies where ✓ = allowable (with specific conditions) and × = prohibited (n/a indicates it is not applicable to the LMU). SMA = Special Management Area and IMA = Integrated Management Area.

LMU	Name	Designation and Emphasis	Area (km^2)	(% of Region)	Winter or all-season road Access	Existing non-industrial surface activities	New non-industrial surface activities	Existing industrial surface or sub-surface activities	New industrial surface or sub-surface activities	Enhanced community consultation required
1	Lower Ogilvie River	IMA	2772	4.1%	×	✓	✓	n/a	✓	yes
2	Dempster Highway	IMA - Sub-Regional Planning Area	1899	2.8%	✓	✓	✓	✓	✓	yes
3	Blackstone River	IMA	2773	4.1%	×	✓	✓	✓	✓	yes
4	Dalglish Creek	IMA	1599	2.4%	×	✓	✓	✓	✓	yes
5	Peel Plateau	IMA	4004	5.9%	×	✓	✓	✓	✓	yes
A	Ogilvie River Headwaters	SMA - Fish and Wildlife	1510	2.2%	×	✓	✓	n/a	×	yes
B	Blackstone River Uplands	SMA - Protection	5430	8.1%	×	✓	×	✓	×	
C	Hart River	SMA - Fish and Wildlife	8305	12.3%	×	✓	✓	✓	×	
D	Wind/Bonnet Plume River	SMA - Watershed Management	18678	27.7%	×	✓	✓	✓	×	
E	Snake River	SMA - Protection	11193	16.6%	×	✓	×	✓	×	
F	Hungry Lakes	SMA - Heritage	227	0.3%	×	✓	✓	n/a	×	yes
G	Richardson Mountains - South	SMA - Fish and Wildlife	2434	3.6%	×	✓	✓	✓	×	
H	Richardson Mountains - North	SMA - Protection	1442	2.1%	×	✓	×	n/a	×	
I	Vittrekwa River	SMA - Protection	180	0.3%	×	✓	×	n/a	×	
J	Tabor Lakes	SMA - Protection	157	0.2%	×	✓	×	n/a	×	
K	Jackfish Creek Lakes	SMA - Protection	772	1.1%	×	✓	×	n/a	×	
L	Chappie Lake Complex	SMA - Protection	267	0.4%	×	✓	×	n/a	×	
M	Turner Lake Wetlands	SMA - Protection	1611	2.4%	×	✓	×	✓	×	
N	Tshuu tr'adaojìich'uu / Aberdeen and Peel Canyons	SMA - Heritage	493	0.7%	×	✓	✓	✓	×	yes
O	Teetl'it njik / Lower Peel River	SMA - Heritage	698	1.0%	×	✓	✓	✓	×	yes
P	Mid-Peel River and Big Eddy	SMA - Fish and Wildlife	987	1.5%	×	✓	✓	n/a	×	

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Table D.2: Existing Subsurface Dispositions within Land Use Management Units

