



Mr. David Harpley, VP Environment
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May 5, 2020

Dear Mr. Harpley:

Further Revisions Required for the Wildlife Management and Monitoring Plan for Phase 1 of the Canadian Zinc's Prairie Creek All-season Road Project

On October 27, 2017 the Government of the Northwest Territories (GNWT) Department of Environment and Natural Resources (ENR) notified Canadian Zinc (CZN; now NorZinc) that a Wildlife Management and Monitoring Plan (WMMP) approved by the Minister of ENR would be required for the Prairie Creek all-season access road project, under section 95 of the *Wildlife Act*.

The draft WMMP for the project has undergone several reviews and updates throughout the environmental assessment (EA) and post-EA regulatory phase conducted by the Mackenzie Valley Land and Water Board (MVLWB). This process has provided ENR and other parties with several opportunities to comment on the WMMP, and for NorZinc to respond to those comments. Two opportunities for public review of the WMMP post-EA, have helped to fulfill Measure 6-2(b) of the Report of Environmental Assessment.

The most recent version of the WMMP, for Phase 1 of the Prairie Creek Mine all-season access road, was submitted to the Minister of ENR and the Superintendent of Nahanni National Park Reserve from NorZinc on November 12, 2019. Phase 1, as described in the land use permit for the project, involves construction and operation of a winter road to conduct geotechnical investigations and transport equipment and materials to the Prairie Creek Mine. NorZinc also submitted a Caribou Data Gap Analysis report to help fulfill the requirements of Measure 6-1 of the Report of Environmental Assessment for the project.

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On December 10, 2019, Parks Canada and ENR initiated a final public review of the updated Phase 1 WMMP and requested that parties submit comments to the MVLWB's Online Review System (ORS) by January 09, 2020. Comments were submitted by four parties, including Parks Canada. NorZinc responded to the comments on January 16, 2020. ENR did not provide comments on the WMMP to the ORS, but did submit a notification on January 14, 2020, indicating comments would be submitted as part of ENR's decision letter on the WMMP.

NorZinc has since indicated in a news release dated February 04, 2020, that it would not be commencing construction of the Phase 1 winter road in the first quarter of 2020 as previously planned.

On March 26, 2020, Parks Canada posted a process update to the MVLWB's public registry stating that they have decided not to continue with the approval process of currently submitted management plans; however, Parks Canada intends to complete their review of the current management plans and will submit comments that should be applied to any future submissions related to the project.

Given NorZinc's decision to delay the start of the project, and Parks Canada's decision to delay approval decisions on NorZinc's management plans, ENR will also be deferring its decision on whether to approve the WMMP to a later date. ENR staff has reviewed the November 12, 2019, version of the WMMP for Phase 1 of the project, as well as the comments submitted to the ORS in January 2020 and NorZinc's responses to those comments. The evaluation considered: whether ENR's comments on the February 2019 version of the WMMP had been adequately addressed in the November version, and whether the WMMP adequately addressed the potential impacts of activities associated with Phase 1 of the project.

I am notifying you that there are four key revisions to the WMMP required before ENR will consider it for approval:

Revision 1: *Wildlife Hazard Mitigation Monitoring and Animal-Vehicle Collision Risk Monitoring must be conducted weekly during the construction and operation phases of the Phase 1 winter road project. Relevant sections of the WMMP, Appendix B - SOPs and Appendix D – Monitoring Procedures must be updated to reflect this change.*

Revision 2: *NorZinc must provide an addendum to the WMMP that includes the results of the October 2019 aerial bear den survey. Given that the project has been delayed a year, and that an active den was detected in October 2019, all confirmed*

or suspected bear dens detected in that survey will need to be re-assessed prior to construction to determine if they are active in fall 2020. The WMMP must be revised to include more detailed adaptive management options that could be implemented in the event that an active den is detected within the specified setback distance and the road alignment cannot be adjusted beyond the setback. The WMMP must also describe monitoring that will be conducted in the event that an active bear den is detected within the specified setbacks in order to confirm that the bear is not disturbed from the den during project activities.

Revision 3: *The spatial extent of boreal caribou winter track surveys must be extended to km 170 to cover the portion of the winter road between the Nahanni Butte Access Road and the Liard River. Surveys will thus be conducted between km 110 and 170. Section 8.2.4 and Appendix D – WMMP#8 of the WMMP must be updated accordingly.*

Revision 4: *NorZinc will provide ENR and other interested parties with reports, at minimum every two weeks, during Phase 1 activities which describe implementation of wildlife mitigation measures, wildlife data collected under different monitoring programs, wildlife incidents and any adaptive management measures that were triggered and implemented.*

Attachment 1 to this letter includes ENR's detailed review of the WMMP, which identifies a number of other minor recommended changes that NorZinc is required to address.

ENR requests that NorZinc submits one final version of the Phase 1 WMMP for approval that addresses comments from both ENR and Parks Canada at least 90 days prior to commencing construction. Any changes in the scope of Phase 1 activities should be reflected in revisions to the WMMP. Once ENR has received a final version of the Phase 1 WMMP, ENR will consult Indigenous governments and Indigenous organizations prior to making a decision on approval as required under the GNWT's [WMMP Process and Content Guidelines](#). Following the consultation period, ENR will notify NorZinc of its decision on whether or not the WMMP will be approved.

Please contact Dr. James Hodson, Manager Environmental Assessment and Habitat, at (867) 767-9237, extension 53227 or james_hodson@gov.nt.ca if you have any questions.

Sincerely,



Erin Kelly, Ph.D.
Deputy Minister
Environment and Natural Resources

Attachment

c. Mr. Brett Elkin
A/Assistant Deputy Minister, Operations
Environment and Natural Resources

Mr. Nathan Richea
A/Assistant Deputy Minister, Environment and Climate Change
Environment and Natural Resources

Ms. Karin Clark
A/Director, Wildlife and Fish
Environment and Natural Resource

Mr. Jamie Chambers
Superintendent, Dehcho Region
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Mr. Jonathan Tsetso
Superintendent, Nahanni National Park Reserve
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Mr. Mark Cliffe-Phillips
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Mr. Boyd Clark
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Ms. Liza McPherson
Executive Director
Łíídlı Kúé First Nation

Mr. Greg Holitzki
Band Manager
Nahanni Butte Dene Band

Attachment 1 – GNWT-ENR Review of the Prairie Creek Winter Road – Phase 1 Construction Wildlife Management and Monitoring Plan

1. Requirement for a Wildlife Management and Monitoring Plan

Under subsection 95(1) of the *Wildlife Act*, a developer may be required to prepare a Wildlife Management and Monitoring Plan (WMMP) for approval by the Minister of the Department of Environment and Natural Resources (ENR), and to adhere to the approved plan if the Minister is satisfied that the proposed development is likely to:

- a) result in a significant disturbance to big game or other prescribed wildlife;
- b) substantially alter, damage or destroy habitat;
- c) pose a threat of serious harm to wildlife or habitat; or
- d) significantly contribute to cumulative impacts on a large number of big game or on habitat.

The [WMMP Process and Content Guidelines](#) describe the factors that were considered by the Minister in determining whether a WMMP would be required for the Prairie Creek all-season access road.

2. Opportunity for Public Review

There have been several opportunities for interested and affected parties to review and provide comments on the Prairie Creek Mine all-season access road WMMP throughout its development both during and after the environmental assessment (EA).

A draft WMMP for the project was submitted during the EA ([MVEIRB PR#297](#)), and NorZinc submitted an updated [WMMP](#) to the Mackenzie Valley Land and Water Board (MVLWB) as part of the post-EA regulatory review process for the land use permit (MV2014F0013/PC2014F0013) and water licence (MV2019L8-002/PC2014L8-0006). The updated WMMP underwent a public review as part of the MVLWB's public comment period for the land use permit and water licence. [Comments](#) were submitted by ENR and four other parties (Łíídlı Kúé First Nation, Racher Consulting, Environment and Climate Change Canada, and Parks Canada) on the WMMP. In response to the comments from the first round of post-EA public review, NorZinc indicated that many of them would be addressed in another updated WMMP. At the MVLWB technical sessions in July 2019, NorZinc indicated that the all-season access road project would be completed in three phases. The three phases are described in the [land use permit](#) for the project as:

Phase 1 – activities to support the construction of the all-season access road in Phase 2, including the construction and operation of the winter road to

conduct geotechnical investigation and transport equipment and materials to Prairie Creek Mine.

Phase 2 – activities to support the construction of the all-season access road including the construction and operation of the winter road and of all-season access road construction.

Phase 3 – activities to support the operation of the all-season access road including transportation of loaded concentrate, consumable materials and supplies to support mine operations, and road maintenance.

On July 10, 2019 NorZinc’s consultant (TetraTech) sent an e-mail to ENR and Parks Canada to clarify which aspects of the WMMP would be updated to reflect Phase 1 vs. Phase 2 activities.

On October 04, 2019 the Minister of ENR submitted a letter to NorZinc requiring that a revised WMMP be submitted for approval by the Minister at least 60 days prior to commencement of Phase 1 activities, and notifying CZN that there would likely be another opportunity for public review of the WMMP prior to ENR’s decision on whether to approve it.

On November 12, 2019, NorZinc submitted a revised [WMMP](#) for Phase 1 of the Prairie Creek Mine all-season access road to the Minister of ENR and the Superintendent of Nahanni National Park Reserve (NNPR). NorZinc also submitted a [Caribou Data Gap Analysis](#) report to help fulfill the requirements of Measure 6-1 of the Report of Environmental Assessment for the project.

On December 10, 2019, Parks Canada and ENR initiated a final public review of the updated Phase 1 WMMP and requested that parties submit comments to the MVLWB’s [Online Review System \(ORS\)](#) by January 09, 2020. Comments were submitted by four parties: Acho Dene Koe First Nation, Environment and Climate Change Canada, Parks Canada and Racher Consulting on behalf of Łíídlı Kúé First Nation and Nah?a Dehé Dene Band. NorZinc responded to the comments on January 16, 2020. ENR did not provide comments on the WMMP to the ORS, but did submit a notification on January 14, 2020, indicating comments would be submitted as part of ENR’s decision letter on the WMMP.

3. Scope of the Phase 1 WMMP

The scope of the November 12, 2019, WMMP is to cover activities proposed for Phase 1 of the all-season access road project. As described in the land use permit issued for the project, Phase 1 includes activities to support the construction of the all-season access road in Phase 2, including the construction and operation of the

winter road to conduct geotechnical investigation and transport equipment and materials to Prairie Creek Mine.

As described in Section 2.0 of the WMMP, the Phase 1 road will be approximately 170 km long. ENR's authority with respect to approval and enforcement of the WMMP applies to those portions of the road that occur outside of NNPR, more specifically km 0-17, and km 101-170 (roughly 86 km of the road). Development of the Phase 1 road will involve clearing trees and brush within a 10-15 meter wide corridor, shaping and compacting snow and ice to prepare the winter road driving surface, and some cut and fill along approximately 11 km of the road where side slopes do not permit a typical winter road construction approach. Ice bridges, snow fills and temporary bridges will be used at water crossings. Spot blasting may be required at one location (km 25.2) which is inside NNPR. Construction and maintenance crews will operate from the mine and temporary road camps. Construction of the road is anticipated to take one month, and the road will be in operation for one to two weeks (WMMP section 8.2.1.2).

