

3. Close camp (remove personnel except for those essential to camp maintenance).

Further information is available in background reports in Appendix A, noting that Mobile Measures methodologies have been refined as implementation has occurred.

Review of the original DIAND Caribou Protection Measures (Gunn et al. 2007¹) and field trials in the Sahtu (Gunn and Poole 2009²) suggest that Mobile Measures would be effective at mitigating potential impacts to caribou. Application of Mobile Measures will depend on the expected level of disturbance to caribou from the operation. If no interaction with caribou is predicted based on existing knowledge, the operator would be expected to conduct base level monitoring for caribou and implement Mobile Measures only if caribou unexpectedly occur. Mobile Measures are currently applied to leases on Inuit Owned Lands (IOL) within the Kivalliq Region.

Although all three RIAs have all requested Mobile Measures in some form to manage disturbance to caribou (2016 DNLUP; Options and Recommendations), the 2016 DNLUP does not yet recommend the use of Mobile Measures nor offer a rationale for not including them. Mobile Measures are one of a series of management tools within the recently finalized but not yet implemented Bathurst Caribou Range Plan³ intended to decrease and minimize disturbance to caribou and their habitat. The KivIA recommends to NPC that Mobile Measures should be part of the conditions applied to Special Management Areas, Mixed Use Areas and VEC Areas, essentially all areas where year-round Protected Area status (if implemented) is not applied.

3.2 Calving Areas

In May 2017, the KivIA Board passed a resolution that closed IOL to development within caribou calving grounds between 1 May and 31 July and applied Mobile Measures to manage sensory disturbance to caribou on calving grounds during other times of the year. The KivIA Board has also recommended within the Kivalliq Region to use the Caribou Protection Areas from the 2000 Keewatin Regional Land Use Plan⁴, and use for calving and post-calving periods the dates 15 May to 15 July (as used in the 2000 Keewatin Regional Land Use Plan). The Caribou Protection Areas cover the cumulative calving and post-calving ranges of the Beverly and Qamanirjuaq herds up to 1991 (Gunn et al. 2007) but do not address ranges of other herds within the Kivalliq Region.

The KivIA recommends to NPC that 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. Proposed exploration activities within calving areas would be carefully reviewed and if deemed appropriate (compatible with the balance between caribou conservation and economic development), would be permitted under stringent conditions.

The KivIA, however, acknowledges that Caribou Protection Areas were last mapped in 1991 and that changes in the abundance and distribution of herds in the past 25 years (especially related to the Beverly herd) require that boundaries for calving and post-calving areas be continually updated. It is unlikely that IQ was incorporated into the original mapping. In addition, Caribou Protection Areas have not been established for other herds within the Kivalliq Region. The KivIA recommends that Caribou Protection Areas be adaptively modified and established for all caribou herd ranges.

3.3 Post-Calving Areas and Other Seasons

Migratory barren-ground caribou are generally considered to be at highest risk and most sensitive to disturbance during calving and post-calving. Post-calving is from approximately mid-June to mid-July when calves are small and heavily dependent on the cows. While post-calving movements are usually within larger, generally predictable areas, exceptions occur when caribou may move unexpectedly, beyond designated post-calving areas. Mobile Measures are a flexible tool to manage industrial disturbance to post-calving caribou, regardless of where they occur; Mobile Measures 'travel' with the caribou. The KivIA recommends that post-calving areas be designated

¹ http://reviewboard.ca/upload/project_document/EA1314-01_Undertaking_9_-_Gunn_et_al_CPM_assessment_report_final_Mar07.PDF

² http://reviewboard.ca/upload/project_document/EA1314-01_Undertaking_9_-_Gunn_and_Poole_Sahtu_mobile_caribou_protection_measures_pilot_project_2009.PDF

³ https://www.enr.gov.nt.ca/sites/enr/files/resources/draft_bathurst_caribou_range_plan.pdf

⁴ <http://nunavut.ca/files/Keewatin%20Regional%20Land%20Use%20Plan.pdf>

Special Management Areas with Mobile Measures used to apply seasonal prohibitions and manage appropriate exploration activity. These would include restricting or not allowing exploration activities near caribou during the post-calving period.