			Coal License		Iron_Mica Claims		Quartz Claims		Quartz Claims and Coal License		Oil and Gas Permit		Oil and Gas Significant Discovery License		No Subsurface Dispositions		
LMU	Emphasis of Zone Designation	Designation-Emphasis	Area (km2)	Percent of LMU	Area (km2)	Percent of LMU	Area (km2)	Percent of LMU	Area (km2)	Percent of LMU	Area (km2)	Percent of LMU	Area (km2)	Percent of LMU	Area (km2)	Percent of LMU	LMU Total (km2)
1	Lower Ogilvie River	IMA	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	2772	100.0%	2772
2	Dempster Highway	IMA - Sub-Regional Planning Area	0	0.0%	0	0.0%	71	3.7%	0	0.0%	0	0.0%	0	0.0%	1828	96.3%	1899
3	Blackstone River	IMA	0	0.0%	0	0.0%	55	2.0%	0	0.0%	4	0.2%	0	0.0%	2714	97.9%	2773
4	Dalglish Creek	IMA	0	0.0%	0	0.0%	29	1.8%	0	0.0%	489	30.6%	70	4.4%	1011	63.2%	1599
5	Peel Plateau	IMA	0	0.0%	0	0.0%	34	0.9%	0	0.0%	260	6.5%	0	0.0%	3710	92.7%	4004
A	Ogilvie River Headwaters	SMA - Fish and	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1510	100.0%	1510
B	Blackstone River	SMA - Protection	0	0.0%	0	0.0%	111	2.0%	0	0.0%	0	0.0%	0	0.0%	5319	98.0%	5430
C	Hart River	SMA - Fish and	0	0.0%	0	0.0%	183	2.2%	0	0.0%	31	0.4%	0	0.0%	8091	97.4%	8305
D	Wind/Bonnet Plume River	SMA - Watershed Management	1284	6.9%	0	0.0%	929	5.0%	178	1.0%	0	0.0%	0	0.0%	16288	87.2%	18678
E	Snake River	SMA - Protection	0	0.0%	278	2.5%	38	0.3%	0	0.0%	0	0.0%	0	0.0%	10877	97.2%	11193
F	Hungry Lakes	SMA - Heritage	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	227	100.0%	227
G	Richardson Mountains - South	SMA - Fish and Wildlife	0	0.0%	0	0.0%	58	2.4%	0	0.0%	0	0.0%	0	0.0%	2376	97.6%	2434
H	Richardson Mountains - North	SMA - Protection	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1442	100.0%	1442
I	Vittrekwa River	SMA - Protection	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	180	100.0%	180
J	Tabor Lakes	SMA - Protection	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	157	100.0%	157
K	Jackfish Creek Lakes	SMA - Protection	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	772	100.0%	772
L	Chappie Lake Complex	SMA - Protection	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	267	100.0%	267
M	Turner Lake Wetlands	SMA - Protection	0	0.0%	0	0.0%	0	0.0%	0	0.0%	135	8.4%	0	0.0%	1476	91.6%	1611
N	Tshuu tr'adaojìich'uu / Aberdeen and Peel Canyons	SMA - Heritage	0	0.0%	0	0.0%	5	0.9%	0	0.0%	0	0.0%	0	0.0%	488	99.1%	493
O	Teetl'it njik / Lower Peel River	SMA - Heritage	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	698	100.0%	698
P	Mid-Peel River and Big Eddy	SMA - Fish and Wildlife	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	987	100.0%	987
Column Total (km2 and percent of region)			1284	1.9%	278	0.4%	1514	2.2%	178	0.3%	920	1.4%	70	0.1%	63188	93.7%	67431

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Appendix E: Key Issues Affecting Peel Region Resources

Table C.1: Summary of key issues by sector in the Peel Watershed Planning Region

Table C.1: Summary of key issues by sector in the Peel Watershed Planning Region

Resource Sector/Values	Components	Key Geographic Area(s) of Interest	Key Issues to be Addressed
Aquatic Resources			
Water (water quality/flows for both hydrological and ecosystem function for flora/fauna; domestic consumption to people at seasonal camps, and downstream community of Ft McPherson)	**Hydrology** • water producing and storage elements (snow-cover, glaciers, rivers, lakes, wetlands, permafrost) for ecosystem function • Industrial use (tourism, mineral exploration and development, potential oil & gas, hydro-electric development)	*Major river systems* (Peel, Bonnet Plume, Snake, Wind, Ogilvie, Blackstone, and Hart). *Critical permafrost areas* (Fort McPherson Plain and Peel Plateau bog-fen complexes) *Glaciers* (Bonnet-Plume Headwaters)	• Lack of baseline hydrological and water quality data in the tributaries of the Peel Watershed are limits to establish threshold/indicator levels for land use management • Extent of available water flow rates, and storage capacity considered inadequate to support industrial activities • Lack of research on climate-change effects on watershed resources (permafrost, glacier melt, winter and peak flows) to evaluate effects from industrial activities (i.e. mine, gas developments) • Minor alterations to hydrology through construction of all season roads, well pads and similar features can result in significant impacts. • Large volumes of aggregate are typically required to support all-season infrastructure in wetland environments, making reclamation difficult. • Land use conflicts might arise between multiple uses of wetlands, lakes and rivers: a) travel along river corridors (both adjacent and along rivers), or b) fly-in lakes.

