



**FINAL TECHNICAL
REVIEW OF THE
2021
DRAFT NUNAVUT LAND
USE PLAN**

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Prepared for: **NUNAVUT PLANNING COMMISSION**

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INTRODUCTION

The Kivalliq Inuit Association (KivIA) represents the Inuit beneficiaries of the Kivalliq Region, at the territorial and regional levels, and supports sustainable economic development opportunities for Inuit beneficiaries. The 2021 Draft Nunavut Land Use Plan (2021 DNLUP) was developed by the Nunavut Planning Commission (NPC) as mandated for the Nunavut Settlement Area under Article 11 of the Nunavut Land Claims Agreement (Nunavut Agreement). The technical review completed by the Kivalliq Inuit Association (KivIA) was carried out at a high level with the mandate of:

- a) assessing whether the KivIA's comments and concerns outlined during the review of the 2016 Draft Nunavut Land Use Plan (2016 DNLUP) have been addressed, and
- b) identifying any issues or concerns in the 2021 DNLUP that might deter its implementation without further revision.

This mandate was meant to ensure that the scope of the proposed 2021 DNLUP was compatible with the KivIA's mandate and responsibilities to the Inuit beneficiaries of the Kivalliq Region. The KivIA retained consultants from GeoVector and Aurora Wildlife Research to assist in preparing this technical report.

This report uses the following land use designations, as taken from the 2021 DNLUP:

"Limited Use" Limited Use areas are characterized by year-round prohibition of one or more types of land use. They may also include conformity requirements, such as seasonal prohibitions on certain land uses or setback requirements around important features.

"Conditional Use" Conditional Use areas are characterized by conformity requirements such as seasonal prohibitions on certain land uses, or setback requirements around important features.

"Mixed Use" Mixed Use areas that have been identified for their potential to support a variety of land uses are characterized by no prohibited uses or conformity requirements. In Mixed Use areas, all uses are considered to conform to this Plan. Mixed Use areas



important to certain Valued Ecosystem Components and Valued Socio-Economic Components are included in the 2021 DNLUP.

"Valued Ecosystem Component (VEC)" is an element of the environment identified in this Plan. It is usually an element that has been identified by residents or the Commission as being important to the natural environment.

"Valued Socio-economic Component (VSEC)" is an element of the environment identified in this Plan. It is an element that has economic, social or cultural significance.

This submission provides preliminary technical comments on the 2021 DNLUP. More detailed submissions, proposals, and recommendations will be tabled with the Commission as they are developed.

1. **CONCERNS WITH OVERALL APPROACH OF THE 2021 DNLUP**

The KivIA continues to have concerns with the overall approach taken in the 2021 DNLUP and until the concerns are addressed the KivIA does not support the finalizing of the 2021 DNLUP.

Section 11.2.1 of the Nunavut Agreement states that:

The following principles shall guide the development of planning policies, priorities and objectives:

- a) people are a functional part of a dynamic biophysical environment, and land use cannot be planned and managed without reference to the human community; accordingly, social cultural and economic endeavors of the human community must be central to land use planning and implementation;
- b) the primary purpose of land use planning in the Nunavut Settlement Area shall be to protect and promote the existing and future wellbeing of those persons ordinarily resident and communities of the Nunavut Settlement Area taking into account the interests of all Canadians; special attention shall be devoted to protecting and promoting the existing and future well-being of Inuit and Inuit Owned Lands;



- c) the planning process shall ensure land use plans reflect the priorities and values of the residents of the planning regions;
- d) the public planning process shall provide an opportunity for the active and informed participation and support of Inuit and other residents affected by the land use plans; such participation shall be promoted through various means, including ready access to all relevant materials, appropriate and realistic schedules, recruitment and training of local residents to participate in comprehensive land use planning;
- e) plans shall provide the conservation, development and utilization of land;
- f) the planning process shall be systematic and integrated with all other planning processes and operations, including the impact review process contained in the Agreement; and
- g) an effective land use planning process requires the active participation of both Government and Inuit.

Section 17.1.1 of the Nunavut Agreement states that:

"The primary purpose of Inuit Owned Lands shall be to provide Inuit with rights in land that promote economic self-sufficiency of Inuit through time, in a manner consistent with Inuit social and cultural needs and aspirations".

In taking into account Inuit interests the NPC should balance the competing factors of development and conservation. Based on the review of the 2021 DNLUP it is the position of the KivIA that the 2021 DNLUP does not balance the competing factors and has chosen to favour conservation. The 2021 DNLUP as drafted will have the effect of curtailing future development and inhibiting the promotion of economic self-sufficiency, which is a primary purpose of Inuit Owned Lands (IOL). The KivIA is proposing that balancing the competing factors is possible with mobile measures for caribou combined with seasonal restrictions (not year round), and adaptive management being required in the 2021 DNLUP.



The KivIA is of the view that the NPC is minimizing the role that the Designated Inuit Organization ("DIO") plays in being consulted with respect to the land use plan. An example of the NPC minimizing the role a DIO has in the process is that in the 2016 DNLUP section 1.2.1 stated:

"Section 11.8.2 of the NLCA states that the land use planning process shall apply to Inuit Owned Land and shall take into account Inuit goals and objectives for Inuit Owned Land as represented by the *Designated Inuit Organizations*."

The NPC removed "as represented by the Designated Inuit Organizations" from the parallel section in the 2021 DNLUP. KivIA, as the DIO of the Kivalliq Region, pursuant to Article 39.1.3 of the Nunavut Agreement has the power and authority to manage lands in the region and as such the KivIA's views with respect to the 2021 DNLUP are of paramount importance and should be given the utmost of consideration. It is of paramount importance that the 2021 DNLUP is shaped by Inuit objectives and goals for IOL's , and in particular those of NTI and the Regional Inuit Association's (RIA).

The KivIA is concerned that the NPC is relying primarily on community engagements rather than the submissions of the KivIA to support the 2021 DNLUP. It is submitted that the community engagements conducted to date did not provide participants of the community with enough details to provide an informed position on certain matters. Furthermore, there has been no community engagements and consultation since the 2021 DNLUP was put out for comment on July 23, 2021. At the prior community engagements held in the Kivalliq Region there was no mention of the impact that certain land use designations would have on the potential for economic development on IOL's while also providing adequate protection for caribou. Section 11.2.1(d) of the Nunavut Agreement specifically provides for active and informed participation and it is submitted that active and informed participation requires being provided with all points of view, including the effects the land use plan will have on IOL. It is the view of the KivIA that the community engagements were not adequate and did not take into account Inuit goals and objectives for IOL's. The community engagements in the Kivalliq Region did not provide the KivIA with the opportunity to provide submissions. It is the position of the KivIA that the community engagements appeared to



pit development against conservation rather than focusing on explaining to the community how the two can co-exist.

Section 11.2.1(d) of the Nunavut Agreement provides for appropriate and realistic schedules and it is submitted that the schedules and timelines established for the upcoming hearing were neither. It is submitted that inadequate time has been provided to KivIA for the preparation of its written submissions. Due to the inadequate timeframes instituted by the NPC the KivIA has not had the opportunity to discuss its written submissions with NTI and the other RIA's. On September 14, 2021, NTI wrote to the NPC on behalf of all RIA's requesting an extension of the deadline to submit written submissions and an extension to the public hearing dates set. The NPC rejected the request in part stating that "further delays will not advance the goal of achieving the first-generation Nunavut Land Use Plan in a timely way".¹ It is respectfully submitted that to achieve the stated goal NTI and the RIA's should be given the time necessary to file fulsome submissions. The KivIA will require confirmation from the NPC that further written submissions will be permitted.