4. ENR's Review

ENR staff have been actively involved in all opportunities to review the WMMP as it has evolved, not only to provide advice on aspects of the WMMP but also to take the views of other parties into consideration when determining the extent to which the WMMP meets the legislated requirements of section 95 of the *Wildlife Act*.

ENR has reviewed the WMMP from several perspectives, but has primarily focused on the content of the WMMP as it relates to the requirements of the *Wildlife Act*. Section 95(2) of the *Wildlife Act* requires that a WMMP include:

- (a) a description of potential disturbance to big game and other wildlife included in the regulations, potential harm to wildlife and potential impacts on habitat;*
- (b) a description of measures to be implemented for the mitigation of potential impacts;*
- (c) the process for monitoring impacts and assessing whether mitigative measures are effective; and*
- (d) other requirements that are outlined in the regulations.*

ENR has also considered the extent to which the WMMP addresses:

- Project commitments made by NorZinc during the EA (summarized in Table T1 of the WMMP);

- The measures applicable to wildlife outlined in the Report of Environmental Assessment from the Mackenzie Valley Review Board, namely Measures 6-1, 6-2 and 6-3; and,
- Comments and recommendations on the February and October 2019 versions of the WMMP submitted to the MVLWB's ORS by ENR and other parties (excluding Parks Canada), and NorZinc's replies to those comments.

As Parks Canada will also be responsible for approving the WMMP where it applies to activities being undertaken within NNPR, ENR did not assess the extent to which Parks Canada's comments were addressed except where similar comments were submitted by both parties. Such instances are noted in the section 5.4 below. While ENR has reviewed Environment and Climate Change Canada's (ECCC) comments, and NorZinc's responses to those comments, ENR's authority with respect to approval and enforcement of the WMMP does not extend to migratory birds captured under the *Migratory Birds Convention Act, 1994*. ENR encourages NorZinc to continue to engage with ECCC to address their outstanding concerns noted in their January 2020 comments.

Where other parties did not re-iterate their comments on the February 2019 version of the WMMP during the January 2020 review of the October 2019 version of the WMMP, or indicate that those comments had not been addressed, ENR assumed that NorZinc had adequately addressed those comments.

ENR expects NorZinc to follow up on their January 16, 2020, commitment to further engage with Acho Dene Kue First Nation (ADKFN) to address their concerns regarding incorporation of ADKFN's traditional knowledge into the WMMP for Phase 2 of the project and regarding the hiring of Acho Dene Kue monitors to participate in implementing the WMMP.

5. Rationale

5.1. WMMP content required under s.95(2) of the *Wildlife Act*

ENR is satisfied that the Phase 1 WMMP meets the necessary content outlined in subsection 95(2) of the *Wildlife Act*. While the requirements in the Act are relatively high-level, the WMMP guidelines provide further guidance as to what ENR is looking for when assessing whether a WMMP meets the requirements. NorZinc has adequately described the potential impacts to big game species, species at risk and other important harvested species from Phase 1 activities in section 6.0 and Table T3 of the WMMP. The WMMP also describes the proposed mitigation and monitoring programs for the species most likely to be impacted by Phase 1 activities, which are accompanied by appendices with detailed standard operating procedures and monitoring procedures for these programs.

5.2. Developer Commitments

ENR is satisfied that all of the commitments outlined in table T1 of the WMMP have been addressed in the plan.

5.3. EA Measures

ENR has considered whether the Phase 1 WMMP has addressed relevant measures directed at NorZinc in the Report of Environmental Assessment (Table 1). ENR notes that some aspects of these measures apply to the full scope of the project (Phases 1-3), and still need to be addressed in a revised WMMP for Phase 2/3 of the project.

Table 1. ENR assessment of whether relevant Measures from the Report of Environmental Assessment for the Prairie Creek All-Season Road project have been addressed in the WMMP for Phase 1 of the project.

| EA Measure | ENR Assessment |
|--|--|
| <p>Measure 6-1 Part 1: Wildlife baseline information collection, monitoring, mitigation, and adaptive management program. In order to reduce adverse impacts on wildlife and wildlife habitat so they are no longer significant, CZN will collect additional wildlife baseline information to be integrated with mitigation, focused monitoring, and a systematic approach to adaptive management.</p> <p>In order to accomplish this, CZN will:</p> | |
| <p>i. Collect baseline data as described in Part 2 of this measure;</p> | <p>See comments regarding Part 2 below.</p> |
| <p>ii. Monitor wildlife and wildlife habitat during construction and operations as described in Part 3;</p> | <p>See comments regarding Part 3 below.</p> |
| <p>iii. Incorporate traditional knowledge in developing and implementing a monitoring program; and</p> | <p>There is some evidence that traditional knowledge (TK) has been incorporated in the Phase 1 WMMP, such as routing the Phase 1 road alignment to the eastern toe of the Nahanni Range to avoid important boreal caribou habitat identified by First Nations groups.</p> <p>Section 9.0 of the WMMP describes how Dene knowledge (TK) will be considered in implementing the Phase 1 WMMP, as well as in the review of the WMMP. Feedback on incorporation of Dene knowledge into the WMMP is to be provided to the Road Oversight Committee (ROC). Section 9.1(c) states that the ROC will provide comments on the WMMP directly to NorZinc.</p> |

| EA Measure | ENR Assessment |
|--|--|
| | <p>ENR understands that the traditional land use study work involving Łíídlı Kúé First Nation (LKFN) and Nahanni Butte (Nah?a Dehé) Dene Band (NDDB) is still underway, and may be incorporated into the Phase 2 WMMP.</p> <p>ENR expects NorZinc to follow up on their commitment to further engage with ADKFN to address their concerns regarding incorporation of ADKFN’s TK into the WMMP for Phase 2 of the project and regarding the hiring of ADKFN monitors to participate in implementing the WMMP.</p> |
| <p>iv. Develop and implement an adaptive management framework to manage impacts on wildlife.</p> | <p>NorZinc has included sections on adaptive management, including triggers for adaptive management, for each of the monitoring programs described in Section 8.0 of the WMMP. See further comments below on Measure 6-2 Part 3.</p> |
| <p>Part 2: Collection of baseline wildlife information for caribou, collared pika and bird species at risk that occur in the area.</p> <p>The purpose of this baseline information collection is to confirm the presence or absence of listed wildlife species in the project area, their population size, seasons of use and important habitat for species described below in the all-season access road corridor. In order to support Part 1, the developer will:</p> | |
| <p>a) Submit a baseline survey plan for review and approval to Parks Canada within the NNPR and to GNWT on</p> | <p>NorZinc engaged with ENR on their baseline survey plans for collared pika, northern mountain</p> |

| EA Measure | ENR Assessment |
|--|--|
| territorial lands; | <p>caribou and boreal caribou.</p> <p>ENR understands that NorZinc engaged with ECCC on the baseline surveys for bird species at risk, but ECCC has indicated in their January 2020 comments on the WMMP that they have ongoing concerns with how the baseline data was analyzed and how this will inform future monitoring programs. NorZinc has committed to provide a supplemental report to address some of ECCC's comments.</p> |
| b) Conduct baseline surveys for northern mountain caribou, boreal caribou, collared pika, and bird species at risk; | <p>NorZinc conducted further baseline surveys of northern mountain caribou and boreal caribou in March 2019, bird surveys in 2017, and collared pika baseline surveys in 2017 and 2019.</p> <p>The report from the 2019 aerial surveys has not yet been provided, although some results are described in the Caribou Gap Analysis report. ENR notes that there were unseasonably warm weather conditions at the time of the March 2019 aerial caribou surveys which means that the results are likely inconclusive with regards to the presence of boreal caribou in the study area.</p> |
| c) Use recognized methods and standards approved by Parks Canada within NNPR, by GNWT on territorial lands, and by ECCC for species at risk; | Addressed, but see comment above regarding ECCC's concerns with baseline data analysis for bird species at risk. |
| d) Conduct surveys at the direction and approval of Parks Canada within NNPR | Addressed. |

| EA Measure | ENR Assessment |
|--|---|
| and of the GNWT on territorial lands; | |
| e) Complete surveys prior to road construction; | Addressed. ENR notes that NorZinc has committed to conduct baseline surveys for western toad prior to or during Phase 2 activities. |
| f) Share its baseline wildlife information with local indigenous groups, including NDDB, LKFN, and Dehcho First Nations (DFN); and | Results of some, but not all, of the baseline data surveys have been submitted to the MVLWB public registry. |
| g) Present the results of its baseline information collection with local Indigenous groups, including NDDB, LKFN and DFN, in a culturally-appropriate way. | Not the role of ENR to assess. |
| <p>Part 3: Wildlife monitoring programs In order to reduce adverse impacts on wildlife so they are no longer significant, the developer will prepare and implement a systematic monitoring program(s) for wildlife that may be affected by the project. The developer will:</p> | |
| a) Submit monitoring program(s) for review and approval to Parks Canada within the NNPR and GNWT on territorial lands; | Included in Phase 1 WMMP. Some programs will require further elaboration in the Phase 2 WMMP, and may be refined based on the data collected during the Phase 1 WMMP. |
| b) Focus on monitoring of northern mountain caribou, boreal caribou, collared pika, and bird species at risk; | The Phase 1 WMMP includes monitoring programs for northern mountain caribou, boreal caribou, and collared pika, but some details and further refinement of these programs to monitor longer-term effects on these species have been deferred to the Phase 2 WMMP. Bird species at risk have been deferred to Phase 2. |
| c) Use recognized methods and standards approved by Parks Canada | NorZinc consulted with GNWT on proposed survey methods prior to |

| EA Measure | ENR Assessment |
|---|--|
| within NNPR, by GNWT on territorial lands, and by ECCC for species at risk; | submitting the Phase 1 WMMP for approval. |
| d) Conduct monitoring through all phases of the Project; | This WMMP only addresses Phase 1. ENR requires the WMMP to be updated and re-submitted for approval prior to Phase 2. |
| e) Formalize monitoring programs within the Wildlife Management and Mitigation Plan (Measure 6-2); | Addressed. |
| f) Provide annual monitoring reports to Parks Canada, GNWT, ECCC, NDDB, LKFN and DFN; | The WMMP includes annual reporting in Section 10. |
| h) Present the results of its wildlife monitoring programs to local Indigenous groups, including NDDB, LKFN and DFN, in a culturally appropriate way. | Section 10 of the WMMP commits NorZinc to presenting WMMP results to the ROC and Indigenous groups. |
| Measure 6-2 Part 3: Developer to prepare and implement a WMMP. The developer will: | |
| a) Update its draft WMMP to include all commitments and mitigations agreed to or recommended by its consultants throughout the EA; | Addressed in Table T1 of the WMMP. |
| b) Develop an adaptive management framework that links the results of monitoring with adjustments to mitigations as part of the WMMP that satisfies the requirements set out in Appendix B of the report of EA; | The adaptive management measures described for each of the monitoring programs described in Section 8.0 of the WMMP seem adequate for the activities that will be undertaken during Phase 1; however, in most cases there are single adaptive management triggers rather than a series of pre-defined action levels as described in Appendix B of the report of EA. The one possible exception would be the phased approach to implementing wildlife deterrent measures as described in SOP#2. |