Resource Sector/Values	Components	Key Geographic Area(s) of Interest	Key Issues to be Addressed
Aquatic Resources – cont.			
Aquatic Focal Species			

	Fish Sea-run fish: (Anadromous coregonids, Salmonids species) Non sea-run fish: (Potadromous species)	Peel River mainstem, downstream of Aberdeen Canyon primary interest because of spawning habitat for sea-run fish Peel river tributaries for summer habitat Peel River mainstem, downstream of Aberdeen Canyon primary interest because of spawning habitat for sea-run fish	• Lack of fisheries information (species, critical habitats) particularly over-wintering species spawning areas, and First Nations occupancy and traditional use • Industrial land use activities may create direct fish habitat impacts including habitat loss, degradation and barriers to fish passage. • Human access facilitated by linear features related to industrial land use activity (seismic lines, trails and winter and all-season roads) may increase opportunities for harvesting, potentially leading to decreased fish populations. • Rates of fish harvest could become unsustainable; however, current rate of fish harvest are considered sustainable. Fish harvesting has been fairly high on some lakes and on stocks of whitefish, and Dolly Varden char in the lower Peel, but generally appears to be sustainable. • Climate change effects are anticipated to result in decreased peak stream-flow rates, potentially impacting fish habitats and populations. **Management issues specific to sea-run fish (anadromous):** • Whitefish,Dolly Varden char, herrings and Inconnu are of immense current and historical importance as a food source for people along the Peel River and into the Mackenzie Delta. • The population size of sea-run fish is limited by spawning habitat – spawning habitat is localized and requires specific gravel deposition and channel complexity that is poorly understood.

Resource Sector/Values	Components	Key Geographic Area(s) of Interest	Key Issues to be Addressed
Aquatic Resources – cont.			
Aquatic Focal Species			
		Peel river tributaries for summer habitat	**Management issues specific to non-sea-run fish (potadromous):** • Arctic Grayling and Lake Trout are of immense current and historical importance as a food source for people along the Peel River and into the Mackenzie Delta. • The population size of potadromous fish is limited by over-wintering habitat. • In-stream water withdrawals required for industrial land uses may lead to impacts on fish over-wintering habitat. • Over-wintering habitat is strongly associated with surface groundwater (aufeis are good indicators of surface groundwater), major confluences and lakes.
	Waterbirds	*Waterfowl wetlands* (Chappie Lake, Turner Lakes, Tabor Lakes, and Jackfish Creek) *Wetland ecosystems* (Peel River Plateau and Fort McPherson Plains)	• Waterbirds are highly dependent on wetlands • The connectivity between open water, vegetated wetlands and riparian areas are key elements for waterbird lifecycle for feeding, nesting, raising young, and moulting. • Lakes and wetlands are fairly uncommon elements in the region • Migratory waterbird use wetlands in the planning region as a staging and stop-over site – seasonal but significant use • Several waterbird species are regulated under the migratory bird act – particular provisions for management of migratory birds under this act may identify areas for protection or provide management guidance.