The 2021 DNLUP acknowledges that there are gaps in information, knowledge and expert advice that have restricted the consideration of land use options, but that this absence of information cannot impede the land use planning process. While it is recognized that the development of the 2021 DNLUP cannot wait until all information gaps have been filled, the 2021 DNLUP should strive to incorporate the best available information on an ongoing basis. Incorporating the best available information includes communicating with the RIA's to understand the-on-the ground concerns in each specific region and using up- to-date data.

The KivIA is concerned with the overall approach the NPC has taken to managing caribou and more details on this point will be discussed below. Although the KivIA is responsible for managing IOL's it is necessary to recognize that the Kivalliq Region has a significant impact on how the IOL's can be managed. The KivIA is best equipped to manage land-use activities and caribou in the Kivalliq, therefore, the KivIA needs to be more involved at the regional level for land use planning for managing caribou. The KivIA is greatly concerned that the NPC has rejected the suggestion that caribou be managed by a regional approach

¹ Nunavut Tunngavik Inc. & The Regional Inuit Associations, 2021-09-14 and 2021- 09-17. NPC Public Registry File # 16-179E



and with Mobile Measures. The KivIA is also concerned that much of the caribou data and the data used to determine valued socio-economic and valued socio-eco-system components is outdated. This submission will go into further detail on caribou below.

The KivIA continues to have concerns with assigning specific designations to IOL. IOL were vested in NTI and the RIA's pursuant to Article 19 of the Nunavut Agreement. Each IOL was selected for specific purposes, whether it was for socio-economic or socio-eco-systemic reasons, and it is for this reason that the KivIA continues to be of the view that restrictions should be seasonal, not year-round, for IOL and that any restrictions necessary should be implemented and provided for by NTI and the RIA's. The 2021 DNLUP will have adverse impacts on the Inuit right to manage IOL's.

KivIA is also of the view that adaptive management should be part of the 2021 DNLUP. This would allow for changes to the DNLUP based on assessing the impacts of the land use plan on caribou and land-use activities.

2. **CARIBOU PROTECTION**

Main Points

The KivIA supports NPC's recognition in the 2021 DNLUP that caribou are a keystone species within the northern ecosystem and of great significance to Inuit. It is acknowledged that the importance of caribou to Inuit is beyond question.²

In drafting the 2021 DNLUP it is of paramount importance that the NPC takes into account Inuit goals and objectives for IOL in accordance with section 11.8.2 of the Nunavut Agreement. Part of taking into account Inuit goals and objectives is listening to, considering, and adhering to the concerns and recommendations of the RIA's and NTI, who are tasked with making land use decisions on behalf of, and in the best interests of their beneficiaries.

The 2021 DNLUP recommends Limited Use (year-round or seasonal prohibitions depending on the interpretation of NPC's wording; formerly Protected Area) designation to caribou calving and post-calving areas, key access corridors (pre-calving migration), and

² 2021 DNLUP Section 2.2



freshwater caribou crossings (Table 1). It is of concern to the KivIA that the prohibited activities are not distinguished by the level or duration, such as the differences between mineral exploration and mining activities. It is also a point of concern that Limited Use designations prohibits exploration and mining activities but does not draw a distinction between the likelihood of a mine or oilfield shutting down between May 15 and July 15.

The 2021 DNLUP designates sea-ice crossings as Conditional Use (seasonal prohibitions; formerly Special Management Areas), while summer and late summer areas, rutting areas, mainland winter ranges and migration corridors as Valued Ecosystem Components (VEC; Table 1). However, a VEC only “requires proponents to consider VCs when planning projects, identify anticipated impacts to VCs in project proposals submitted to the NPC, and annually report to the NPC on actual impacts to VCs”³. A VEC does not add any level of protection for most of the caribou year or on most of their annual range. This lack of protection is most likely to be a problem if herds continue to decline as they are less resilient as global warming increases stress on caribou. Previously, KivIA had recommended Mobile Measures for these seasonal ranges which was supported by others such as NWMB⁴. NPC appears to agree but suggests that other regulatory authorities would have to be responsible for implementing Mobile Measures, not the NPC. Experience in NWT is that the land use permit holder would be responsible for implementing Mobile Measures. Combining Mobile Measures with the annual reporting requirement on observed impacts would provide an appropriate level of protection for caribou within these seasonal ranges.

³ 2021 DNLUP; Options and Recommendations - page 445

⁴ 2021 DNLUP; Options and Recommendations - page 58



Table 1. Summary of recommended caribou range designations, 2021 Draft Nunavut Land Use Plan.

Caribou seasonal range	Limited Use	Conditional Use	Mixed Use	Valued ecosystem components
1. Calving areas	Yes			
2. Post-calving areas	Yes			
3. Key access corridors	Yes			
4. Freshwater crossings	Yes			
5. Sea-ice crossings		Yes		
6. Other seasonal ranges				
• Rutting areas				Yes
• Migration corridors				Yes
• Summer and late summer areas				Yes
• Winter ranges (mainland)				Yes
• Island caribou winter ranges	Yes			
7. Peary caribou areas	Yes			

It is the position of the KivIA that changes made since the 2016 DNLUP are less protective for caribou. Contrary to what the KivIA has previously advocated for to the NPC, opportunities to introduce more up to date mapping of caribou seasonal ranges and flexibility to accommodate changes in caribou distribution (such as Mobile Caribou Conservation Measures (Mobile Measures; also referred to a mobile CPMs and mobile protection measures)) are deferred to an unspecified time and arguably outright rejected. The KivIA is of the view that Mobile Measures are something that should be required by the NPC in the 2021 DNLUP.

Examples of less protection for caribou proposed in the 2021 DNLUP include:

- a) A regional approach to land use management for caribou is not included;
- b) Mobile Measures are not included, despite being advocated for by the RIA's;
- c) Only seasonal protection has been provided for key access corridors (pre-calving), calving and post-calving;
- d) Tourism is not prohibited during caribou pre-calving, calving and post-calving; and



- e) The buffer for freshwater crossings is reduced to 10 km from 20 km and permanent tourist facilities within that buffer zone are no longer prohibited.

Explanations of how the land use designations were developed are not transparent in the 2021 Options and Recommendations report. While participants' views and recommendations were included, the weight that NPC attached to their views is unclear and needs to be further explained. For each of the nine caribou seasonal ranges, NPC summarized their geographic boundaries; how they were developed; environmental and cultural importance; potential for non-renewable resources, transportation and linear infrastructure; sensitivity to impacts; other regulatory tools; and policy options (land use designations) before assigning a land use designation based on comments from different participants with a brief NPC commentary.

In Section 2.2.5 of the Options and Recommendations document, NPC acknowledges regional variation in how caribou are sensitive to human activities, climate change, harvesting, and predation but then chooses to apply a territory-wide strategy to the 2021 DNLUP⁵. Section 2.2.6 (Regulatory Tools) details comments on the various regulatory tools available (Caribou Protection Measures, Nunavut Wildlife Regulations, Mobile Measures, etc.) but NPC summarizes the section by noting that participants agreed about the need for the 2021 DNLUP to provide guidance for land uses ⁶. It is not disputed that guidance is necessary with respect to land uses but what is disputed is the best method to provide guidance. The KivIA continues to advocate for a regional approach which would include Mobile Measures within the region.