| EA Measure | ENR Assessment |
|---|---|
| | <p>The WMMP states in many cases that adaptive management responses will be reported in the annual and comprehensive reports for the WMMP. This is not consistent with the review board’s direction for the developer to “prepare a response plan, to be implemented following review and approval by the appropriate regulatory authority, in a timely manner upon meeting a low action level”. There are some exceptions, for example wildlife incidents, where NorZinc would contact regulators immediately for advice. Given the relatively narrow time window for the Phase 1 activities it may not be feasible to develop response plans and have them reviewed and approved by ENR or Parks Canada; however, ENR expects NorZinc to further address the requirements of this part of Measure 6-2 in the Phase 2/3 WMMP. ENR is also requiring more frequent (bi-monthly) reporting during Phase 1 as a condition of approval of the Phase 1 WMMP (see Required Revisions for further details).</p> |
| <p>c) Describe how the monitoring data is linked with adaptive management in the Traffic Control and Management Plan;</p> | <p>The WMMP does not really cross-reference the Traffic Control and Management Plan. Section 8.1.6 (animal-vehicle collision risk monitoring) does not refer to the Traffic Control and Management Plan, or to the adaptive management action levels described therein.</p> |

| EA Measure | ENR Assessment |
|--|--|
| d) Submit its updated WMMP to the wildlife regulators described in Parts 1 and 2 for review and approval prior to construction; and | Addressed. Phase 1 WMMP was submitted within requested timeline. |
| e) Prepare and submit an annual report to wildlife regulators on the effectiveness of the WMMP that includes description of how the adaptive management framework was used to address project impacts. | Section 10 of the WMMP describes annual reporting. |
| <p>Measure 6-3 - Reducing the risk of vehicle collisions with wildlife.</p> <p>The following measure is required to mitigate significant adverse effects resulting from direct mortality to wildlife from vehicle collisions by both mine and non-mine traffic along the all-season access road. This measure is linked to the Traffic Control Mitigation and Management Plan.</p> <p>In order to reduce the likelihood of significant impacts on wildlife from collisions with vehicles along the road, CZN will identify and communicate wildlife caution zones to road users. The details of this approach will be incorporated into the developer's WMMP (referred to in Measure 6-2) and will include:</p> | |
| a) A description of how wildlife information from drivers will be collected and recorded to inform the selection of wildlife crossing areas; | Addressed in WMMP sections 8.1.5, 8.1.6 and SOP#1. |
| b) A detailed system for identifying wildlife (specifically big game as defined in the <i>Wildlife Act</i>) caution zones and marking them along the road (such as where sightings or collisions have occurred or where TK identifies trails); | Addressed in WMMP sections 8.1.6, Appendix D, SOP#2; further clarifications provided in response to Park's Canada Agency (PCA) comment #1 on the WMMP from January 2020. |
| c) Use of a remote camera trap system to identify wildlife road crossing areas and identify non-mine related traffic; | Cameras have been installed between KP 0-55 for the purpose of monitoring northern mountain caribou (s. 8.2.3 of the WMMP), |

| EA Measure | ENR Assessment |
|--|--|
| | <p>and will be installed at the traffic checkpoint station to monitor non-mine related traffic. Cameras are not proposed elsewhere along the road in the Phase 1 WMMP.</p> <p>ENR expects that the camera-based monitoring program to identify wildlife crossing areas will be expanded to include the rest of the road for Phase 2 of the project. NorZinc is encouraged to consult with the ENR on the design of the camera-based monitoring program prior to submitting the WMMP for Phase 2.</p> |
| <p>d) Annual reporting of wildlife sightings by drivers that includes vehicle collisions with wildlife, locations of signage for wildlife caution zones, and whether they were modified based on operational experience;</p> | <p>Addressed in Section 10 of the WMMP.</p> |
| <p>e) Annual reporting to regulators of remote camera log results, locations of primary wildlife crossings and how wildlife caution zones were modified based on monitoring results (if applicable); and</p> | <p>Addressed in Section 10 of the WMMP.</p> |
| <p>f) Annual reporting to regulators on road use by non-mine vehicles using data from remote camera logs.</p> | <p>Addressed in Section 10 of the WMMP.</p> |
| <p>The GNWT will regulate this measure on territorial lands and Parks Canada will regulate this measure within the NNPR. Reporting will be included in the WMMP annual report.</p> | |

5.4. Comments submitted on the February 2019 version of the WMMP

Appendix A provides a review of whether ENR’s comments on the February 2019 version of the WMMP have been adequately addressed, specifically for those comments that NorZinc flagged would be addressed in the Phase 1 WMMP. Fifteen of ENR’s comments (Topics 28, 29, 30, 37, 41, 44, 48, 55, 60-63, 69, 74, and unnumbered comment (bullet #4) regarding s.51(2) of the *Wildlife Act*), on the February 2019 version of the WMMP were either not addressed, partially addressed, or have follow-up recommendations associated with them. Minor recommendations and suggested edits to the WMMP are indicated in Appendix A. New comments and recommendations on the November 2019 version of the WMMP are outlined in Table 2 below. ENR requires NorZinc to address these recommendations in the final version of the WMMP for Phase 1, or in the Phase 2 WMMP where indicated. Required revisions to the WMMP outlined in ENR’s cover letter are referenced in Table 2.

Table 2. ENR review comments, recommendations, and required revisions for the Phase 1 WMMP submitted to ENR and Parks Canada on November 12, 2019.

| WMMP Section | Comment | Recommendation / Required Revisions |
|---|--|-------------------------------------|
| General Comment | ENR shares PCA’s concern (PCA’s comment #43 from January 2020) that there is a wide variety of monitoring and reporting tasks assigned to the Dene monitor. The WMMP did not clarify how many Dene monitors would be hired for Phase 1, and gave the impression that there would only be one. NorZinc’s response to PCA comment #43 from January 16, 2020, helps to address this concern by clarifying that there will be two full-time Dene monitors hired, one working from each end of the road project, as well as additional Dene monitors hired to operate the Checkpoint. | None |
| Table 10 - Wildlife Hazard Mitigation Monitoring and Table 12 - | Table 10 - Wildlife Hazard Mitigation Monitoring and Table 12- Animal-Vehicle Collision Risk Monitoring state that monitoring will be conducted weekly during | See Required Revision #1 |

| WMMP Section | Comment | Recommendation / Required Revisions |
|---|---|---|
| Animal-Vehicle Collision Risk Monitoring | construction, and twice a month during operation of the Phase 1 winter road. Section 8.2.1.2 states that the operational period for the road will only be two weeks long. No rationale was provided as to why the frequency of these two monitoring programs would be scaled back during operations. Given the short period of operation of the road in Phase 1, there would only be one survey during operations. For consistency, the frequency of monitoring should be weekly throughout all Phase 1 activities. | |
| Section 7.2 | NorZinc should always consult with ENR and Parks Canada when pre-defined setback distances cannot be implemented and there may be a risk of contravening one of the regulatory requirements outlined in Section 5.3 of the WMMP. | In the third paragraph, last sentence, change “is recommended” to “is required” |
| Section 7.3 | Re-fueling near water bodies, streams, and wetlands references industry standards, but should reference the requirements of the land use permit or water licence. | The WMMP should reference the minimum requirements for setbacks when re-fueling near water bodies set out in the land use permit and water licence. |
| Section 7.4.1 and SOP#2 – Removal of Wildlife Carcasses | This section states that carcasses may be transferred to Nahanni Butte, or incinerated upon approval from regulators, after alerting ENR and Parks Canada. Does Nahanni Butte have the appropriate facilities to temporarily store wildlife carcasses if they are to be transferred to Parks Canada or ENR, or to dispose of a carcass? NorZinc | Provide greater detail on how wildlife carcasses transferred to Nahanni Butte would be handled or disposed of so as not to create a wildlife attractant and risk of human-wildlife conflict in the community. |

| WMMP Section | Comment | Recommendation / Required Revisions |
|--|--|--|
| | needs to ensure that removal of carcasses to Nahanni Butte does not create a wildlife attractant and risk of human-wildlife conflict in the community. | |
| Section 7.4.1 – Shelter Attractants | This section states that “All buildings will be designed and maintained to prevent sheltering wildlife”, but no specific examples are provided of the designs that will be used. | Provide examples in the WMMP annual report of the design features implemented at project buildings to prevent sheltering wildlife. |
| Section 7.4.2 | In the aircraft procedure, it is stated that the BMP’s #5 and 6 for Flying Low in Caribou Country and Sheep Country will be followed and the areas where wildlife have been seen in the past will be avoided. | Please specify how areas where wildlife have been seen in the past will be avoided since this information is not specified in the BMP’s #5 and 6. Where will you get the information and how far back into wildlife sighting records will be included? |
| Table 5 | Boreal caribou should be checked off as one of the species considered in the “Access control and hunting/trapping” row of the table. | Add boreal caribou to list of key harvest species that is checked off in the “Access control and hunting/trapping” row of the table. |
| Section 8.1.1 - Den and Nest Pre-clearing Monitoring | NorZinc’s consultants made ENR aware that an active bear den was detected within the 800 m setback distance from the road alignment during the October 2019 aerial bear den survey. Table 7 states that the size of the setback distance will be reduced in consultation with ENR and/or Parks Canada and that NorZinc will proceed with appropriate adaptive management | See Section 7 - Required Revision #2 |

| WMMP Section | Comment | Recommendation / Required Revisions |
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| | <p>to minimize disturbance to the den. Specific adaptive management options in these circumstances were not identified in the WMMP. ENR discussed some options with CZN's consultant by phone, but NorZinc did not provide a detailed written adaptive management plan to ensure that the denning bear will be protected from disturbance. It is not appropriate to wait until the annual WMMP report to report on the adaptive management actions that will be implemented, as ENR cannot assess whether they are sufficient before project activities are undertaken.</p> | |
| <p>Section 8.1.2 – Collared Pika Pre-construction Monitoring</p> | <p>There are nine talus sites between km 15 and 16 that are adjacent to the existing all-season road, which are on territorial public land (Prairie Creek Proposed Phase 1 Road - Collared Pika Habitat Loss Estimates – November 14, 2019). All but one was active in summer 2019.</p> <p>The WMMP indicates that snowplowing activities will be restricted where there is Pika presence within 10 m of the Phase 1 road, but the specific talus sites that this applies to are not identified.</p> <p>Will there be follow-up surveys to determine occupancy in summer 2020 to assess whether they might have been impacted by Phase 1 road operations?</p> | <p>Please specify the specific talus sites where snowplowing activities must avoid pika talus habitat. ENR notes that PCA made a similar request in PCA Comment #11 (January 2020).</p> |
| <p>Section 8.2.4 – Boreal Caribou</p> | <p>The scope of the boreal caribou winter track monitoring program is</p> | <p>See Required Revision #3</p> |