Resource Sector/Values	Components	Key Geographic Area(s) of Interest	Key Issues to be Addressed
Terrestrial Resources			• No existing lands designated or managed as protected areas for fish and wildlife conservation purposes
Wildlife	**Focal Wildlife Species** • Caribou: • Boreal woodland caribou herd (BCH) – listed as "Threatened" under the Species at Risk Act • Porcupine caribou herd (PCH) • Bonnet Plume caribou herd* (BPCH) • Hart River caribou herd* (HRCH) • Redstone caribou herd* (RCH) • *Northern Mountain Caribou are listed as "Special Concern" under the Species at Risk Act	• BCH range primarily in NWT, but some winter range on Fort McPherson Plains • Southern Richardson Mountains, Mountains and area generally west of the Wind River (PCH winter range) • BPCH annual cycle almost entirely within the PWPR • HRCH annual cycle almost entirely within the PWPR • RCH has some winter range within upper Bonnet Plume and Snake drainages	• Susceptibility of Caribou to human impacts and hunting pressure • Enough Caribou winter habitat needs to be protected to enable stable populations.
	Moose	Peel River Plateau, the Fort McPherson Plains, and valley bottoms	• Management of species during critical late winter season • Lack of data on population structure • Protection of late winter riparian habitat
	Dall Sheep	Alpine ecosystems	• Management of critical winter habitat • Sensory disturbance during lambing periods
	Grizzly – listed as "Special Concern" under the Species at Risk Act	Wide ranging habitats in mountainous areas of region (riparian valleys, and Boreal forest plateaus)	• Mapping and ranking of feeding season habitats, cover habitat for nursing females, and denning habitats
	Marten	the Taiga Plains ecozone, and the Eagle Plains ecoregion	

Resource Sector/Values	Components	Key Geographic Area(s) of Interest	Key Issues to be Addressed
Terrestrial Resources (cont'd)			
Other Conservation Indicators	Bird Species		
	Peregrine Falcon – listed as "Threatened" under the Species at Risk Act	Nesting cliffs adjacent or close to wetland foraging habitats	• Disturbance due to human presence and activities on nesting.
	Breeding Birds	Wetlands, riparian forests, or shrubby areas at all elevations	• Need for protection of nesting migration stop-over habitat •
	Birds of Conservation Concern (species at risk of extinction)	Well vegetated ranges (e.g., Richardsons) Wetlands of Peel River Plateau, Edigii Hill and the Ogilvie pediments	• Lack of information on distribution and sensitivity of endangered bird species. • Lack of information on distribution of rare or endemic plants.
	Rare and Endemic Plants	Northern Ogilvie Mountains and Richardson Mountains	

Resource Sector/Values	Components	Key Geographic Area(s) of Interest	Key Issues to be Addressed
Special Features			
	Mineral Licks, Thermal springs Permafrost, Peat bogs/fens Terrain (Caves, Hoodoos, Thermal Karsts, Canyons, Glaciers) Mountain Passes		• Extensive areas of the planning region are underlain by permafrost. Associated terrestrial and aquatic species, their habitats, human infrastructure, and potentially the carbon balance of the region all rely on its continued stability. Surface disturbances and climate change both threaten to melt affected areas of permafrost. • For associated animals (primarily caribou and sheep), mineral licks are far more valuable per unit area than other habitats. • Disturbance to licks and trails to them will disproportionately disturb wildlife. • Like mineral licks, disturbance to certain mountain passes and associated trails could disproportionately disturb wildlife movements. • The Nash Creek thermal spring has high cultural, ecological, and potentially touristic values. Development in the area and/or increased or inappropriate recreational use of the area could diminish these values. • Very local terrain features have high cultural, ecological, and/or potentially touristic values. Development in these areas could diminish these values.

Resource Sector/Values	Components	Key Geographic Area(s) of Interest	Key Issues to be Addressed
Heritage Conservation			
Heritage Resources **(Pre- and post-contact artifacts and sites)**	Traditional First Nation Use Sites (e.g. harvesting areas for fish and wildlife, camps, cabins, gravesites, trails)	Sites and areas not posted for public release	• Designation of proposed Tetłit Gwich'in Historical Sites on Peel • First Nations seek to protect the location of traditional resource areas (e.g. fishing sites, springs, medicinal plant sites, gravesites) • Fish & wildlife have a significant spiritual and other cultural significance • Need to support further historical research and traditional-use mapping • Conservation and maintenance of significant heritage and traditional use areas are important to maintain the First Nations traditional economy. • Integration of traditional skills camps with monitoring cultural or wildlife areas. • First Nations opportunities to participate in traditional economic activities and other cultural pursuits depend on the continued availability of and access to heritage and cultural areas. • Conflicts might arise between Cultural Resources (primarily gravesites) along the Dempster Highway Corridor and future industrial land use impacts within these areas.
	Paleontological Resources (dinosaur fossils, Ice age mammal and plants	- Eroded riverbanks, generally; - Dempster Hwy Corridor - Hungry Creek for Ice Age mammal fossils; "Burning Rock" area near Peel Canyon; - Snake River bedrock areas	• Need to ensure protection of significant paleontological and archaeological resources • Need to undertake further heritage resource assessments in key target areas
	Archaeological Resources (prehistoric, and pre-contact artifacts)	- Western Richardson mtns - Snake/Peel River confluence - Upper Ogilvie & Blackstone Riv - possibly Mackenzie Mtns	