A concern of the KivIA is that in the 2021 DNLUP, currently, seasonal distributions are almost completely extrapolated from collared caribou and a single analytical tool (kernel density analysis) that does not take into account uncertainties and trends. It appears that only a few adjustments were made based on local knowledge. NPC noted some agreement among submissions on describing caribou seasonal distribution and identified two key areas of disagreement, namely the time period for the telemetry data and the level of the kernel analysis (percent utilization distribution) as the Government of Nunavut (GN) had specified

⁵ NPC Options and Recommendations Document- pages 44-46

⁶ NPC Options and Recommendations Document- pages 46-50



80% for migratory routes and 95% for other seasonal ranges. Unfortunately, NPC did not offer a way forward to resolve the disagreements. Consequently, KivIA believes what is needed is up to date Nunavut-wide range analysis to relate historical to current seasonal distribution and migrations to provide a clear understanding of changes in seasonal distribution and movements over time. Secondly but related, is the need to address appropriate timescales to map caribou seasonal distribution, which is annually variable, and the mechanism and frequency of updates. As caribou herds change in size, so do their seasonal distribution which suggests that caribou will return to areas not currently used as populations fluctuate in abundance over time.

The KivIA is also concerned that the NPC leaves climate change up to regulatory agencies which misses a major point for land use designations. First, if as predicted fall rain-on-snow events increase in frequency or severity ^{7,8}, there will be a greater need for free passage for caribou across the landscape as caribou respond to ice-locked forage by unusual movements. Thus, as the climate warms, land use practices will need to be flexible to ensure free passage. Second, during a warmer climate caribou will be more stressed especially during summer as a result of heat stress and more severe insect harassment. Summer heat may amplify caribou responses to development and during the fall, the caribou will need uninterrupted foraging to regain condition prior to the rut and onset of winter. Despite the accelerating pace of climate warming, summer and fall ranges are only designated as VEC. In a VEC designation, the burden of proof shifts to the proponent to identify anticipated impacts and then to monitor to identify and report on actual impacts (which is essentially a similar process as Mobile Measures). The VEC designation does not add any additional area of protection.

KivIA's 2017 and 2018 recommendations and their status in 2021 DNLUP

NTI and RIAs raised concerns about the 2016 DNLUP in their joint submissions to the NPC in January 2017⁹ and updated in November 2018¹⁰. The KivIA raised five main concerns

⁷ Dolant, C., A. Langlois, L. Brucker, A. Royer, A. Roy, and B. Montpetit. 2018. Meteorological inventory of rain-on-snow events in the Canadian Arctic Archipelago and satellite detection assessment using passive microwave data, *Physical Geography*, 39:5, 428-444.

⁸ Pan, C.G. et al. 2018. Rain-on-snow events in Alaska, their frequency and distribution from satellite observations *Environ. Res. Lett.* 13 075004

⁹ Kivalliq Inuit Association (KivIA), 2017-01-13. NPC Public Registry File # 16-052E

¹⁰ Nunavut Tunngavik Inc. & The Regional Inuit Associations, 2018-11-26. NPC Public Registry File # 16-179E



related to caribou; these concerns, their status in the 2021 DNLUP, and recommendations to move forward are summarized in Table 2, with further comments below.

Table 2. Summary of Kivalliq Inuit Association comments on caribou aspects of the 2016 DNLUP

Topic	2016 DNLUP	2021 DNLUP	Recommendation
1. Mobile Caribou Conservation Measures (Mobile Measures)	Mobile Measures should be part of the conditions applied to Special Management Areas, Mixed Use Areas and VEC Areas.	<i>"...it is noted that there is insufficient evidence that mobile CPMs could be effectively used as a land use planning tool for caribou calving and post-calving habitat management in the NLUP".</i>	KivIA recommends that Mobile Measures should be tested and used in NU to demonstrate that they are an effective land use planning tool. Testing should be collaborative, based on IQ and build on GNWT's approach. The KivIA recommends that Mobile Measures be applied rather than land use designations in the caribou affected areas.
2. Inuit Owned Lands on calving grounds	Inuit Owned Lands (IOL) within calving grounds within Caribou Protection Areas should be closed to development between 15 May and 15 July, and Mobile Measures should be applied to manage sensory disturbance to caribou during other times of the year.	Limited Use applied to all mapped caribou calving and post-calving areas seasonally.	On IOL KivIA recommends Limited Use with seasonal conditions (outside of 15 May – 15 July) and a collaborative approach to develop a two-tier system to develop a historical core (refugia) and a more recent and current use coverage. Definitions and mapping would be collaborative and based on IQ and western science, and with updated seasonal dates.
3. Mobile Measures in post-calving areas	Mobile Measures should be used to manage appropriate industrial developments within post-calving areas. These would include restricting or not allowing development activities near caribou during the post-calving period.	Limited Use applied to all mapped caribou post-calving areas year-round but with a condition that project proponents must cease activities during post-calving.	KivIA recommends post-calving areas Limited Use during 15 May – 15 July and Mobile Measures in other periods. Mapping must be updated.
4. Freshwater caribou crossings	The immediate area around identified freshwater caribou crossings should be placed within year-round Protected Area	A Limited Use designation is recommended within a 10 km buffer around freshwater crossings <i>"as a compromise between</i>	KivIA continues to recommend a 10 km Conditional Use buffer around the 3 km Limited Use areas. NPC should lead a project to compile

Topic	2016 DNLUP	2021 DNLUP	Recommendation
	status, with the size of the area tailored to traditional caribou approach characteristics based on IQ. Around this Protected Area of water crossings, the KivIA recommends a 10 km radius Special Management Area zone within which Mobile Measures would be applied.	<i>the varying recommendations</i> ".	an updated catalogue of water-crossings.
5. Linear infrastructure	Proposed linear corridors, such as the Kivalliq Hydro-Fibre Link, be incorporated in the form of a separate Mixed Use and Special Management Area.	A Limited Use designation is recommended within a 10 km buffer. " <i>...it is recommended that this LU designation take priority over other overlapping designations</i> ".	.The KiviA recommends that the NPC use Mobile Protection Measures and a 10 km buffer.

The 2021 DNLUP does not support KivIA's recommendation for Mobile Measures on the calving (or post-calving) areas. It continues to be the position of the KivIA that Mobile Measures should be required by the NPC. Section 2.2.7 (Policy Options) of the Options and Recommendations document was lengthy with diverse views on how to effectively protect caribou¹¹. It is disappointing that NPC disregarded the KivIA's recommendation and did not require Mobile Measures in the 2021 DNLUP. NPC noted that Mobile Measures are suited for exploration activities rather than for active mining and suggests that Mobile Measures could be part of Option 4 (Valued Component) as a responsibility of other agencies (see section below). However, the NPC generally defers implementation of Mobile Measures to other regulatory authorities.

The NPC does support seasonal protection for caribou during pre-calving, calving and post-calving although the wording for Limited Use (NPC's designation for land use) is ambiguous (see below). NPC's recommendation for a 10 km Limited Use zone around freshwater crossings is more conservative than that previously recommended by KivIA, and the KivIA

¹¹ NPC Options and Recommendations Document pages 50-61.

continues to recommend a smaller Limited Use area surrounded by a buffer where Mobile Measures would be applied (see below).

Land Use Plan policy recommendations – wording

The KivIA found the text surrounding 2021 DNLUP recommendations confusing and ambiguous. For example, caribou calving areas list six Prohibited Incompatible Uses, as well as the Condition that “All uses except research and tourism related to caribou conservation must cease during the applicable dates identified in Table 2”. The KivIA is unclear what ‘all uses’ refer to – is it uses other than the six listed under Prohibited Incompatible Uses, and if so, what would these be? KivIA is of the view that the 2021 DNLUP is ambiguous as to whether the prohibitions are seasonal, annual or both. The KivIA is also surprised that tourism might be allowed on calving areas during the calving period, as it is not clear that this form of disturbance be justified. The KivIA requires the NPC to address the question as to why tourism would be permitted on calving areas during the calving period.