| WMMP Section | Comment | Recommendation / Required Revisions |
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| Winter Track Monitoring | <p>currently limited to the section of the Phase 1 winter road between km 110 and the Liard River (km 155), which the WMMP states is the portion of the Phase 1 Project within the boreal caribou range. This statement is incorrect. The section of the road from the Liard River (km 155) to the Nahanni Butte access road (km 170) is also within the boreal caribou range and should be included in the survey area. The WMMP states that the track survey will occur once in March 2020, but an additional survey may be attempted in January 2020 following Phase 1 clearing. Two surveys, conducted as separate survey events, will provide additional information to account for detectability, for example if caribou were in the survey area on one survey event, but not during the other. The proposed method of repeating the survey during the same survey event along a 10 km portion of the road would only account for biases in observer detection error.</p> <p>ENR notes that some of the adaptive management triggers specified in section 8.2.4.2 would be impossible to detect with only one survey conducted during Phase 1, and are only applicable to the monitoring program longer-term as it continues into Phase 2 and 3.</p> | |
| Section 10.0 - Reporting | The WMMP specifies that there will be an annual report provided to | See Required Revision #4 |

| WMMP Section | Comment | Recommendation / Required Revisions |
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| | <p>regulators and a comprehensive report provided at the cessation of the Phase 1 road project.</p> <p>An annual or comprehensive report provided only after completion of Phase 1 activities will not allow ENR to assess whether the mitigation and monitoring programs are being implemented as planned while the project is in progress. Regular reports during Phase 1 activities that include brief descriptions of wildlife sightings, wildlife incidents, adaptive management triggered, etc. will enable ENR to monitor implementation of the WMMP as the project proceeds.</p> <p>This will provide evidence to ENR and Parks Canada that the mitigation measures and monitoring programs described in the Phase 1 WMMP are being implemented as planned.</p> | <p>Additional recommendations:</p> <p>ENR recommends that NorZinc consult the weekly environmental reports for the Tlicho all-season road project as an example of more frequent reporting while undertaking project activities (e.g. W2016E0004 - TASR - Weekly Environmental Report - January 12-18 2020 - Jan 22 20.pdf)</p> <p>ENR recommends that wildlife sighting data compiled in the annual report for the Phase 1 WMMP should be provided in a tabular format that includes precise coordinates or road kilometer markers so that it can be easily imported into ENR's Wildlife Management Information System or exported to GIS software.</p> |
| SOP#1 and SOP#2 | Contact information for ENR Dehcho region staff need to be corrected | Change contact information for ENR Dehcho Region to: Report a wildlife observation: 1-867-695-7450 Eve Lamontagne: 1-867-695-7450, extension 1008 |

8. Appendices

Appendix A – Table A1: Review of updates to the Phase 1 WMMP made in response to ENR’s comments on the February 2019 version of the WMMP.

Appendix A - Table A1: Review of updates to the Phase 1 WMMP made in response to ENR's comments on the February 2019 version of the WMMP

| # | Submitted By | Topic | Comment | Recommendation | CZN Response | Project Phase (Based on Table T3 of the WMMP; CZN - Oct. 2019) | Phase 1 WMMP Section (CZN Oct. 2019) | ENR Review - January 2020 |
|----|--------------------------------|--|---|--|---|--|--------------------------------------|---|
| 23 | GNWT - ENR: Central Email GNWT | Topic 23: Post-EA Information Package, page 60, Caribou Baseline | Caribou baseline data is to be collected between 2019, 2020, and 2021. In connection with the previous comment, how will baseline data information inform caribou monitoring? How will thresholds/actions be developed without first having a clear idea of baseline data? The baseline data collection could be impacted by construction activities. | 1) It is recommended that baseline data is completed prior to construction activities. | May 15: The reference to caribou baseline collection timing is incorrect in the main Post-EA report, but is correct in Appendix 5-2 where we reference baseline collection in 2019. That baseline has now been collected for boreal caribou (March 2019). | | | Results of the 2019 boreal caribou and mountain caribou aerial baseline survey are described in Appendix B of the Caribou Baseline Data Gap Analysis Report, but it is indicated that a more fulsome report on the 2019 surveys is forthcoming. This report has yet to be provided. |

| # | Submitted By | Topic | Comment | Recommendation | CZN Response | Project Phase (Based on Table T3 of the WMMP; CZN - Oct. 2019) | Phase 1 WMMP Section (CZN Oct. 2019) | ENR Review - January 2020 |
|----|--------------------------------|--|---|--|---|--|--------------------------------------|---|
| 24 | GNWT - ENR: Central Email GNWT | Topic 24: WMMP, Plain Language Summary | <p>Disagree with this statement:</p> <p>"Across the Dehcho region, the Species at Risk Committee (2012) have reported habitat to be nearly unchanged since the 1970s"</p> <p>The reference for this statement is not included in the References. More context of this statement is required as it is highly inconsistent with current knowledge of anthropogenic disturbance across the NWT. The Dehcho region has the highest densities of linear disturbance features in the NWT, and much of this linear disturbance was added to the landscape after the 1970s.</p> | <p>1) It is recommended to remove this statement altogether from the WMMP (it is repeated again in Section 2.0, page 6), or providing further justification and context for it. If this sentence is retained in the document, ensure the reference cited is included in the references list.</p> | <p>May 15: The following reference will be added to the WMMP and the statement in the WMMP will provide further context specific to the area of the proposed road.</p> <p>Reference: Species at Risk Committee. 2012. Species Status Report for Boreal Caribou (<i>Rangifer tarandus caribou</i>) in the Northwest Territories. Species at Risk Committee, Yellowknife, NWT.</p> <p>On page 25, the Species Status Report for Boreal Caribou says "Some information was available for the Dehcho Region, which is considered by participants in a traditional knowledge study to be relatively intact boreal caribou habitat. With the exception of the Cameron Hills and Mackenzie Bison Sanctuary, there has been minimal change to habitat since the halt of oil and gas activities in the 1970s and many seismic lines have now grown in."</p> <p>It continues on page 45 with "Participants in a Dehcho traditional knowledge study indicated that there is minimal resource development activity occurring at this time in the Dehcho, with the exception of the Cameron Hills" and "on page 48 with "In the Dehcho region, seismic lines, sensory disturbance from oil and gas exploration, oil and contaminant spills, and use of seismic wire all resulted in immediate impacts to boreal caribou during major oil and gas exploration activities that took place from the late 1950s to the early 1970s".</p> | Phase 1 | 3.0 Plain Language Summary | Comment addressed. References provided. |

| # | Submitted By | Topic | Comment | Recommendation | CZN Response | Project Phase (Based on Table T3 of the WMMP; CZN - Oct. 2019) | Phase 1 WMMP Section (CZN Oct. 2019) | ENR Review - January 2020 |
|----|--------------------------------|---|--|--|--|--|--------------------------------------|---|
| 25 | GNWT - ENR: Central Email GNWT | Topic 25: WMMP - CZN's Environmental Monitor, Section 3.0, page 7 | Given the large area that will need to be monitored, and the wide range of environmental monitor duties and responsibilities, how many monitors will be hired for the project? What minimum qualifications will they need to fulfill their duties? What training will they need and receive? | 1) Clarify how many Environmental Monitors will be hired for the project and how many will be working at any one time. Clarify the minimum qualifications and training requirements for environmental monitors in order for them to be able to fulfill their duties. | May 15: CZN will hire several community Environmental (Dene) Monitors depending on Project activity. The following staff needs are projected on site at any given time: 1 person during winter construction and winter operations, 4 during the summer construction, and 2 in summer operations. The Environmental Monitors will have prior training. Minimum training requirements have yet to be formalized but will be prior to construction. | Phases 1 and 2, as applicable | 4.0 | <p>Need to specifically mention that the Monitoring Coordinator and Dene Monitors should be trained in regulatory requirements pertaining to wildlife - cross reference section 7.1 of the WMMP which describes this.</p> <p>Need to ensure the Dene Monitor is capable of identifying winter wildlife tracks to species.</p> <p>The Dene Monitor has a significant workload and number of monitoring and reporting duties assigned to them throughout the WMMP. Will there be more than one person trained to perform these duties to provide some redundancy and to ensure the work is completed if the Dene Monitor is absent or cannot complete them for some reason?</p> |
| 26 | GNWT - ENR: Central Email GNWT | Topic 26: WMMP - Northwest Territories <i>Wildlife Act</i> , Section 4.2.4, page 10 | This section references the old <i>Wildlife Act</i> . Section 38 of the former <i>Wildlife Act</i> is now under sections 51 and 52 of the 2014 <i>Wildlife Act</i> . | 1) Ensure that all references to sections of the <i>Wildlife Act</i> in the WMMP reflect the new Act that came into force in 2014. | May 15: OK. Updated in WMMP (current working draft) | Phase 1 | 5.3.4 | Comment addressed. <i>Wildlife Act</i> references updated. |
| 27 | GNWT - ENR: Central Email GNWT | Topic 27: WMMP- Prohibitions under relevant Acts, Section 5.1 | The 7th bullet references prohibitions under the federal <i>Species at Risk Act (SARA)</i> . Prohibitions that apply under the <i>Wildlife Act</i> should also be part of the On-Site Education and Awareness | 1) It is recommended to add the <i>Wildlife Act</i> to this bullet. | May 15: OK. Updated in WMMP (current working draft) | Phase 1 | 7.1 | Comment addressed. <i>Wildlife Act</i> added. |

| # | Submitted By | Topic | Comment | Recommendation | CZN Response | Project Phase (Based on Table T3 of the WMMP; CZN - Oct. 2019) | Phase 1 WMMP Section (CZN Oct. 2019) | ENR Review - January 2020 |
|----|--------------------------------|--|---|--|---|--|--------------------------------------|--|
| | | | Training. | | | | | |
| 28 | GNWT - ENR: Central Email GNWT | Topic 28: WMMP- Habitat Loss and Alteration - Project Footprint Section 5.2.1 - Construction Phase | None. | 1) ENR also requests a copy of all as-built project footprint data; suggest this data be posted to the MVLWB registry to make it publicly accessible. | May 15: OK. Updated in WMMP (current working draft) | Phases 1 and 2 | 10.0 | Comment addressed in Section 10, but doesn't mention submitting the data to MVLWB public registry; instead it will go to DLUPC and ENR. It should also be submitted to MVWLB so that it is more easily accessible to the public. |
| 29 | GNWT - ENR: Central Email GNWT | Topic 29: WMMP - Aircraft Altitudes and Setbacks, Section 5.2.2 - Mine and Airstrip | What mitigations are proposed for flights associated with the access road construction? | 1) Minimum flying altitudes and setback distances should also be applied to any aircraft use associated with the construction of the winter and all-season road. | May 15: Section 5.4 of the WMMP outlines mitigations associated with all road-related activities (including construction) to manage sensory disturbances. This includes minimum flying altitudes and setback distances. | Phase 1 | 7.4.2 7.5 | Comment addressed <u>but</u> s. 7.4.2 lists three different minimum altitudes: 600 m inside the park, 300 m outside the park, and then later references the Yukon guidelines (2nd last bullet page 28) which is 600 m during sensitive times of the year, but does not say where this applies or when the sensitive times of year are. It would be better to pick one standard and apply it everywhere. ENR suggests going with 600 m everywhere throughout the year when it is safe to do so. |