Resource Sector/Values	Components	Key Geographic Area(s) of Interest	Key Issues to be Addressed
Heritage Conservation			
	Post- Contact Heritage (village sites, Gold rush and trapping era artifacts	- Black City and Calico Town on Blackstone River, Wind City, Hungry Creek - Route of the "Lost Patrol" (Ft MacPherson to Dawson City same as traditional trail of Teetłit Gwich'in and Tr'ondëk Hwëch'in. - "Lost Patrol" Historical Monuments on Peel River - Chappie Lake Trading Post - Individual trading posts of Teetłit Gwich'in (Road & Trail River area) - Proposed National Historic Sites of Teetlit Gwich'in on Peel River - Bonnet-Plume Heritage River	

Resource Sector/Values	Components	Key Geographic Area(s) of Interest	Key Issues to be Addressed
Access Considerations			
Access (Existing seasonal, permanent and remote)	*All season access*	Dempster Highway (130 km)	• Need to maintain Dempster Highway as corridor for serving NWT communities, supporting rubber-tire tourism and recreation, First Nation subsistence harvesting, exploration and potential oil & gas/mineral development including aggregates • Suitable soil conditions, topography and accessibility to aggregate (gravel) for new all-season road location and construction • Lack of comprehensive survey data on available aggregate deposits within the Peel region • Feasibility (socio-economic and environmental) of construction and reclamation of new all-season access for post-exploration extractive resource industries (oil & gas and mining) including infrastructure corridors • Permanent road construction viewed as incompatible with wilderness values for all related tourism sectors in remote areas • (guide/outfitting, eco-tourism) including potential impacts as noise disturbance, ecosystem fragmentation, and degradation of the natural environment.
	Seasonal access	Wind River Trail via Braine Pass; Hart River Trail via Dempster Hwy; and Ft McPherson winter access route	• Potential infringement on First Nations traditional cultural-use activities and sites • Not all access may be socially acceptable

Resource Sector/Values	Components	Key Geographic Area(s) of Interest	Key Issues to be Addressed
Current and Potential Economic Activity			
First Nations Traditional Economy and Community Development			• The traditional economy is vital to maintaining First Nation's culture, community well-being and ties to the land; • Subsistence harvesting and traditional economic activities are important means of offsetting the high cost of food in northern communities; • Subsistence harvesting opportunities may benefit from construction of new roads and trails resulting in increased harvest of wildlife and fish resources • Land use conflicts might arise between: a) traditional economic activities and industrial land uses, b) traditional economic activities and wilderness/cultural tourism, and c) traditional economic activities and Porcupine Caribou Herd conservation.
Tourism & Recreation	(viewscapes, wilderness experience, river activities flora and fauna, peaceful enjoyment)		• Socio-economic value and potential of wilderness tourism sector within the Peel region to Yukon, local communities and individual enterprise (direct, indirect and induced income, employment)
	Road-Accessible Recreation (e.g. short term wildlife viewing, day hiking, bird-watching, camping, wildlife viewing), includes both commercial bus sight-seeing and guided trips,)	Dempster Highway Corridor	