KivIA is concerned that the differentiation between Key Access Corridors (pre-calving migration) and Migration Corridors is unclear. The 2021 DNLUP states that key access corridors are “the paths used by pregnant cow caribou to access the calving areas” despite GN stating that key access corridors are “are regularly used pathways that lead on and off the calving grounds”¹². KivIA is concerned whether the maps for Key Access Corridors include migration off the calving grounds. KivIA notes that the sensitivity of cows migrating to or off the calving grounds differs because pregnant cows are highly motivated to reach their calving ground and migration is typically highly social with long files of caribou following each other. In contrast, migration or movements off the calving ground also involve large groups which are very sensitive to disturbance as they have young calves with them.

The 2021 DNLUP then states that Migration Corridors are “used by caribou for movement between important areas of caribou seasonal ranges” with text references to both spring and fall migration, but which NPC appears to mean fall migration only¹³. NPC appears uncertain whether there is one or two types of migration corridors and has to clarify our

¹² NPC Options and Recommendation Document page 90 and Government of Nunavut (GN), 2015-06-19. NPC Public Registry File # 14-063E

¹³ NPC Options and Recommendation Document page 112



interpretation that Key Migratory Access Corridors refer to pre-calving migration routes (and not post-calving migration) while Migration Corridors are all other migrations such as fall migration. The KivIA would appreciate clarification from NPC. Even though NPC indicated moderate confidence in how the Key Access and Migration Corridors were mapped, KivIA has doubts because collar data since 2012 were not included in mapping. Table 02 in the 2021 DNLUP includes calving and key access corridors but the dates appear to be calving and post-calving rather than pre-calving (caribou seasonal restrictions, 2021 DNLUP, pg. 55).

Detailed comments on 2021 DNLUP

Calving grounds (areas)

NPC reiterated the importance of calving grounds (termed 'calving areas' in the 2021 DNLUP) and the majority of strong comments were for protecting calving area. NPC concluded that calving areas are sensitive to impacts year-round and most have high mineral potential.

NPC designated calving areas as Limited Use which refers to prohibiting oil and gas exploration and production; mineral exploration and production; quarries; hydro-electrical and related infrastructure; wind turbines over 15 m in height for electrical generation and related infrastructure and linear infrastructure. The Condition is that "Project proponents must cease all uses at those sites, except research and tourism related to caribou conservation, during the dates identified in Table 2: Caribou Seasonal Restrictions"¹⁴. The KivIA requires clarification with respect to research and tourism and why these two aspects are not being restricted.

Although NPC states that Limited Use is equivalent to the Protected Areas in earlier drafts of the plan, this is unclear if the application of Limited Use to calving and post-calving grounds is restricted to a short season as implied by the Condition attached to Limited Use. This seasonal protection is out of line with many comments about year-round sensitivity. Table 02 (the seasonal date ranges used for analysis in the 2021 DNLUP) were derived

¹⁴ 2021 DNLUP page 17.



from but are not identical to analysis conducted by Nagy (2011))¹⁵. The seasonal dates used in Nagy (2011) were based on 1993–2010 collar data and caribou numbers have subsequently changed (generally declined) and range movements have shifted (often contracting), resulting in shifts in seasonal dates. These changes to dates had the largest effect on timing of spring migration, calving and post-calving. The dates used to delineate these and other seasons should be re-examined and revisited regularly. The KivIA offers to collaborate on the analysis and is of the view that prior to the 2021 DNLUP being approved this collaboration must take place.

Static caribou range boundaries

Mapping of calving areas was rated as moderate certainty which is surprisingly high given the differences of opinions about for how long and how to map the boundaries¹⁶. How to map the calving areas has largely contributed to controversy over protecting calving areas. Misunderstandings about boundaries and interannual variation, especially the pattern of overlap, has complicated efforts to protect calving areas over many years and the 2021 DNLUP still has not resolved the issues. Caribou calving areas used annually generally move within a larger bounded area over time, with not all areas within this larger historically used area occupied by breeding cows in any one or series of year. Recent information using detailed analyses and newer techniques such as aging cast antlers has supported the fidelity to and longevity of historic calving grounds^{17,18}.

As a path forward, the NPC must consider first, a boundary of historically used calving areas (documented using all collar data and IQ). The historical pattern typically shows how annual calving grounds may shift but in the form of rotation around a centrally used area which is the pattern remarked on by Inuit from Rankin Inlet¹⁹. The second boundary would be more recently used calving areas (e.g., using collar data over the past 10 years). Therefore, Limited Use would have two mapped areas, the outer historical calving area would give context to the more recent use.

¹⁵ NPC Options and Recommendations Document page 36

¹⁶ NPC Options and Recommendations Document page 66

¹⁷ Miller, J.H., B.E. Crowley, C.P. Bataille, E.J. Wlad, A. Kelly, M. Gaetano, V. Bahn, and P. Druckenmiller. 2021. Historical Landscape Use of Migratory Caribou: New Insights From Old Antlers. *Frontiers in Ecology and Evolution*. 8. 10.3389/fevo.2020.590837.

¹⁸ Cameron, M. D., K. Joly, G. A. Breed, C. P. H. Mulder, and K. Kielland. 2020. Pronounced Fidelity and Selection for Average Conditions of Calving Area Suggestive of Spatial Memory in a Highly Migratory Ungulate. *Frontiers in Ecology and Evolution* 8:564-567.

¹⁹ NPC Options and Recommendations Document page 56



The KivIA²⁰ and the Kitikmeot Inuit Organization (KitIA²¹) were critical of the static boundaries for caribou ranges especially calving grounds supplied in the 2016 DNLUP. The 2021 DNLUP provides details on the methods used to develop geographic boundaries for caribou ranges, but does not clarify whether the boundaries were updated with recent collar data. Comparison between 2016 and 2021 ranges suggest that the 2021 ranges are essentially the same as those provided in 2016, which were based on amalgamated collar data from 1993 to 2012.

Some additions to these 2016 ranges are noticeably, such as on the north side of the Bluenose-East calving area, the east side of Bathurst Inlet (presumably for the Bathurst calving area or individual cows switching herd fidelity), and a slight increase in a northern portion of the Qamanirjuaq calving ground. These additions appear to be hand-drawn onto earlier ranges and no data are presented or referred to in support of these changes, questioning the validity of the methods used to build these ranges. Some post-calving areas are also expanded (e.g., to the north and northeast for the Qamanirjuaq herd), yet there is no expansion of post-calving range on the east side of Bathurst Inlet. Caribou calving areas on Southampton and Coates islands are not mapped, possibly because collar data were not available (hence, showing the limitation of relying solely on collar data). Key access and migratory corridors for the Lorillard and Wager Bay herds are also not included, such as the areas of seasonal migration through the Meadowbank Road system.

Examples of how these static boundaries fail to protect calving caribou are found for the Qamanirjuaq herd. Calving by Qamanirjuaq cows in recent years has been further north than in the past such that the majority of collared caribou locations during the calving period in 2019 and 2020 occurred outside of the 2021 DNLUP calving areas (J. Tulugak, KiviA, pers. comm.). In 2017 the northern portion of active calving was north of the current 2021 DNLUP calving area boundaries²².

²⁰ Kivalliq Inuit Association (KivIA), Poole and Gunn, 2016-02-15. NPC Public Registry File # 14-134E.

²¹ Kitikmeot Inuit Association (KIA), 2017-01-13. NPC Public Registry File # 16-067E.

²² Boulanger et al. 2018. Estimating Abundance and Trend of the Qamanirjuaq Mainland Migratory Barren-Ground Caribou Subpopulation - June 2017. Government of Nunavut, Department of Environment, Technical Summary – No: 01-2018 Figs. 8 and 9.