| # | Submitted By | Topic | Comment | Recommendation | CZN Response | Project Phase (Based on Table T3 of the WMMP; CZN - Oct. 2019) | Phase 1 WMMP Section (CZN Oct. 2019) | ENR Review - January 2020 |
|----|--------------------------------|---|--|---|--|--|--------------------------------------|--|
| 30 | GNWT - ENR: Central Email GNWT | Topic 30: WMMP - Audits of Waste Management Practices, Section 5.3.1 - Wildlife Mortality and Hazard Management | None | 1) Provide a reference to the section of the WMMP that describes the frequency of these audits and which specific areas will be audited | May 15: Refer to Section 6.1.7.1. During construction, twice weekly audits at construction camps, borrow sources, and all other construction sites (focus will be at active construction and waste storage sites). During operation, weekly audits at waste sites and storage areas that may attract wildlife will be completed. | Phase 1 and Phase 2 | 8.1.4 WMMP Procedure #4 | Frequency and locations of waste audits are described in section 8.1.4 and Appendix D - WMMP#4, but it is unclear why frequency of audits is reduced from weekly during construction to twice monthly during operations. Section 8.2.1.2 states that the road will be in operation for 1-2 weeks, so it would make sense to continue to do these surveys weekly, and continue them during the deactivation phase. It also appears that since the response provided by CZN on May 15, 2019 the frequency of these audits has been reduced in Phase 1. |
| 31 | GNWT - ENR: Central Email GNWT | Topic 31: WMMP - Bear Den Surveys, Section 5.3.1 - Wildlife Mortality and Hazard Management | Bear den surveys should also be mentioned in this section, as protection of dens is more than just a sensory disturbance issue. Destruction or disturbance of undetected dens could also lead to bear mortality. | 1) Mention bear den surveys in this section as well. Don't need all the details, but provide a reference to the section of the WMMP where they are described in detail. | May 15: OK. Updated in WMMP (current working draft) | Phase 1 | 7.4 | Comment addressed |

| # | Submitted By | Topic | Comment | Recommendation | CZN Response | Project Phase (Based on Table T3 of the WMMP; CZN - Oct. 2019) | Phase 1 WMMP Section (CZN Oct. 2019) | ENR Review - January 2020 |
|----|--------------------------------|--|--|---|---|--|--------------------------------------|---|
| 32 | GNWT - ENR: Central Email GNWT | Topic 32: WMMP - Bird Nest Surveys, Section 5.3.1 - Wildlife Mortality and Hazard Management | If pre-clearing bird nest surveys are required because clearing will occur during the nesting period, the surveys should also try to document and protect bat roosting sites, given the range of three species overlaps with the project area. | <p>1) If pre-clearing bird nest surveys are required, CZN should also develop survey protocols specific to bat roosts, including guidance on the types of suitable roosting habitat to look for, and the most appropriate time of day to conduct surveys to detect roosting bats. Pertinent information may be found in:</p> <ul style="list-style-type: none"> • COSEWIC status report www.sararegistry.gc.ca/virtual_sara/files/cosewic/sr_Little%20Brown%20Myotis%26Northern%20Myotis%26Tricolored%20Bat_2013_e.pdf - see pages 18-20 • Laura Kaupas' thesis on Northern <i>Myotis</i> roosting behavior in the Fort Smith area https://prism.ucalgary.ca/handle/11023/3322 • SARC status report www.nwt-species-at-risk.ca/sites/default/files/bat_status_report_and_assessment_final_apr617.pdf | May 15: OK. Will be updated in WMMP (current working draft) as part of mitigation to reduce risk of wildlife mortality. | | | NA Table T3 discusses bat roosts, but no guidance in Phase 1 WMMP about how monitors could identify potential bat roosts during winter pre-clearing surveys. |

| # | Submitted By | Topic | Comment | Recommendation | CZN Response | Project Phase (Based on Table T3 of the WMMP; CZN - Oct. 2019) | Phase 1 WMMP Section (CZN Oct. 2019) | ENR Review - January 2020 |
|----|--------------------------------|---|--|--|--|--|--------------------------------------|--|
| 33 | GNWT - ENR: Central Email GNWT | Topic 33: WMMP - Waste Management Audits, Section 5.3.1 - Wildlife Mortality and Hazard Management; page 16 | None | 1) Develop an SOP and associated data sheet describing how often these audits will occur, which areas will be audited, and what specifically the Environmental Monitors are to look for. | May 15: Audit frequency and location of audits are outlined in Section 6.1.7.1 of the current WMMP. An SOP will be developed to provide more specific direction to auditors. | Phase 1 | SOP #2 | Comment addressed, but this is addressed in SOP#4, and Appendix D - Monitoring Procedures - WMMP#4 |
| 34 | GNWT - ENR: Central Email GNWT | Topic 34: WMMP - Animal Deterrent Measures, Section 5.3.1 - Wildlife Mortality and Hazard Management; pages 16-17 | This section lists different deterrents that will be available to Environmental Monitors, but does not describe when it is appropriate to use each of the deterrents, and when it is appropriate to escalate from noise deterrents to physical deterrents. How long is an animal given to leave an area of its own accord, before deterrents are employed? When will the incident reports be made available to ENR or Parks? | 1) Develop an SOP describing how long animals will be given to leave an area of their own accord before deterrents are used, when it is appropriate to use each type of deterrent, and to escalate from noise-based deterrents to physical deterrents, and how soon after an incident to submit reports to ENR and Parks Canada. | May 15: This section identifies that escalation to projectile deterrents are recommended when other non-invasive deterrents have proven ineffective and the animal refuses to leave the area. Training is recommended as each encounter will differ depending on the species and the perceived level of risk to people, the animal, and property. An SOP will be developed that will provide a single source of information to Environmental Monitors. | Phase 1 | SOP #2 | Comment addressed. |

| # | Submitted By | Topic | Comment | Recommendation | CZN Response | Project Phase (Based on Table T3 of the WMMP; CZN - Oct. 2019) | Phase 1 WMMP Section (CZN Oct. 2019) | ENR Review - January 2020 |
|----|--------------------------------|---|---|--|--|--|--------------------------------------|--|
| 35 | GNWT - ENR: Central Email GNWT | Topic 35: WMMP - Removal of Wildlife from Facilities and Infrastructure, 5.3.1.1 Prevention and Treatment of Problem Animals, page 17 | Removal of wildlife that have gained access to camp facilities or infrastructure may require obtaining permits from ENR, Parks Canada, or ECCC to capture or handle the wildlife depending on the species and location. (same comment and recommendation applies to Section 5.3.1.2) | 1) Ensure that Environmental Monitors and other project staff are aware that removal of wildlife from facilities or infrastructure may require special permits, and that ENR, Parks Canada, or ECCC should be contacted before any attempts to remove wildlife are undertaken. | May 15: The WMMP outlines a process that begins with the least intrusive approach. However, the WMMP will clarify that the removal of wildlife is by way of deterrent action. No capture/handling is to be performed without prior consultation, direction, approved permits, and equipment (if necessary) from ENR/Parks Canada/ECCC. | Phase 1 | 5.3 7.4.1 8.1.4.2 | Comment addressed in Section 7.4.1 and 8.1.4.2 |

| # | Submitted By | Topic | Comment | Recommendation | CZN Response | Project Phase (Based on Table T3 of the WMMP; CZN - Oct. 2019) | Phase 1 WMMP Section (CZN Oct. 2019) | ENR Review - January 2020 |
|----|--------------------------------|--|---|--|-------------------------------------|--|--------------------------------------|---------------------------|
| 36 | GNWT - ENR: Central Email GNWT | Topic 36: WMMP - Bear Response SOP and BMP, 5.3.1.1 Prevention and Treatment of Problem Animals, page 17 | <p>The 4th bullet in section 5.3.1.1 states that:</p> <p>"CZN's planned response to conflicts with bears (and other potentially hazardous wildlife) is included in the Bear Response SOP and BMP, respectively (Appendix B, Appendix C);"</p> <p>Appendix B makes no mention of the use of deterrents to respond to bears. It provides general guidance for all employees, but no specific guidance for Environmental Monitors or other staff that might respond to problem bears. It contains no details about incident reporting.</p> <p>Appendix C contains copies of four guidance documents (three GNWT, and one Yukon), none of which have been tailored to CZN's specific circumstances or needs. The Bear Incident Response Guidelines provide contact information specific to the North Slave region, not the Dehcho Region. Environmental Monitors should be provided with a clear and concise set of SOP, which outlines appropriate use of deterrents, includes incident reporting forms, and clear instructions on who, when and where the incident report forms should be sent.</p> | 1) It is recommended to develop clear and concise Bear Response SOPs for the CZN project, including Incident Report forms and appropriate contact information for where the forms should be sent in the Dehcho region. | May 15: OK. Will be updated in WMMP | Phase 2 | N/A | NA |

| # | Submitted By | Topic | Comment | Recommendation | CZN Response | Project Phase (Based on Table T3 of the WMMP; CZN - Oct. 2019) | Phase 1 WMMP Section (CZN Oct. 2019) | ENR Review - January 2020 |
|----|--------------------------------|--|--|---|---|--|--------------------------------------|---|
| 37 | GNWT - ENR: Central Email GNWT | Topic 37: WMMP - Relocating or Destroying Wildlife, 5.3.1.1 Prevention and Treatment of Problem Animals, page 17 | Wildlife should be given some time to move away of their own accord before deterrent methods are employed, unless wildlife or personnel are at immediate risk of harm. | 1) Explicitly state how much time wildlife will be given to move away of their own accord before implementing deterrent measures. Define the specific circumstances under which employees would resort to relocating or destroying wildlife. Clarify that, where safety permits, ENR or Parks Canada should be contacted before any wildlife are relocated or destroyed. Clarify that permits may be required to relocate wildlife if it involves capturing and handling an animal. | May 15: The WMMP indicates that lethal use of a firearm may be used only when there is an immediate and dangerous risk to people. The current WMMP will be updated to include relocation actions including capture/handling to be performed with prior consultation, direction, approved permits, and equipment (if necessary) from ENR/Parks Canada/ECCC. A specific time wildlife will be given to move away on their own accord is not provided as the time will vary for each sighting/encounter. Overall staff training on action levels and monitoring the behaviour and movement of the animal until the animal leaves on its own are examples that are discussed. This allows best judgement to be used for each encounter and the safety of staff and wildlife. Also see responses to ENR Comments #34-36. | Phase 1 | SOP #2 | <p>Comment partially addressed. SOP#2 does not provide a minimum time for animals to move away of their own accord but does outline situations where use of deterrents is unnecessary unless the situation changes. SOP#2 does provide minimum time to wait before moving from one deterrent to a more invasive deterrent (5 minutes) if no response in the animal is observed.</p> <p>SOP#3 - Traffic Management - Gives animals 5 minutes after vehicles have stopped to move off road of their own accord before deterrent procedures are initiated.</p> <p><i>For groups of bison, avoid using horns as first deterrent response as it can lead to startling/stampeding and risk of mortality to calves. It is better to approach them slowly with a vehicle.</i></p> |

