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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."

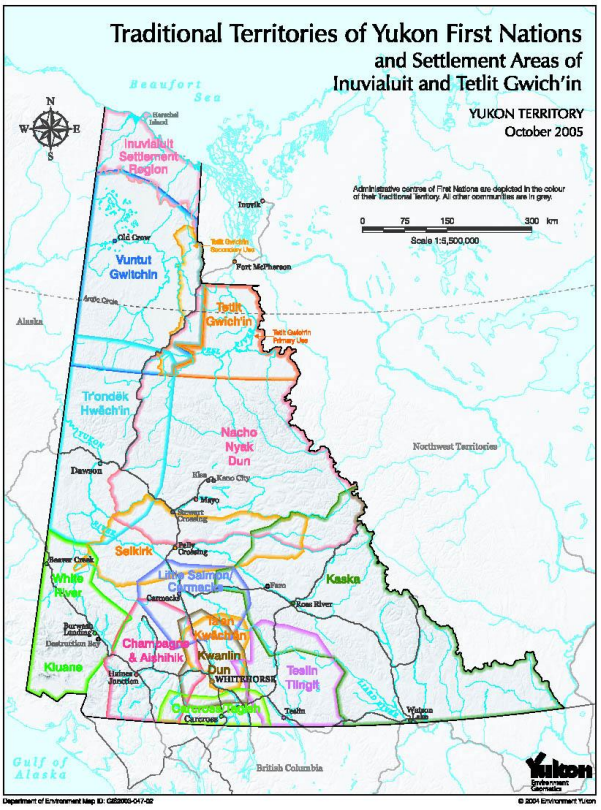

Figure C.1: Traditional Territories of Yukon First Nations (Source: Yukon Government)

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