Many of the KivIA's original criticisms²³ of the methods used to develop these ranges remain for the 2021 DNLUP:

- a) For the purposes of caribou protection and conservation, season designations and dates should be decided through a collaborative exercise, but should consider the practicality of managing;
- b) Core calving areas should address the extent of calving (peak of calving plus 3 weeks), and should consider IQ and scientific (survey, collar) data;
- c) Satellite collar locations should not be arbitrarily buffered by a set distance (11-20 km with previous mapping), as the GIS mapping technique applies buffers around locations and IQ may provide information on calving area boundaries;
- d) For core calving area integrate GN's information with IQ and aerial surveys (including aerial surveys conducted for calving ground distribution or population estimates);
- e) Screen out non-breeding cows from calving area delineation; and
- f) Use only the most recent 10 years of collaring data and address annual trends in seasonal ranges, especially for calving/post-calving areas.

Post-calving areas

Section 2.2.9 of the 2021 DNLUP is similar to the calving areas in that the rating for mapping the geographic post-calving areas is moderate; importance is high; most overlap is near high mineral potential; sensitivity is high and seasonal and comments were relatively uniform about the need for protection²⁴. In particular, NPC noted that the Kivalliq-Manitoba linear infrastructure corridor cuts through the post-calving area.

The KivIA recommends that caribou post-calving areas be given Conditional Use designation with Mobile Measures required as terms and conditions. Related land use

²³ Kitikmeot Inuit Association (KIA), 2017-01-13. NPC Public Registry File # 16-067E.

²⁴ NPC Options and Recommendations Document pages 79-90



prescriptions focusing on caribou protection and mitigation should be regionally developed, in consultation with the relevant RIAs, Regional Wildlife Organizations (RWOs), and HTOs. Mobile Measures should be used to manage appropriate industrial developments within post-calving areas. These would include restricting or not allowing development activities near caribou during the post-calving period.

Key Access Corridors

NPC describes Key Access Corridors as “the paths used by pregnant cow caribou to access the calving areas”, although in the comments, GN refers to movements on and off the calving grounds²⁵ suggesting that clarification is needed especially for mapping. All date ranges for ‘calving grounds and key access corridors’ fully encompass date ranges for ‘post-calving grounds’. This means that the key access corridors are used prior to calving, but no dates prior to the original calving dates have been added to Table 02²⁶. KivIA is unclear where key access dates fit into the first column, and why there is no differentiation in dates between calving/key access and post-calving.

The KivIA recommended in 2018²⁷ (and earlier) that Inuit Owned Lands within calving grounds should be closed to all forms of development between 15 May and 15 July. This would afford protection for pregnant cows when they arrive on calving areas prior to calving.

Freshwater caribou crossings

The 2021 DNLUP recommends a Limited Use designation within a 10 km buffer around freshwater crossings “as a compromise between the varying recommendations”. The KivIA continues to recommend that the immediate area around identified water crossings should be placed within year-round Limited Use status, with the size of the area perhaps 1–3 km radius and tailored to traditional caribou approach characteristics based on IQ. Around this Limited Use area of water crossings, the KivIA recommends a 10 km radius Conditional Use zone within which Mobile Caribou Conservation Measures would be applied.

²⁵ NPC Options and Recommendations Document page 90-95 and Government of Nunavut (GN), 2015-06-19. NPC Public Registry File # 14-063E.

²⁶ 2021 DNLUP page 55

²⁷ Nunavut Tunngavik Inc. & The Regional Inuit Associations, 2018-11-26. NPC Public Registry File # 16-179E.



Role of Mobile Caribou Conservation Measures

All three RIAs have at several points during the DNLUP process requested the implementation of Mobile Caribou Conservation Measures (Mobile Measures). The Options and Recommendations document indicates that Mobile Measures are designed to conserve caribou use of seasonal ranges as opposed to conservation of caribou habitat, and are designed mainly for the early stages of the mining cycle. The KivIA is of the position that Mobile Measures are key adaptable protection measures to annual changes in caribou distribution, meaning the trade-off between protecting caribou in a large area versus the area used in any one year, and a more flexible approach to protect caribou in a smaller area (such as during exploration) but which is more responsive to shifts in caribou distribution.

Mobile Measures are being embraced in the North. The KivIA stipulates Mobile Measures on relevant project leases and land use permits on Inuit Owned Land. A pilot project in the NWT is being developed collaboratively between government and industry representing the NWT and NU Chamber of Mines (K. Clark, Environment and Natural Resources, pers. comm.). In the NWT, Mobile Measures are implemented using a rules-based approach and monitoring is primarily from height-of-land and other ground-based methods to minimize use of aircraft. Although government has been heavily involved in development of the project and will provide mapping and resources to land use operators, the main costs of implementation are borne by industry. Thus, concerns about monitoring capacity issues²⁸ in NU may not be realistic.

Citing uncertainty how Mobile Measures would be implemented (“it is difficult to direct in a land use plan that they be implemented as a condition of proceeding with a project or a requirement put on regulatory authorities to themselves implement and monitor”; 2021 DNLUP; Options and Recommendations, pg 61), the 2021 DNLUP has steered away from recommending Mobile Measure be implemented within the DNLUP. However, for seasons not designated as Limited Use or Conditional Use, the 2021 DNLUP does acknowledge that “This could also be a circumstance where mobile CPMs may be suitable. These measures would not be administered or enforced by the NPC, but would be addressed by an

²⁸ 16-175E-2018-11-26 GN DNLUP Final Written Submission.



appropriate regulatory authority” (e.g., 2021 DNLUP; Options and Recommendations, pg 110).

The KivIA reiterates its desire that the 2021 DNLUP include Mobile Measures and does not support a 2021 DNLUP that does not include Mobile Measures. Effort should be made by the NPC to work with the KivIA to better understand how Mobile Measures can be used.

Questions for the NPC relating to Caribou

- a) KivIA requires clarity from the NPC as to whether the calving and post-calving areas have seasonal allowance under Conditions.
- b) KivIA is unclear what ‘all uses’ refer to (see section 2.2.1-1 of the 2021 DNLUP) – is it uses other than the six listed under Prohibited Incompatible Uses, and if so, what would these be?
- c) The KivIA is also surprised that tourism might be allowed on calving areas during the calving period.. The KivIA requires the NPC to address the question as to why tourism and research would be permitted on calving areas during the calving period.
- d) NPC appears uncertain whether there are one or two types of migration corridors and has to clarify KivIA's interpretation that Key Migratory Corridors refer to pre-calving migration routes while migration corridors are all other migrations such as fall migration. The KivIA would appreciate clarification from NPC.
- e) What is the significance of identifying Valued Socio-Eco-systemic Components and Valued Socio-Economic Components if they do not actually have an impact on the land use designation?
- f) Can KivIA be permitted to submit to the NPC a more in depth review of other jurisdictions that are currently using mobile measures for caribou prior to approving any DNLUP? This would allow sharing of information on mobile measures and would allow the NPC to further consider the implementation of mobile measures.



3. MINERAL EXPLORATION

Important Consideration of the Mining Industry in the Kivalliq Region, as well as Nunavut

The mining industry is by far the largest contributor to the economy of Nunavut outside of transfer payments from the Federal government. Recent estimates by the Government of Nunavut (GN) indicate that the mining industry supplies 80% of income for the territory. Importantly, there are no other industries, either singly or cumulatively, at present, or for the foreseeable future, that will provide income to Nunavut anywhere approaching the scale of contribution to Nunavut's economy that mining provides. This importance is well recognized by the GN, Nunavut, NTI, through its trust holding of mineral royalty payments, and by KivIA through its administration of surface and subsurface IOL.

