Notes and follow-up from meeting with ECCC, WRRB and CANNOR regarding TASR Adequacy Statement – 4.1 – Boreal Caribou - Population Health - 10 November 2016

Meeting Participants:
Myra Robertson (ECCC), Jean-Francois Dufour (ECCC), Bradley Summerfield (ECCC), Jody Pellissey (WRRB), James Hodson (GNWT ENR), Andrea Patenaude (GNWT ENR), Laurie McGregor (GNWT ENR), Melissa Pink (GNWT Lands), Adrian Paradis (CANNOR), Sarah Robertson (CANNOR)

Background

This meeting was called to follow up on the Board's response to the GNWT's comments on Table 5-2, Adequacy Step 4.1 of the draft Adequacy Statement for the TASR project related to boreal caribou population trends. The GNWT's comments on the draft Adequacy Statement and the Board's response are copied below for reference:

GNWT comments on dAS Table 5-2 Boreal Caribou Population Health Adequacy 4.1:

Comment Under section 3 of the ToR, it states that the developer should provide the rationale for any items that cannot be addressed. The GNWT would like to identify that it is not possible to provide population trends for boreal caribou within the North Slave region as the data does not currently exist and it would take multiple years to obtain population trend information. The GNWT can provide general population trends for the entire NT boreal caribou range. The GNWT will provide all the publically available relevant information it has during its assessment.

Recommendation Please recognize that boreal caribou population trends cannot be specific to the North Slave region and that the trends can only be applied to the entire NT boreal caribou range.

Oct 28 [Board Response]: The Board recommends that the GNWT consult with the WRRB and ECCC on boreal caribou ranges. If the parties can agree that trends can only be applied to the entire NT range, the Board will accept that conclusion with an associated rationale. If an agreement cannot be made, the Board will expect information specific to the North Slave region, as per the *Adequacy Statement* (PR#70). The Review Board notes the distinction between the assessment of boreal populations and the assessment of disturbed habitat. The Review Board believes that anthropogenic disturbances, including fire, and climate change disturbances can be assessed in the North Slave Region and be used to interpret habitat disturbances in threshold determination. When reviewing habitat disturbances in the North Slave region, please note the additional considerations on interactions with fire for both impact- and cumulative effect assessments.

Action: No change, unless with supporting rationale and consensus from ECCC and WRRB.

Final Adequacy Statement – Boreal Caribou - Population Health

ToR 4.1 step 1 - Describe the abundance, distribution, and population of boreal caribou populations

Adequacy 4.1 - Describe the potential impacts and mitigations related to boreal caribou populations and population trends, including:

- potential effects on sensitive life stages or sensitive or critical habitat;
- potential effects on habitat use by boreal caribou;
- potential changes to the ability of boreal caribou habitat or populations to recover; and
- overall effects on abundance, distribution, and population trends of boreal caribou.

Adequacy 4.2 - Conduct a residual impact assessment on boreal caribou population health from project-related activities, including the above identified impacts.

Meeting notes:

- GNWT acknowledged that there may have been confusion about the intent of GNWT's comments on the draft Adequacy Statement requirements with respect to boreal caribou population trends in the North Slave region.
- What the GNWT was trying to convey to the Board in our recommendation that stated "Please recognize that boreal caribou population trends cannot be specific to the North Slave region and that the trends can only be applied to the entire NT boreal caribou range" was that the habitat disturbance-population self-sustainability model developed by ECCC for the national recovery strategy for boreal caribou cannot necessarily be used to infer population trend in the North Slave region, and thus GNWT can only report on population trend at the scale of the whole NT1 range based on that model.
- The North Slave portion of the range has a disturbance footprint that is almost entirely due to fire. This is similar to the northern Saskatchewan boreal caribou range for which critical habitat was not identified because the disturbance footprint was outside of the range of disturbance data used to develop the national recovery strategy model. Therefore applying the national recovery strategy model to the North Slave portion of the range might not provide an accurate estimate of whether the population is self-sustaining in that region.
- GNWT acknowledged that there is no long-term monitoring data available for boreal caribou in the North Slave region that could be used to determine a population trend. No demographic data such as adult female survival or cow:calf ratios typically used to estimate population trend has been collected to date in that region.
- ECCC expressed concern about the lack of baseline data on boreal caribou in the region and about setting a dangerous precedent for consideration of species at risk in other EA's if we move forward without this information. ECCC also highlighted that the Review Board has a legislated requirement through federal SARA to assess the impacts to boreal caribou, identify mitigation measures for those impacts, and to ensure that those impacts are monitored. Available baseline data was felt to be insufficient to conduct an impact assessment with any confidence.
- GNWT clarified that boreal caribou surveys were conducted in the North Slave region in 2004. GNWT also held workshops in 2006 with North Slave communities to gather local knowledge about boreal caribou. Boreal caribou sightings have also been collected during previous moose and bison surveys. A bison survey was conducted in winter 2016 that included the TASR corridor. Boreal caribou tracks were recorded along part of the TASR route. These data sources indicate that boreal caribou are likely to be found along the TASR route.
- ECCC asked about whether it would be possible to collect more baseline data this winter.
- No surveys specific to boreal caribou are currently planned nor budgeted for during winter 2016-17 in the North Slave region. However, GNWT will be conducting a moose survey in the next two weeks (late November 2016) that will cover the TASR route. Boreal caribou sightings