Resource Sector/Values	Components	Key Geographic Area(s) of Interest	Key Issues to be Addressed
Tourism & Recreation (cont'd)			
	Remote-Access Eco-tourism (e.g. multi-day, intensive self-guided and commercial guided trips that include river paddling, hiking, wildlife viewing, camping and photography)	Snake, Wind, Bonnet Plume, Ogilvie, Blackstone and Hart River corridors Also Richardson Mountains	• High co-incidence of wilderness tourism activities and outfitting services within the Ogilivie, Wernecke, and Mackenzie Mountain requiring appropriate large, intact and road-less areas through zoning and management for sustained use • Recognition and implementation of Bonnet-Plume Heritage River designation and management objectives • Carrying capacity and compatibility of expanded remote-access tourism based on ecological, cultural, sociological and tourism sector factors (eco-tourism, guide-outfitting) • Lack of visual landscape inventory to enable sub-unit planning & mgt • Limited data regarding recreation (self-guided) visitation by residents and non-residents to the Peel watershed. • Land use patterns of outfitters in all concessions.
	Remote-Access Recreation (First Nations and local community self-guided and community trips for hunting, fishing, camping, cultural purposes etc.)	Through-out the Peel region (focus on traditional-use corridors and sites, including river corridors, and lakes)	
	*Commercial Guide/Outfitting (*six concessions including infrastructure for commercial hunts of various wildlife species, plus some guided eco-tourism activities)	Located in the major river sub-basins of the Peel watershed.	

Resource Sector/Values	Components	Key Geographic Area(s) of Interest	Key Issues to be Addressed
Current and Potential Economic Activity			
Oil & Gas (oil and gas reserves)	Potential for oil and gas exploration and development (includes access road and well-pad construction, rig set-up and service for exploration/testing, followed by ancillary infrastructure for transmission from successful finds) – key interest is natural gas, and only existing footprint is seismic survey lines	Peel Plateau and Plain, and Eagle Plains	• Compatibility of oil and gas infrastructure footprint (exploration and development) with First Nations traditional use, and critical waterfowl areas in Peel Plateau area • Disposal and monitoring of environmental impact of oil & gas drilling waste materials • Impacts to permafrost areas from oil and gas operations • Accessibility to Bonnet-Plume Basin, and compatible management regime for exploration & development • Access planning and management to and within Peel Plateau • Oil and gas exploration and development activities and associated land uses (transportation, gravel extraction, and water withdrawal) can cause cumulative and adverse change over large landscapes. • Impacts could affect valued ecological resources, including Porcupine Caribou Herd, other Mountain Caribou populations, moose, marten, wetlands, lakes and rivers. • The construction and ongoing operations of large-scale oil and gas infrastructure would bring many new workers to the region. • Coordinated and effective management of the Porcupine Caribou Herd habitat and population requires an integrated management approach, in advance of increasing industrial land use. • Land use conflicts might arise between: a) oil and gas and wilderness/cultural tourism, b) oil and gas and traditional economic activities and cultural pursuits, and c) oil and gas and Porcupine Caribou Herd use of winter range.

Resource Sector/Values	Components	Key Geographic Area(s) of Interest	Key Issues to be Addressed
Current and Potential Economic Activity			
Mining (minerals, coal, aggregate)	Existing exploration claims or licenses and potential development for various minerals and coal as per Table 8.2 PWPC(2008b); also includes aggregate potential	• Bonnet-Plume Coal deposit • Crest Iron Ore deposit • Goz lead-zinc deposit • Wernecke Breccias • Dempster Corridor (aggregates)	• Availability of land to permit mineral exploration with particular interest in the Wernecke Breccias zone • Management of mineral exploration activities to minimize impacts on wilderness tourism operations (e.g. sensory disturbance) during peak summer season (June-Sept) • Feasibility of access to existing mineral claims, and extent of ancillary access for mine development including infrastructure are important considerations. • Mineral activities require access to large areas of land, and substantial exploration efforts are required to identify economically viable deposits. • The construction and ongoing operations of large-scale mining activity would bring many new workers to the region. • Mine site operations can lead to local and downstream water impacts and localized wildlife/habitat disturbance. • Land use conflicts might arise between: a) mineral activities and wilderness/cultural tourism, b) mineral activities and traditional economic activities and cultural pursuits, and c) mineral activities and Porcupine Caribou Herd use of seasonal ranges

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Appendix F: Other Management Plans

Table F.1: Existing management plans, agreements and planning processes in the Peel Watershed Planning Region.