Considering the basis of the above point, although the mining industry is recognized as a valued socio-economic activity in land use planning, there is a significant overlap of areas with "Evidence of Mineral Potential" with "Limited Use" areas. This creates a direct conflict between caribou protection and associated VEC's and mineral exploration, mining, transportation and linear infrastructure and associated Valued Socio-Economic Components and associated VSEC's. For this in particular hard geographic boundaries with respect to caribou conservation are being considered to the detriment of mineral exploration and mining, which is arguably the most important valued socio-economic land use activity for Nunavut, and particularly for the Kivalliq Region. The NPC must balance these competing interests instead of choosing one to the detriment of the other. Mobile Protection Measures would better assist in balancing these competing interests.

2021 DNLUP consideration for Mineral Exploration, Mining, Energy, Transportation and Communication

The approach of the 2021 DNLUP to mining fails to properly consider all the data required to define areas for development. The use of geographic boundaries which are based on surface ecosystems instead of geoscience layers, which are dominantly in the sub-surface. The use of geoscience data is very important because it will better define the location and the quality of the "mineral potential" as opposed to the "geography" approach which only



defines quantum's of land based on surface ecosystems. The following is a summary of key points that outline these two different approaches:

- a) Although the 2021 DNLUP recognizes areas with evidence for mineral potential (Map B2.11), the 'inputs' used consisted only of mineral showings, prospective geology, mineral tenure and only address mining potential in relation to IOL. These data inputs, despite the current date on the map, are decades old and only allow a limited scope of evaluation when considering mineral potential. They also represent an incomplete data layer given the extensive areas of bedrock that are covered by lakes and glacial overburden, which create significant gaps in the data inputs used. This approach is not able to effectively determine areas of low to high mineral potential.
- b) Geophysical and surficial geochemical surveys were not used with the other data inputs. These surveys allow for complete coverage of the region and the ability to better determine areas of low to high mineral potential.
- c) Areas west and south-west of Baker Lake have mineral potential for uranium which is not a mineral that will be explored for, or developed, in Nunavut any time soon. Including these areas gives the false impression of a larger available land area with mineral potential than really exists.
- d) The 2021 DNLUP does not address the need for the mining industry to explore wide areas to ensure exploration success. Mining activity covers a very small area in relation to the total territory of the Kivalliq Region. But, to find these small areas requires access to large areas for mineral exploration. It is not possible to predict within the 2021 DNLUP where these small mining areas will occur. Nor can it be predicted what valued mineral species may be searched for and extracted to bring economic benefit to Nunavut.
- e) The 2021 DNLUP is framed to implicitly assume that in areas of overlapping value the strictest conditions for access and usage will apply. As currently drafted the 2021 DNLUP leaves virtually no areas in the Kivalliq that are free access for exploration, and therefore no areas for future mining extraction (Figures 1 to 4). As can be seen from Figures 1 to 4 the vast majority of the



area designated as limited use also has significant mineral potential based on the prospectivity analysis and known mineral occurrences.

- f) The current DNLUP has narrowly defined the location of transportation and communication corridors. Flexibility on the location of infrastructure is essential for the future benefit of the Kivalliq Region in particular and to Nunavut in general. In particular, limiting the extent of the Kivalliq-Manitoba infrastructure corridor, ignores the fact that energy, transportation and communication corridors will be needed wherever there is an activity that requires them. For a mineral discovery to be economically realized it will require access to an energy, transportation and communication corridor. The need for these corridors must be addressed individually as opportunities arise, not be cast in stone within a land use plan.

Recommended Changes to the DNLUP to Address Mining Concerns

- a) Recognize in the 2021 DNLUP that mining is the primary valued socio-economic activity in Nunavut.
- b) Except for specific valued areas (Territorial or National Parks) the 2021 DNLUP should not limit access to areas for mineral exploration. Restricting access to mineral exploration leads to lost opportunity. Essentially, the 2021 DNLUP needs to recognize the difference between the large amount of area required for exploration relative to the small amount for mine extraction. The large exploration areas require unrestricted (within current legislation) to seasonally restricted free entry. It is submitted that if access needs to be limited the best way to achieve this purpose would be through Mobile Caribou Measures and a regional approach.
- c) Current legislation controlling exploration activities results in negligible impact on valued ecosystems and valued socio-economic areas. There is no requirement to increase restrictions to entry for exploration. Adding vast areas of restricted access, as example, for caribou or watersheds, as currently proposed in the 2021 DNLUP will greatly curtail, or even end, the positive socio-economic impact of the mining industry.



- d) Current legislation controlling mining activities mitigates the impact on valued ecosystems and other valued socio-economic areas. There is no requirement for the 2021 DNLUP to add on to the legislated conditions. As stated for exploration activity (item c above) another layer of restricted access and usage as proposed in the 2021 DNLUP will greatly curtail, or even end, the positive socio-economic impact of the mining industry.
- e) Abandon the idea that specific “corridors” for transportation and communication can be enshrined in a land use plan. Emplace within the land use plan the ability to create transportation and communication corridors to address opportunity as it arises.
- f) The KivIA complete a prospectivity study of the Kivalliq Region to allow all participants in the land use planning process to better understand the importance of using all geoscience data inputs. If the results of this study are shown to have a positive impact on the land use planning process then the other RIA’s can complete similar work in their regions prior to a land use plan being approved.

Comparison of 2016 to 2021 KivIA Comments on the DNLUP

In addition to any other comments provided for in this submission, the issues outlined in the KivIA’s 2016 review of the DNLUP have not been addressed in the areas of:

- a) Transboundary considerations;
- b) Assessment of the Mineral Potential, and
- c) Linear Infrastructure Corridors.

The KivIA's 2016 comments with respect to the above should be addressed and included prior to the 2021 DNLUP being approved.

4. KIVALLIQ- MANITOBA LINEAR INFRASTRUCTURE CORRIDOR

The KivIA and the Governments of Canada, Nunavut and Manitoba through the Hudson Bay Regional Roundtable and the Canada-Manitoba Economic Development Partnership



Agreement see implementation of the proposed new road and power corridor (i.e., a Linear Infrastructure Corridor or LIC), as a means of supporting the objectives of healthy communities, unity and self-reliance. The proposed linear infrastructure corridor and fibre optic line is expected to enhance opportunities for resource development such as mining and tourism; benefit employment, small business development and standard of living; and reduce the cost of transporting people and goods between the Kivalliq Region and urban centres in Manitoba.

The KivIA appreciates that the NPC included in the 2021 DNLUP specific details with respect to the Kivalliq-Manitoba linear infrastructure corridor and that it has specifically been included in a Map appended to the 2021 DNLUP. However, the KivIA is concerned that the NPC did not take its comments into consideration when determining that the Kivalliq-Manitoba linear infrastructure corridor be deemed a limited use area. In 2016 the KivIA stated that the proposed Kivalliq-Manitoba infrastructure corridor be granted special management area status with appropriate mobile caribou protection measures. This was supported by the other RIA's and NTI. Instead of agreeing with what KivIA proposed the NPC has chosen to place the Kivalliq-Manitoba linear infrastructure corridor in a limited use designation although no entity in fact proposed this option.²⁹

It is concerning the NPC considered comments from interested parties with respect to designating this area as conditional use but that they still determined that the area should be limited use. If communities and participants demonstrated great support for the development of the Kivalliq-Manitoba corridor then why would you provide this with the most limited use. If the intention is to allow for the development and construction of permanent facilities and infrastructure supporting the use of the corridor the plan should clearly state what use is permitted. Instead of just saying prohibited uses it should say what is permitted so it is stated more clearly. It must be understood that the Kivalliq-Manitoba linear infrastructure corridor must have client's willing to use it. Development will drive the infrastructure. Ensuring that mineral exploration and mining is allowed within the 100km buffer zone of the proposed Kivalliq-Manitoba linear infrastructure corridor will ensure that there is an actual economic basis for the corridor. It is submitted that the current

²⁹ NPC Options and Recommendations page 397



communities and the one mining project (ie. Meliadine) in close proximity to the current corridor location will likely not justify the expenditure for this infrastructure from either/or the private sector, territorial and federal governments.