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|----|--------------------------------|---|--|---|--|--|--------------------------------------|---------------------------|
| 38 | GNWT - ENR: Central Email GNWT | Topic 38: WMMP - Hunting in Outfitter Zones, 5.3.1.1 Prevention and Treatment of Problem Animals, page 17, bullet 9 | None | 1) ENR must also be involved in any discussions regarding hunting agreements or total harvest limits for non-Aboriginal harvesters. | May 15: CZN will participate, as required, in discussions with outfitters, Nahanni Butte Dene Band, and ENR regarding agreements in place with non-Aboriginal harvesters. CZN respects ENR's mandate to manage harvest in the NWT. | Phase 1 | 7.4 | Comment addressed |
| 39 | GNWT - ENR: Central Email GNWT | Topic 39: WMMP - Wildlife on or Adjacent to the Road, 5.3.2.2 Traffic Management | The proposed mitigation that traffic will cease at least 500 m from caribou, moose, Dall's sheep, mountain goat, grizzly bear, and/or wolverine observed on or within 500 m of the project footprint may be difficult to implement. If traffic are to stop at least 500 m from such sightings, it doesn't make sense for the speed reduction to also be within 1 km of the sighting (which is the same as saying 500 m on either side), since vehicles are required to come to a full stop. The vehicle speed reduction zone should be increased to at least 1 km on either side of a where the animal was sighted to provide a sufficient distance to slow down to the stopping distance of 500 m (or the distance at which the animal was first sighted if less than 500 m). | 1) Vehicle speeds should be reduced within a minimum of 1 km on either side of areas where wildlife is seen on or adjacent to the road. Wildlife sightings and speed reductions should be communicated to other drivers by radio, and recorded in the wildlife sightings log. | May 15: A minimum of 1 km on either side of the animal sighting is included in the speed reduction zone. The WMMP will be updated to clarify the wording (i.e., not 500 m on either side of the animal). Yes, wildlife sightings (and speed reductions) will be communicated to other drivers and recorded in the wildlife sighting log. | Phase 1 | 7.4.2 SOP #1 SOP #3 | Comment addressed. |

| # | Submitted By | Topic | Comment | Recommendation | CZN Response | Project Phase (Based on Table T3 of the WMMP; CZN - Oct. 2019) | Phase 1 WMMP Section (CZN Oct. 2019) | ENR Review - January 2020 |
|----|--------------------------------|---|---------|--|--|--|--------------------------------------|-----------------------------------|
| 40 | GNWT - ENR: Central Email GNWT | Topic 40: WMMP - Moving Wildlife off the Road, 5.3.2.2 Traffic Management | None | 1) The JMS Coordinator should be provided with an SOP that they can refer to when providing instructions to drivers on how to move wildlife off the road, in the event that the CZN Environmental Monitor is not available to respond. | May 15: OK. Will be updated in WMMP (current working draft). | Phase 1 | SOP #2 SOP #3 | Comment addressed. SOPs provided. |

| # | Submitted By | Topic | Comment | Recommendation | CZN Response | Project Phase (Based on Table T3 of the WMMP; CZN - Oct. 2019) | Phase 1 WMMP Section (CZN Oct. 2019) | ENR Review - January 2020 |
|----|--------------------------------|---|--|---|--|--|--------------------------------------|---|
| 41 | GNWT - ENR: Central Email GNWT | Topic 41: WMMP - Response to Problem Wildlife Areas Identified Along the Road, 5.3.2.2 Traffic Management | <p>The second bullet on page 20 states that "If a problem area is identified along the access road, such as frequent wildlife encounters, corrective management options for traffic and project-related activities will be considered;" What options will be considered? Bullets 3 provide one concrete example of an action that will be taken, but are there other options.</p> <p>Has the wildlife baseline data collected by CZN to date been used to identify areas where problems might already be anticipated, such as areas where there are obvious game trails crossing the road?</p> | 1) Provide examples of the management options that might be considered if a problem area for wildlife is identified along the road. | May 15: When the Wildlife Observation and Incidents Logs monitoring program identifies a problem area (e.g. large mammal persistently reported in an area) adaptive management options along the road may include a variety of options such as: traffic advisories (i.e., temporary signage, daily tailgates), temporary speed reduction (e.g. week-long) until wildlife no longer consistently reported in the area, seasonal and or permanent speed reductions if wildlife consistently reported in an area over time, temporary traffic reduction to essential vehicles only. | Phase 1 | 8.1.6 | <p>Comment addressed.</p> <p>Section 8.1.5.2</p> <p>Figure D4 - approximate locations of wildlife trails along the road and possible wildlife caution zones</p> <p>Appendix D - WMMP#5 - Animal Vehicle Collision Risk Monitoring</p> <p>More information has been provided about how wildlife caution zones will be identified and a map has been provided illustrating locations of know trails near to or crossing the road. The placement of cautionary signs is at the discretion of the Dene Monitor.</p> <p>One concern is that these signs would only be placed a minimum of 50 m from the edged of the caution zone which might not be sufficient if vehicles have to stop for wildlife crossing the road. But, speed limits are reduced to 20 km/hr. in this zone so the 50 m setback of the signs might be enough.</p> |

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| 42 | GNWT - ENR: Central Email GNWT | None | None | 2) If there is already baseline data that indicates areas where problems could be anticipated and avoided, provide maps showing those locations and indicating the management responses that will be pro-actively employed. | May 15: OK, will be updated in the WMMP | Phase 1 | 8.1.6 | See comments above |
| 43 | GNWT - ENR: Central Email GNWT | Topic 42: WMMP - Wildlife Sightings Reported by Two-way Radio, 5.3.2.2 Traffic Management | If the Environmental Monitor is not available to monitor radio communications for wildlife reported by other drivers and to record them in a log, this duty should fall to the Road Operations Supervisor. | 1) Wildlife observations along the road reported by divers over two-way radio should be recorded in a wildlife sightings log by either the Environmental Monitor or the Road Operations Supervisor, and submitted with annual reports. | May 15: The WMMP will designate a responsible authority (i.e., Road Operations Supervisor) when the Environmental Monitor is unavailable to record wildlife sightings and will add the Wildlife Sighting Logs as part of the Annual Report. | Phase 1 | 7.4.1 7.4.2 SOP #1 | Addressed in SOP#1 |
| 44 | GNWT - ENR: Central Email GNWT | Topic 43: WMMP - Snow Removal Practices, 5.3.2.3 Access Road and Access Control, page 21 | Earlier in the WMMP it says that berm breaks will occur every 500 m, whereas in this section it says every 100 m. | 1) Ensure that mitigations repeated in different sections of the WMMP are consistent. | May 15: OK. Updated in WMMP (current working draft) | Phase 1 | 7.3 7.4.2 | Addressed. The 500 m intervals for breaks in snow banks now used consistently throughout WMMP. |

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| 45 | GNWT - ENR: Central Email GNWT | Topic 44: WMMP - Flight Altitude Guidelines, 5.4 Sensory Disturbance Management | The GNWT's "Flying Low? Think Again..." guidelines should be followed outside of Nahanni National Park Reserve | 1) Add that "Flying Low? Think Again..." guidelines will be followed when flying outside of the Park. | May 15: OK, will be updated in the WMMP | Phase 1 | 7.4.2 | Comment addressed, but section 7.4.2 also says to follow the "Flying in Caribou County and Flying in Sheep Country" guideline of minimum 600 m altitude during sensitive times of the year. These times are not defined. For simplicity, ENR recommends following the minimum 600 m altitude at all times and locations (inside and outside of the national park). |
| 46 | GNWT - ENR: Central Email GNWT | Topic 45: WMMP - Dall's Sheep Monitoring Program, 5.4 Sensory Disturbance Management | None | None | May 15: No comment/recommendation provided by GNWT | | | |

| # | Submitted By | Topic | Comment | Recommendation | CZN Response | Project Phase (Based on Table T3 of the WMMP; CZN - Oct. 2019) | Phase 1 WMMP Section (CZN Oct. 2019) | ENR Review - January 2020 |
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| 47 | GNWT - ENR: Central Email GNWT | Topic 46: WMMP - Mineral Licks, 5.4 Sensory Disturbance Management | "Prohibit blasting when Dall's sheep lambs within 2 km of the proposed Project (approximately Km 0-39 and Km 124-160) from May 1 - June 15;" How will it be determined whether Dall's sheep are within 2 km during this period? Visual scans using are unlikely to detect animals that are >1 km away. | 1) Describe the techniques that will be used to determine whether Dall's sheep are within 2 km of blasting sites during the May 1-June 15 period. | May 15: The Environmental Monitor will perform pre-blast field reconnaissance by scanning slopes using binoculars and or spotting scope from vantage point(s) on and near the road, borrow, or suitably open area such as riverbank. Scans will cover slopes facing the blast site (not including scans over mountain ridgelines). Prior to blasting, detailed maps will be prepared to identify the 2 km buffer distance from the blast site and possible vantage points (and GPS locations of vantage points) for field use. | Phase 2 | N/A | CZN has now stated this will be addressed in Phase 2. This is acceptable given that Phase 1 operations will not occur in the May 1 - June 15 period. |
| 48 | GNWT - ENR: Central Email GNWT | Topic 47: WMMP - Blasting During Dall's Sheep Lambing Period, 5.4 Sensory Disturbance Management | "Minimize Project activities from April 1 - July15 within 250 m of mineral licks (km 156-157);" Does the reference to km 156-157 imply that there is a known mineral lick in that area? If so, provide a reference to where this information came from. Were any surveys undertaken to evaluate whether there are other mineral licks within 250 m of other parts of the project footprint? | 1) Clarify why the mitigation for mineral licks currently only applies within km 156-157. | May 15: Mineral licks were identified in the Environmental Assessment report based on known mineral licks identified by the ENR-WMIS search and Wilson and Haas (2012) mineral lick density maps. The closest known mineral lick is approximately 300 m from this portion of the proposed road. | Phase 2 | N/A | Use of this mineral lick may be affected by sensory disturbances during Phase 1 activities, and this may be an area where wildlife might be more likely to interact with the road. This would be an appropriate place to install wildlife cautionary zone signs along the road and to monitor use of this mineral lick with trail cameras. |