Sensitivity of caribou to disturbance varies seasonally, depending on the presence of newborn calves, group size, how spread out they are, and other influences such as insect harassment. The KivIA recommends that caribou and industrial disturbance within seasonal ranges other than calving and post-calving (and outside of Caribou Protection Areas) be managed within Special Management Areas using Mobile Measures, which scale monitoring and mitigation to the vulnerability (sensitivity) of caribou. Caribou movement rates slow down during winter to conserve energy, and that decrease in movement could make them more vulnerable to disturbance. Variation in annual snow depths and density affect caribou selection of those areas. Caribou may be more sensitive to disturbance in some winters when in poor condition.

3.4 Freshwater caribou crossing

The 2016 DNLUP proposed a 10 km Protected Area buffer around freshwater caribou crossings. The KivIA agrees that freshwater caribou crossings require some form of protection, however, the DNLUP does not discuss the appropriate distance of buffers. The KivIA recommends that the immediate area around identified water crossings should be placed within year-round Protected Area status, with the size of the area perhaps 1–3 km radius and tailored to traditional caribou approach characteristics based on IQ. Around this Protected Area of water crossings we recommend a 10 km radius Special Management Area zone within which Mobile Caribou Conservation Measures would be applied.

3.5 Nunavut-Manitoba Road and Kivalliq Hydro-Fibre Link Linear Infrastructure Corridors

One of NPC's stated goals is to achieve the economic well-being of communities. Transportation and communication services and corridors are a key pillar of economic development for residents of the Kivalliq Region, key to accessing resources and building healthier communities. In summer 2018 the KivIA partnered to develop the Kivalliq Hydro-Fibre Link, transmission infrastructure to deliver renewable energy and broadband internet from Manitoba into the Kivalliq region⁵. By extending the spatial extent of Protected Area designations for caribou, especially for the extensive tracts of land west of Arviat, Whale Cove and Rankin Inlet, and stating that linear infrastructure is not permitted within Protected Areas, the 2016 DNLUP would eliminate any potential Nunavut (Kivalliq)-Manitoba Road and the Kivalliq Hydro-Fibre Link, which could well hamper economic development in the region. However, the sections in the DNLUP related to transportation and other linear corridors appear complicated and confusing; the KivIA would appreciate clarification in this regard.

The KivIA supports a Special Management Area designation for the proposed Manitoba-Nunavut Road and Hydro-Fibre Link corridors in the DNLUP with appropriate terms and conditions to protect wildlife and their habitat and other values such as cultural sites. The KivIA submits that seasonal application of effective monitoring and rigorous application of mitigation strategies during crucial risk periods (including closure of the road to traffic when calves or large numbers of caribou are present) could effectively mitigate potential impacts to caribou. The KivIA respectfully recommends to NPC that proposed linear corridors be incorporated into Schedule A of the DNLUP in the form of a separate Mixed Use and Special Management Area based on the following:

- I. All portions of post-calving areas and especially those portions of the road or hydro-fibre corridors that coincide with caribou post-calving areas should be incorporated into the DNLUP as Special Management Areas similar to hydro-electric generation opportunities along the Thelon and Quoiich rivers (2016 DNLUP under Alternative Energy Sources in section 4.3 and in Appendix A, Table 1; sites 80-82).
- II. All portions of the road or hydro-fibre corridors that coincide with caribou freshwater crossings should be designated Special Management Areas.
- III. The remaining portions of the road should be designated as Mixed Use.

Mitigation of potential impacts resulting from these linear corridors would be achieved by relying upon appropriate components of the regulatory process in Nunavut, such as Terrestrial Ecosystem Management Plans developed through the NIRB environmental assessment process. The primary goal of using either the Special Management or

⁵ <https://www.ourcommons.ca/Content/Committee/421/FINA/Brief/BR10006859/br-external/KivalliqInuitAssociation-e.pdf>

Mixed Use Areas would be to ensure all future work and development along linear corridors would conform to the final NLUP.

Appendix A

Mobile Caribou Conservation Measures

Poole and Gunn KivIA Caribou Conservation Measures 12Nov15.pdf

Poole and Gunn KivIA post-calving caribou report 15Nov16.pdf

Poole and Gunn KivIA MCCM guidelines for proponents 11Jul17.pdf