The KiVia further submits that the wording of section 5.3.1-1 is confusing and susceptible to misinterpretation and clarity is needed to confirm whether in fact infrastructure and construction supporting linear infrastructure is permitted within the designated area. There is also no mention in the 2021 DNLUP of fibre optic within this corridor although the potential for a fibre optic project has been raised by the KivIA in its prior written submissions. It is submitted that the 2021 DNLUP be revised to clarify that fibre optic infrastructure would be permitted in the Kivalliq- Manitoba infrastructure corridor.

It is also a possibility that the implementation of the Kivalliq- Manitoba infrastructure corridor is limited by the now proposed to be under Limited Use designation thereby closed to any LIC or development. This represents a significant barrier to advancing the Kivalliq- Manitoba infrastructure corridor, or any LIC, now or in the future which could severely hamper economic development in the Kivalliq Region. It is recommended that the NPC eliminate these inconsistencies so that it is clear that the Kivalliq- Manitoba linear infrastructure corridor will conform to the 2021 DNLUP.

Section 6.1.5.1 of the 2021 DNLUP outlines the requirement for a plan amendment to develop linear infrastructure in a limited use area. Clarification is required from the NPC as to whether a plan amendment would be required for the Kivalliq-Manitoba linear infrastructure corridor. It is the position of the KiVia that a plan amendment should not be required for the Kivalliq-Manitoba linear infrastructure corridor. Requiring a plan amendment will potentially delay and prohibit any project proceeding.

Question's to the NPC relating to the Kivalliq-Manitoba linear infrastructure corridor

- a) Is construction and infrastructure supporting the Kivalliq-Manitoba linear infrastructure permitted in a limited use area? Does this include construction with respect to fibre optics?
- b) Is a plan amendment required for the Kivalliq-Manitoba linear infrastructure corridor?



- c) The KivIA wants to see the results of the ongoing environmental baseline and prefeasibility study of the Kivalliq-Manitoba linear infrastructure corridor in order to determine the full extent of the project.

5. DRINKING WATER

Access to fresh drinking water is a priority for the KivIA; whether it be in the community or in the broader Kivalliq Area. For the management of community drinking water, the 2021 DNLUP provides a Limited Use Designation for watersheds that lie outside of their respective municipal boundaries, with the exception of Baker Lake and Kugluktuk, which have been designated as Valued Socio-Economic Components. In general, the KivIA supports a mixed approach to manage community drinking water, and agrees with the proposed strategy.

6. CONCLUSION AND RECOMMENDATION

This review of the 2021 DNLUP has highlighted several shortcomings and areas where improvement is necessary before the 2021 DNLUP can be approved. Significant adjustments are required prior to the KivIA supporting the 2021 DNLUP. The KivIA recommends that the 2021 DNLUP not be adopted in its current form until a proper amount of time has been given to participants to adequately participate in the process and until proper consideration has been given to the comments and recommendations provided to the NPC by the KivIA, NTI and other RIA's. The NPC's failure to take into account the considerations, goals, and objectives for IOL's of the KivIA, NTI and other RIA's must be corrected. The KivIA further submits that the 2021 DNLUP not be approved until a regional approach has been taken into account in the 2021 DNLUP to the management of caribou, which would include Mobile Measures.

The recommendations and comments in this report should be adopted or the NPC should provide justification as to why these recommendations and comments have been disregarded or rejected.