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| 49 | GNWT - ENR: Central Email GNWT | Topic 48: WMMP - Disturbance of Bird Nests, 5.4 Sensory Disturbance Management; 4th last bullet - page 23 | ENR reminds CZN that under the <i>Wildlife Act</i> (s. 51) all occupied bird nests are protected from disturbance or destruction, not just migratory birds and species at risk. CZN should also be aware of the proposed regulation under the <i>Wildlife Act</i> that will also protect unoccupied raptor nests from destruction, which may come into force in summer 2019. | 1) Revise the wording of the 4th last bullet on page 23 (and all similar wording elsewhere in the WMMP) to "nesting birds" instead of "nesting bird species at risk (and other migratory birds)". | May 15: OK. Updated in WMMP (current working draft). Notification of the proposed regulation is appreciated. | Phase 1 | 5.3.4 7.4 8.1.1.1 | Addressed. Recommend that Dene monitors be provided with guidance on how to identify raptor nests: www.enr.gov.nt.ca/sites/enr/files/resources/3488_gnwt-enr-raptors-fieldguide-eng-final-web.pdf www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/forestry/bc-timber-sales/ems-sfm-certification/business-area/kamloops/stick_nests_id_guide.pdf |
| 50 | GNWT - ENR: Central Email GNWT | Topic 49: WMMP - Disturbance of Bird Nests, 5.4 Sensory Disturbance Management; 2nd bullet - page 24 | ENR and Parks Canada should be contacted regarding mitigations for any non-migratory bird species that are not captured under the <i>Migratory Birds Convention Act</i> . | 1) Add ENR and Parks Canada to the list of agencies to contact. | May 15: OK. Updated in WMMP (current working draft). | Phase 1 | SOP #1 SOP #2 | Addressed. |
| 51 | GNWT - ENR: Central Email GNWT | Topic 50: WMMP - Bear Dens, 6.1.1 Bear Den Mitigation Monitoring | Bear den survey areas should be indicated on maps, and aerial survey transect spacing should be specified and indicated on the map. | 1) Include the maps of suitable black bear denning habitat in Tetra Tech EBA (2016) in the WMMP as it forms part of the mitigation monitoring plan. Add maps of the bear den aerial survey area, with planned aerial survey transects and specify the spacing of aerial transects. | May 15: Denning habitat maps provided in Tetra Tech EBA (2016) will be provided in the WMMP and aerial transects will be further described. | Phase 1 | WMMP Procedure #1 | Addressed, but the results of the October 2019 aerial bear den/raptor nest survey have not yet been reported. |

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| 52 | GNWT - ENR: Central Email GNWT | Topic 51: WMMP - Bear Dens, 6.1.1.2 Adaptive Management | Section 6.1.1.1 states that bear den surveys will be undertaken within 800 m of winter clear and 1.5 km of winter blasting respectively. Section 6.1.1.2 states that adaptive management is required if winter clearing is within 500 m of an active bear den. | 1) Change the setback for proximity of winter clearing to active dens to 800 m, to be consistent with Section 6.1.1.1. | May 15: OK. Updated in WMMP (current working draft). | Phase 1 | 8.1.1 | Addressed |
| 53 | GNWT - ENR: Central Email GNWT | Topic 52: WMMP - Bear dens, 6.1.1.3 Reporting | None | 1) Observed or suspected dens should also be immediately reported to ENR or Parks Canada, so that the most appropriate adaptive management response can be discussed and identified. | May 15: OK. Updated in WMMP (current working draft). | Phase 1 | 8.1.1 WMMP Procedure #1 | Addressed |
| 54 | GNWT - ENR: Central Email GNWT | Topic 53: WMMP - Collared Pika Monitoring, 6.1.2 Collared Pika Mitigation Monitoring | This section does not reference the results from the pika baseline surveys which indicated pika presence in some proposed borrow sources (BP 33 and 34) and within talus habitat adjacent to the road within the specified setback distance of 150 m (Appendix 5-1). What happens at talus sites where pika were observed to be active during baseline surveys, if no sign of current pika activity is subsequently observed during pre-construction surveys? As some areas of active pika presence have already been identified, will adaptive management be employed pro-actively? Which, out of those actions listed in Section 6.1.2.2, would be used to protect pika and their habitat in these areas? | 1) Reference the specific results of the existing baseline surveys for pika, and explain what adaptive management actions will be implemented at sites where active pika presence has already been confirmed within proposed borrow sources and within 150 m of the road alignment. | May 15: Results of the existing baseline survey will be added to the WMMP. Adaptive management options when active pika sites confirmed within the proposed borrow and within 150 m of the road are provided in Section 6.1.2.2. | Phases 1 (mitigation monitoring) and 2 (effects monitoring) | 8.1.2 Also provided in separate report. | Pika technical memo provided |

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| 55 | GNWT - ENR: Central Email GNWT | Topic 54: WMMP - Collared Pika Monitoring, 6.1.2 Collared Pika Mitigation Monitoring | None | 1) Explain why the surveys are timed to be between August and the first snowfall. | May 15: The WMMP describes baseline and monitoring programs appropriate for detecting pika hay piles. Parks Canada's pika monitoring protocol in Banff, Lake Louise, Yoho, and Kootney National Park provides rationale why surveying for active pika hay piles is most appropriate (Parks Canada 2016). Pika's hay piles are more likely to be detected than the individual animal since pikas are most active in the morning and late afternoon, and activity is influenced by warm temperatures and high wind (Parks Canada 2016). The CZN baseline and monitoring programs suggest conducting the surveys in the fall to ensure that all individuals have begun haymaking (males start earlier in the season than females; juveniles are the last to begin) and hay piles continue to get progressively larger (thus more conspicuous). | Phase 1 | 8.1.2 WMMP Procedure #2 | Addressed |

| # | Submitted By | Topic | Comment | Recommendation | CZN Response | Project Phase (Based on Table T3 of the WMMP; CZN - Oct. 2019) | Phase 1 WMMP Section (CZN Oct. 2019) | ENR Review - January 2020 |
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| 56 | GNWT - ENR: Central Email GNWT | Topic 55: WMMP - Collared Pika Monitoring, 6.1.2 Collared Pika Mitigation Monitoring; 6.1.2.2 Adaptive Management | The selection of the appropriate adaptive management response depends on the context of each active talus site - i.e., whether it is in or adjacent to an area that will be cleared or used as a borrow source, whether changes to routing or selecting an alternative borrow source is actually a feasible option, and whether changes to the timing of construction would actually avoid the impact. | 1) Selection of appropriate adaptive management strategies should be discussed with the Technical Advisory Groups. | May 15: OK. Updated in the WMMP (current working draft). | Phase 1 | 8.1.2 9.1 | <p>Not addressed. Section 8.1.2 states that there are "a couple" of talus sites within 10 m from the Phase 1 road, but does not specify which ones, nor which adaptive management options will be implemented to protect them.</p> <p>The Technical Memo for Pika Habitat Loss specifies 4 active pika talus sites that are within the 10 m setback. No adaptive management response is specified in the Technical Memo. Please specify which adaptive management response will be implemented for each of the four talus sites. Please clarify whether there will be follow-up surveys to determine occupancy in summer 2020 to assess whether they might have been impacted by Phase 1 road operations.</p> |
| 57 | GNWT - ENR: Central Email GNWT | Topic 56: WMMP - Pre-blast Mitigation Monitoring, 6.1.6 Pre-Blast Mitigation Monitoring | Why is the list of species that would trigger a postponement of blasting limited to those listed in the second paragraph of Section 6.1.6? | 1) Blasting should be postponed if any big game species are detected within 1 km of the blast site. The list of species to monitor for in pre-blast surveys should be expanded to include any big game species listed in the Schedule A of the <i>Wildlife General Regulations</i> with the | May 15: OK. Additional big game species present in the study area will be included in the mitigation and pre-blast mitigation monitoring. | Phase 1 | 8.1.3 | Addressed |

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| | | | | potential to occur in the project area (e.g. moose). | | | | |
| 58 | GNWT - ENR: Central Email GNWT | Topic 57: WMMP - Pre-blast Mitigation Monitoring, 6.1.6 Pre-blast Mitigation Monitoring | The WMMP, and other documents, list borrow sources up to km 158, but there is no mention of where aggregate materials will come from to construct the portion of the road from km 160-173 (east of the Liard River). If there are any borrow sources being used, or blasting required, for that section of the road that is east of the Liard River, pre-blast surveys will also need to consider the presence of bison. | 1) Please clarify which borrow sources will be used to construct the road from km 160-173 and where blasting might occur along that section of the road. | May 15: There are no proposed borrow sources east of the Liard River from km 160-173. Note, the current WMMP reported old road km points. All km markers will be updated in the WMMP. | Phase 1 | 2.0 | Addressed |
| 59 | GNWT - ENR: Central Email GNWT | Topic 58: WMMP - Pre-blast Mitigation Monitoring, 6.1.6 Pre-blast Mitigation Monitoring | The WMMP specifies a year-round 1 km setback for blasting, but it is unclear how surveying for evidence of target species along the winter road alignment near borrow sources or blast sites will be sufficient to detect target species within that radius in closed forest environments. Environmental Monitors may need to walk the perimeter of the borrow sources, or a transect through the forest following the perimeter at a specified setback distance, to look for evidence of target species in the area as well. It is also not clear whether | 1) Add further methods to the WMMP that will be used to provide greater certainty of detecting the presence of target species within the 1 km setback distance of blasting sights within closed forest environments. | May 15: The WMMP specifies setback and restricted activity periods specific for target species following the Northern Land Use guidelines and outlines methods to detect the presence of species. The WMMP will be updated to further describe methods to detect species presence in closed forest environments. | Phase 1 | 8.1.3 | WMMP specifies that spot blasting only likely to occur at one location inside NNPR. |

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| | | | blasting will be prohibited for the day if fresh tracks or fresh scat is encountered, because it may not be possible to determine if and when the animal has moved out of the area on its own accord. | | | | | |
| 60 | GNWT - ENR: Central Email GNWT | Topic 59: WMMP - Recording Wildlife Sightings by Drivers, 6.1.8 Wildlife Observation and Incidents Logs | Wildlife sightings made by drivers should be reported immediately via two-way radio and entered into a log by the person responsible for monitoring radio communications or the Environmental Monitor. If drivers wait to report sightings until their next stop it may be too late to warn other drivers, they could forget the landmark or kilometer post where they saw it, or they may forget to write it down altogether. | 1) Wildlife sightings made by drivers should be reported immediately via two-way radio and entered into a log by the person responsible for monitoring radio communications or the Environmental Monitor. | May 15: The WMMP will clarify that drivers will report wildlife sightings immediately and logged by the Environmental Monitor or responsible designate. | Phase 1 | SOP #1 | Addressed |
| 61 | GNWT - ENR: Central Email GNWT | Topic 60: WMMP - Recording Wildlife Sightings by Drivers, 6.1.8 Wildlife Observation and Incidents Logs, Page 43, Bullet 4 | It may be unreasonable to expect the Environmental Monitor to map and analyze the wildlife observations, incidents, and standalone survey data. | 1) Separate out data collection and database entry duties from mapping and analyses of data, and specify that someone with appropriate qualifications will be responsible for mapping and analyses. | May 15: There will be a Monitor Coordinator (full time person during construction and operation) working in collaboration with CZN personnel. The Monitor Coordinator will be responsible for data collection, CZN for reporting, mapping, and analysis. | Phase 1 | 8.1.5 | Not addressed. Section 8.1.5 does not clarify who will be responsible for analyzing, reporting and mapping the data. This will need to be clarified for the Phase 2 WMMP and will need to include details of how the data will be analyzed. |