Plan or Planning Process	Agency	Description	Relationship to the Peel Land Use Plan
Existing Plans			
North Yukon Final Recommended Plan (2009)	• YG • VGFN	Provides land-use management recommendations for the North Yukon region	• Presents information on resource values, land-use mgt framework, mgt directions and recommendations of direct relevance to the north part of the Peel region
Gwich'in Land Use Plan	• GTC • TG	Provides land-use mgt guidance for the Gwich'in Land Claim area	• Presents information on resource values, land-use mgt framework, objectives and recommendations of relevant to the east and north part of the Peel region
Tombstone Park Management Plan	• YG • THN	Provides land-use mgt direction for the Tombstone Park	• Provides direction to manage land use issues along the south border of the Peel watershed
North Yukon Tourism Strategy (2004) * Approved in 2006	• VGG • YG	Tourism strategy for Vuntut Gwitchin Traditional Territory	• Identifies current and future potential tourism opportunities in the areas of interest within the Tourism region (Richardson Mountains)
Silver Trail Region Tourism Plan (1998)	• YG • NNDFN • THN	Tourism strategy for the Silver Trail Tourism Region	• Identifies current and future potential tourism opportunities in a large portion of the Peel region
Klondike Region Tourism Marketing Strategy	• YG • THN	Tourism strategy for the Klondike Region	• Identifies current and future strategic goals for tourism with implications for the Dempster Highway Corridor
Yukon Parks System Plan Implementation Project for the Porcupine-Peel Landscape #17	• YG	Report provides recommendations for implementation of the YPSP for Landscape #17	• Describes the natural and cultural features of Ecoregions 18-20, 22 to provide greater ecoregion representation, identification of natural environment parks and historic parks
Dempster Highway Economic Development Agreement (2006)	• VGFN • YG • NND • THHN	YG/FNs Development Partnership Agreement	• Scoping document that may lead to detailed study of economic opportunities within 50km of the Dempster Highway
Porcupine Caribou Herd Management Plan (2000)	• PCMB	Transboundary management plan for Porcupine caribou herd (PCH)	• Management objectives, recommendations and strategies for PCH inform the Peel Watershed Land Use Plan • Important PCH habitats identified in plan are considered in the Peel Watershed Land Use Plan
Draft VGFN Chapter 22 Economic Development Plan (1998)	• VGFN • NNFN • THN • GTC	Strategic economic development plan for VGFN (See Chapter 22 of Final Agreements	• Peel Watershed Land Use Plan considers strategic economic direction and goals for VGFN, THN, and their respective Settlement Lands/Traditional Territory

Continued…

Other Relevant Plans			
Harvest Management Plan for the Porcupine Caribou Herd in Canada	• PCMB • RRC's • NWT Gov't •	PCH management plan recommends different harvest management strategies based on different herd population levels	• Peel Watershed Land Use Plan provides direction for managing Porcupine Caribou consistent with the recommendations of PCMB
Management Plan for Dall's Sheep in the Northern Richardson Mountains	• YG • VGG, NND, THN, TG • RRC's • NWT Gov't • Others	Sheep management plan for North Richardson Mountains	• Peel Watershed Land Use Plan provides direction for managing Dall Sheep consistent with the recommendations of this Plan
North Yukon Fish and Wildlife Management Plan (updating of plan – reviewed on 5-year cycle)	• VGFN • Yukon • Environment • RRC's	Management plan for fish and wildlife resources of Vuntut Gwitchin Traditional Territory (see Chapter 16 of VGFN Final Agreement)	• Fish and wildlife management objectives and recommendations inform Peel Watershed Land Use Plan • Important fish and wildlife habitats identified in management plan are considered in Peel Watershed Land Use Plan • Management plan informs Peel Watershed Land Use Plan regarding focal wildlife species