7. FIGURES

Figure 1- Proposed Caribou Protection Areas

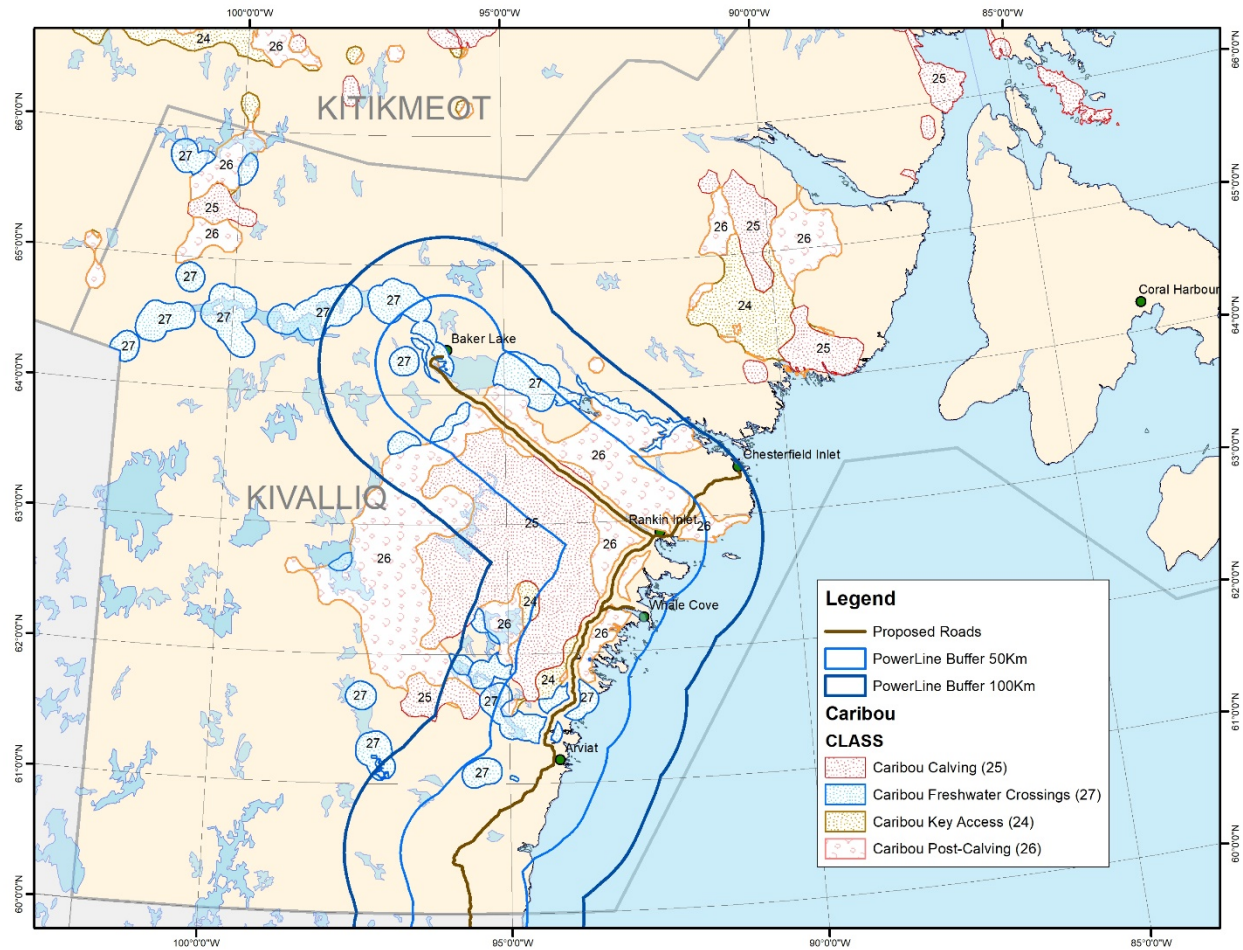


Figure 2- Mineral Prospectivity over Caribou Protection Areas

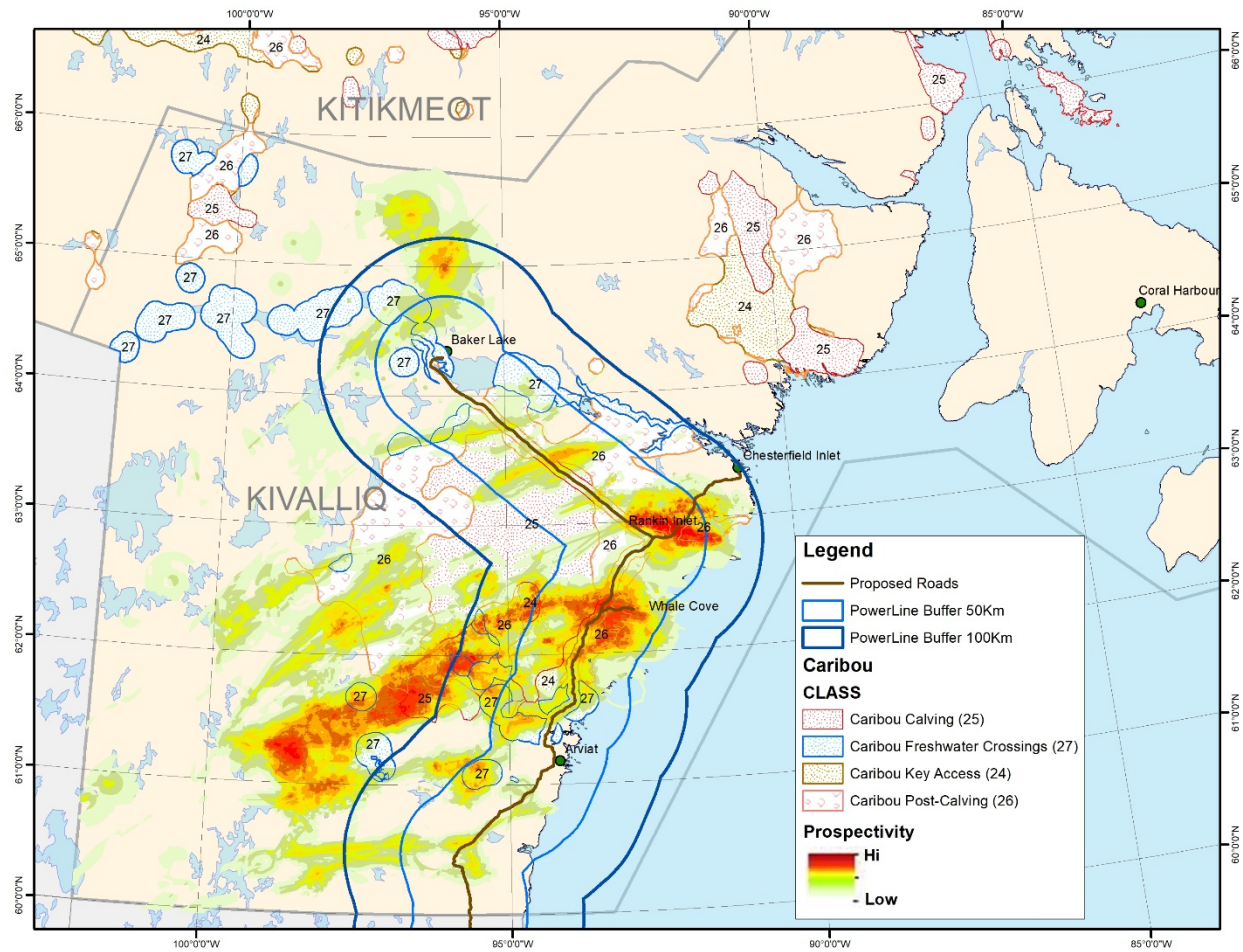


Figure 3- Mineral Occurrences over IOL

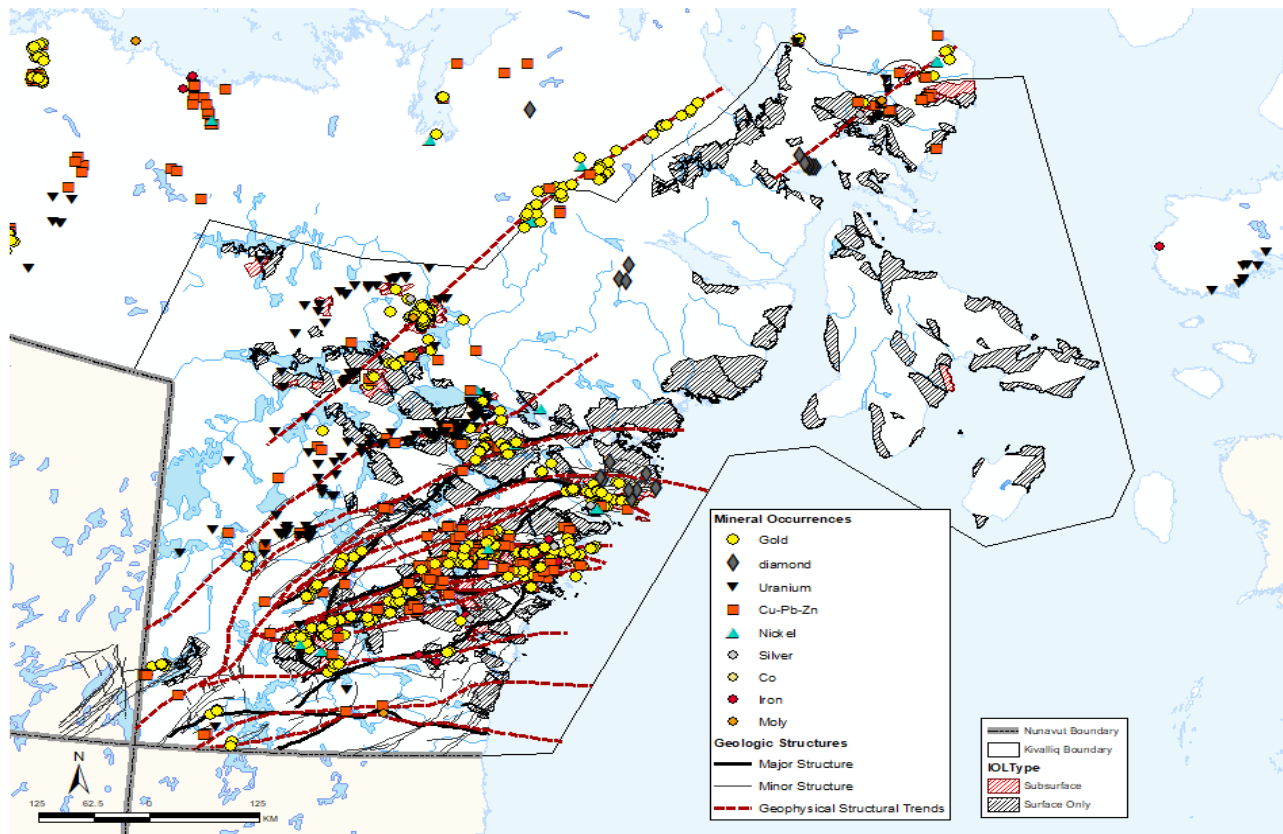


Figure 4- Mineral Occurrences and Structural Trends over Total Field Magnetics