will be collected during that survey and will contribute to the baseline data used for the Adequacy Statement.

- WRRB mentioned there are two TK reports on boreal caribou in the North Slave that were made available during the NICO mine EA. The NICO mine EA also involved an assessment of impacts on boreal caribou that could be used to inform the TASR Adequacy Statement.
- There was discussion about how long it would take to acquire population trend information. It would take at least three years of data collection, likely through a new collaring program, to establish a population trend for boreal caribou in the North Slave region. The first year would involve deploying collars, and then demographic data would be collected the following winter (female survival and calf recruitment). It would take at least two winters of demographic data collection to estimate a trend, so at least 3 years in total would be needed to get this information.
- Given GNWT-DOT's proposed timeline for responding to the Adequacy Statement, it would not be possible to collect baseline information on boreal caribou population trend to inform the response to the Adequacy Statement. Delaying the EA to collect this information would make the project unfeasible because the project depends on federal funding that must be used in 2017 for the project to move forward.
- GNWT believes it is possible to adequately assess the potential impacts to boreal caribou using currently available baseline data, additional data that will be collected in November 2016, and through a more thorough review of literature available on the topic of impacts of roads on boreal caribou.
- GNWT can also develop habitat suitability models to evaluate in finer detail the impact of the proposed road alignment on boreal caribou habitat. ECCC suggested that GNWT also evaluate the relative impacts of alternate road alignments that have been presented in the Project Description, and whether the preferred route could be adjusted to avoid areas of high habitat suitability. Habitat suitability models for the TASR assessment can be based in part on other boreal caribou habitat selection studies that have been carried out in other regions of the NWT.
- GNWT pointed out that the preferred alignment follows an existing linear disturbance feature and probably is the best option in terms of minimizing new habitat disturbance within the boreal caribou range.
- GNWT acknowledged that the confidence in impact predictions and habitat suitability models for the TASR might be low due to minimal baseline data in the region, and that a follow-up effects monitoring program would be needed to verify impact predictions.
- GNWT acknowledged that increased caribou monitoring in the NT1 range will eventually be needed to confirm the objectives of the boreal caribou recovery strategy are being met.
- GNWT agreed to provide ECCC and WRRB with a written rationale of why population trends can only be applied to the entire NT range. Once ECCC and WRRB have reviewed the rationale the three parties can determine if another meeting is required or if ECCC and WRRB can make a decision on whether they agree (or disagree) that population trends can only be applied to the entire NT range. GNWT's response will include a listing of the data that GNWT currently has on boreal caribou in the North Slave region, data GNWT is planning on collecting this fiscal year, and other information sources that will be reviewed to ensure that the Adequacy Statement response will allow the Board to fulfill its obligations under federal SARA with respect to the environmental assessment.

GNWT's post-meeting response to ECCC and WRRB:

GNWT provides the following rationale for why current information on boreal caribou population trends can only be applied to the NT1 range, and not the North Slave portion of the range:

- Information on population trends of boreal caribou in the NWT is limited to study areas within the Dehcho, South Slave and Gwich'in/Inuvialuit regions, and suggest variations in trends across the range. These trends are based on data collected from collared female caribou over a number of years, which are used to measure adult female survival and calf:cow ratios in order to calculate population Lambda. Population trends estimated from those programs suggest slight declines in the southern NWT study areas, and an increasing population trend in the northern NWT study areas.
- According the national Recovery Strategy for boreal caribou, the NT1 boreal caribou population is assumed to be self-sustaining based on the fact that there is >65% undisturbed habitat within the NT1 range. The habitat disturbance-population self-sustainability model developed by ECCC to inform the national recovery strategy for boreal caribou, and the 65% undisturbed habitat threshold that defines critical habitat, currently applies at the scale of the whole NT1 range. Habitat disturbance is measured as a combination of human disturbance features buffered by 500 m buffer and fires ≤40 yrs old (no buffer applied).
- Despite the North Slave region having a similar total disturbance footprint as the South Slave and Dehcho regions, it cannot be assumed that boreal caribou are also exhibiting slight declines in the North Slave due to differences in the make-up of the disturbance footprint among the different regions. The South Slave and Dehcho regions have much higher levels of human disturbance footprint than the North Slave region.
- The likelihood that the boreal caribou population in the North Slave portion of the NT1 range is self-sustaining (or not) could in theory be estimated by using the habitat disturbance-population self-sustainability model developed by ECCC for the national recovery strategy for boreal caribou. However, the North Slave portion of the NWT boreal caribou range has a disturbance footprint [47.4% Fire/0.6% Human] that is similar to that observed in northern Saskatchewan range [Boreal Shield (SK1): 55% Fire/3% Human], where there is a lot of fire disturbance and very little human disturbance footprint (see Appendix F of the Recover Strategy, pgs. 67-71) . The SK1 range was determined to be outside the range of habitat disturbance conditions used to determine the national habitat disturbance-population self-sustainability model and as such critical habitat was not identified for this range. GNWT acknowledges that the Recovery Strategy recommends caution with respect to additional anthropogenic disturbance in the SK1 range. However, applying the national Recovery Strategy model to North Slave portion of the NWT boreal caribou range to evaluate the impact of the TASR on boreal caribou population trend in that region, based on a measure of habitat disturbance with and without the project, would be speculative and would need to be confirmed through a population monitoring program.
- GNWT will nevertheless evaluate the implications of habitat disturbance from the TASR project, in combination with fire and other potential future projects, at the scale of both the North Slave portion of the boreal caribou range and the entire NT1 boreal caribou range. GNWT will use the national recovery strategy model in interpreting the potential impacts of the project on likelihood of population self-sustainability at both scales, but will also acknowledge the uncertainty associated with applying the model to an area of the range with extensive fire disturbance and little human disturbance.

GNWT will use the following sources of baseline data and information on boreal caribou in the NWT to inform the Adequacy Statement response:

- National Recovery Strategy for Boreal Caribou (ECCC 2012), including NWT traditional knowledge reports prepared by ECCC in support of the development of the recovery strategy
- NWT SARC Assessment report for boreal caribou (Species at Risk Committee 2012)
- Boreal Caribou in Wek'eezhii Report (WRRB 2013); Boreal Caribou Habitat and Disturbance in Wek'eezhii – Tlicho Knowledge Component (Legat and Wetrade, 2013)
- Documents available on the public registry for Fortune Minerals Ltd. – NICO Project (EA0809-004)
- North Slave boreal caribou study reports (Hillis and Cluff 2005; Boreal Woodland Caribou Workshops in North Slave Communities – Cluff 2006).
- Boreal Caribou sightings in the North Slave region available in the GNWT-ENR Wildlife Management Information System (WMIS)
- Boreal caribou collar locations from individuals collared in the Mackenzie Bison Sanctuary by the South Slave region ENR office (currently locations do not overlap with TASR but they could be used to develop habitat suitability models)
- Boreal caribou habitat selection studies in other regions of the NWT (Nagy 2005, 2006; Stantec 2013; Kelly unpublished).
- Boreal caribou monitoring reports from the South Slave and Dehcho regions (e.g. Larter and Allaire 2016, Kelly and Cox 2013) – for information on factors affecting boreal caribou population trends in the southern NWT.
- 2016 Bison survey results – boreal caribou sightings
- 2016 Moose survey results – boreal caribou sightings (not likely available until December 2016)

GNWT commitments:

GNWT will develop a habitat suitability model for caribou to inform the impact assessment. This model will be based on the one used for the NICO mine EA and on other boreal caribou habitat selection studies conducted in other regions (Nagy 2005, 2006; Stantec 2013; Kelly unpublished). GNWT will compare the relative impact on caribou habitat from the different alternative routes identified in the project description, and can also consider impacts to caribou habitat as one of the criteria used to select from potential borrow sources.

GNWT will commit to establishing a wildlife effects monitoring program for boreal caribou to assess their response to construction and operation of the TASR and to assess population trend for boreal caribou in the region.

GNWT committed to consider opportunities to restore other linear disturbances to offset the TASR (GNWT response to initial screening – comments are found here – WRRB#2).