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| 62 | GNWT - ENR: Central Email GNWT | Topic 61: WMMP - Reporting Wildlife Incidents, 6.1.8 Wildlife Observation and Incidents Logs, page 44, Table 11 | None | 1) Replace Nic Larter with Eve Lamontagne (Eve_Lamontagne@gov.nt.ca) as the GNWT ENR (Dehcho Region) Manager for Wildlife Research and Monitoring. | May 15: OK. Updated in the WMMP (current working draft). | Phase 1 | SOP #1 SOP #2 | Addressed, but some of the contact information needs to be corrected in SOP 1 and 2. Report a wildlife observation: 1-867-695-7450 Eve Lamontagne: 1-867-695-7450 ext. 1008 |
| 63 | GNWT - ENR: Central Email GNWT | Topic 62: WMMP - Reporting Wildlife Incidents, 6.1.8 Wildlife Observation and Incidents Logs, Section 6.1.8.2 - Adaptive Management, page 44 | None | 1) A single project-related mortality of any big game species, not just those considered species at risk, should trigger an adaptive management review and potential response. | May 15: In Section 6.1.8.2, the WMMP discusses adaptive management for species at risk, then indicates that adaptive management for all wildlife species (not just species at risk) is on a case-by-case basis including the mortality of birds and important harvest species, such as moose. This WMMP section will be updated for clarity. | Phase 1 | 8.1.5 | Addressed, but add "key harvest species" to the second bullet of section 8.1.5.2. |

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| 64 | GNWT - ENR: Central Email GNWT | Topic 63: WMMP - Hotspots of Wildlife Occurrence, 6.1.8 Wildlife Observation and Incidents Logs, section 6.1.8.2 - Adaptive Management, page 44 | How are "hotspots of wildlife occurrence" defined? How many wildlife sightings, near misses, or wildlife-vehicle collisions at a specific location along the road need to be observed before it is considered a hotspot? Will wildlife sightings be compiled and analyzed according to specific segment lengths along the road? | 1) The WMMP should provide more detail on how "hotspots of wildlife occurrence" will be defined, and how data will be analyzed to identify them. | May 15: OK. Will be updated in WMMP. Hotspots defined as the persistence of large mammal observations over time. Analyses will include 1) the number of successive days of detection within 1-km segments of road and 2) the total number of days of detection within 1-km segments of road. | Phase 1 | 8.1.6 | Somewhat addressed. No definition of "hotspot" provided in the WMMP, but section 8.1.5.2 uses reoccurrence of a big game/key harvest species or species at risk for a minimum of three consecutive days within a 1 km area as a trigger for adaptive management. Section 8.1.6 defines wildlife caution zones as "where there is a reoccurrence of wildlife reported in an area, where TK identified trails, and where a remote camera system identifies road crossings and monitors non-mine related traffic". Appendix D provides a map of known locations of wildlife trails along the road from previous wildlife surveys. WMMP#5 states that "Wildlife caution zone signs are required if there is recent evidence of wildlife use and or when Dene knowledge promotes sign use." The criteria for wildlife caution zones are somewhat subjective. Wildlife sightings and road survey data collected during Phase 1 should be used to further refine criteria for wildlife caution zones. |

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| 65 | GNWT - ENR: Central Email GNWT | Topic 64: WMMP - Traffic Monitoring at Check Station, 6.2.1 Traffic Monitoring at the Checkpoint Station; 6.2.1.1 Overall Monitoring Approach | "The cameras will be inspected monthly to ensure functional operation, check batteries, and download memory cards." | 1) Cameras should be programmed to take one photo each day at a pre-specified time, in addition to motion-triggered photos, to help ensure that the cameras are functioning as intended. | May 15: OK. Updated in the WMMP (current working draft). | Phase 2 | N/A | Why won't a trail camera be used at the Check station in Phase 1? |
| 66 | GNWT - ENR: Central Email GNWT | None | None | 2) Photos of any wildlife detected by the cameras should be saved for the purpose of reporting and confirmation of species identification. | May 15: Photos from the camera monitoring program will be saved for the purposes of reporting and species identification. | | | NA |
| 67 | GNWT - ENR: Central Email GNWT | Topic 65: WMMP - Wildlife Harvest Effects Monitoring, 6.2.2 Wildlife Harvest Effects Monitoring | Will the questionnaire include information such as which community the harvester from, and what type of hunting licence (if applicable) they hold? This would help to provide more detailed information on who is using the access road for harvesting. | 1) It is recommended the above question be answered. | May 15: Harvest management is a mandate of ENR's. Questions that are intended to identify harvesters must be discussed and developed between ENR and Indigenous groups. | Phase 1 | Wildlife Harvest Questionnaire Datasheet | Addressed |

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| 68 | GNWT - ENR: Central Email GNWT | Topic 66: WMMP - Timing of Dall's Sheep and Lambing Area Effects Monitoring, 6.2.3 Dall's Sheep and Lambing Area Effects Monitoring | Dall's sheep lambing reconnaissance surveys are proposed to occur "prior to mine operation" and "prior to mine start-up". Given that there may be increased air traffic to the mine site associated with the construction of the access road to the mine, these surveys should take place prior to construction, meaning potentially in summer 2019. | 1) Clarify the anticipated level of air traffic to the mine airstrip during the access road construction phase vs. the mine operation phase. | May 15: The majority of the road construction will be supported from the east (not from the mine), including helicopter support when construction activities are isolated. Traffic at the mine airstrip is anticipated to be less than during mine operations. | Phase 2 | N/A | SOP#3 includes wildlife scans at the airstrip in advance of aircraft landing or take-off. |
| 69 | GNWT - ENR: Central Email GNWT | None | None | 2) Revise the timing of the aerial and ground-based reconnaissance surveys for Dall's sheep so that they occur prior to construction, rather than prior to operations. | May 15: The effects monitoring outlined for Dall's sheep is specific to the airstrip and mine (presented during EA-0809-002) and includes baseline prior to mine operation and follow-up monitoring during operation. It was determined during the all-season road EA phase that the road is not predicted to have a significant effect on Dall's sheep since the road primarily traverses valley bottoms in Dall's sheep range and includes appropriate set-back distances to construction. | Phase 2 | N/A | NA |

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| 70 | GNWT - ENR: Central Email GNWT | Topic 67: WMMP - Timing of Dall's Sheep and Lambing Area Effects Monitoring, 6.2.3 Dall's Sheep and Lambing Area Effects Monitoring; last bullet on page 50 | ENR is concerned that further Dall's sheep surveys could be cancelled on the basis of one round of surveys. If sheep lamb in a broader area than the 5 km radius study area, and move between different lambing areas among years, it could be falsely concluded that Dall's sheep do not lamb near the airstrip on the basis of one year's worth of surveys. | 1) At least one more round of reconnaissance surveys for Dall's sheep should occur in the subsequent year if they are not detected on the first round of surveys, before deciding that no further mitigation measures would be implemented. | May 15: The aerial reconnaissance survey outlined in the WMMP indicates that a follow-up survey will be conducted during the lambing period to confirm the use of previously identified lambing habitat and to search for additional lambing areas that may have been missed during the reconnaissance survey (see 4th bullet). The WMMP will be updated to clarify the follow-up survey to be conducted the subsequent year even if lambing areas are not identified the first year. | Phase 2 | N/A | NA |
| 71 | GNWT - ENR: Central Email GNWT | Topic 68: WMMP - Boreal Caribou Effects Monitoring, 6.2.5 Boreal Caribou Effects Monitoring; 2nd paragraph page 55 | What is an "inter occupancy model?" | 1) It is recommended the above question be answered. | May 15: This is a spelling error. Should be written as "winter occupancy model" and will be updated in the WMMP. | Phase 2 | N/A | NA |

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| 72 | GNWT - ENR: Central Email GNWT | Topic 69: WMMP - Boreal Caribou Effects Monitoring - Aerial Survey Method, 6.2.5 Boreal Caribou Effects Monitoring; 6.2.5.1 Overall Monitoring Approach | <p>Aerial surveys and winter track surveys are proposed prior to construction and every three years of road operation. Surveys may need to be conducted annually during the first few years of construction and operation to obtain enough data to determine whether the proposed three-year interval would provide sufficient power to detect changes in measurable parameters.</p> <p>Another possibility would be to stagger aerial surveys and winter track surveys so they occur in alternate years, which would provide more temporal coverage.</p> | 1) Conduct aerial and winter track surveys for boreal caribou annually until enough data is collected to either 1) determine that boreal caribou are not present in the area, or 2) if they are present, evaluate whether scaling back to every three years would provide enough statistical power to detect changes in the measurable parameters. | May 15: CZN is open to discussing the boreal caribou monitoring program with ENR including 1) consecutive years of monitoring at the start of road operation and 2) evaluating appropriate survey frequency if caribou determined to be in the area. | Phases 1 (winter track) and 2 (aerial survey) | 8.2.4 | Comment still needs to be addressed for Phase 2. Only one winter track survey will be conducted during Phase 1. ENR recommends doing one survey following winter road construction prior to winter road operations, followed by another survey after winter road operations have ceased. The survey area should be extended to cover between km 110 to km 170 (instead of stopping at km 155), since the portion of the access road between the Nahanni Butte access road and the Liard River is also within the boreal caribou range. |
| 73 | GNWT - ENR: Central Email GNWT | Topic 70: WMMP - Boreal Caribou Effects Monitoring, 6.2.5 Boreal Caribou Effects Monitoring; 6.2.5.1 Overall Monitoring Approach | The aerial survey should not be characterized as "distance sampling" unless the intention is to measure perpendicular distance from the aerial transect lines to each wildlife sighting. Also, it is highly unlikely that the survey will record enough detections to estimate a detection function (typically at least 60 detections are required). | 1) Refer to the aerial survey method as a "systematic aerial survey". | May 15: OK. Updated in the WMMP (current working draft). | Phase 2 | N/A | NA |

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| 74 | GNWT - ENR: Central Email GNWT | Topic 71: WMMP - Boreal Caribou Effects Monitoring - Aerial Survey Method, 6.2.5 Boreal Caribou Effects Monitoring; 6.2.5.1 Overall Monitoring Approach | Given that boreal caribou are only likely to be present at low density in the study area, occupancy of aerial survey grid cells is more likely a relevant measurable parameter to monitor than relative abundance. | None | May 15: CZN is open to discussing boreal caribou occupancy instead of relative abundance with ENR and will follow-up with ENR when updating the WMMP. As stated in the current WMMP, the monitoring plans will be developed in consultation with ENR and Parks Canada. | Phase 2 | N/A | NA |
| 75 | GNWT - ENR: Central Email GNWT | Topic 72: WMMP - Boreal Caribou Effects Monitoring - Snow Track Surveys, 6.2.5 Boreal Caribou Effects Monitoring; 6.2.5.1 Overall Monitoring Approach | If surveyors are traveling by snowmobile along the cleared road surface (when the road is operational) they may not be able to see tracks at the edge of the cleared right of way very well if snowbanks are high. It might be better for monitors to do the surveys by truck when the road is drivable so they can more easily see over the snowbanks. The use of snowmobiles might be more appropriate at times when fresh snow has not yet been cleared from the road. | 1) Consider conducting the snow track surveys by track when snow banks along the road may make it difficult to see over them if traveling by snowmobile. | May 15: The WMMP outlines a survey period when mine-traffic is suspended during the transition period between the ice bridge and barge. This represents a time when the road will not be snowplowed, and tracks would be visible in fresh snow accumulated on the road. However, the WMMP will be updated to also provide the secondary option to survey by trucks should there be no fresh snow on the road and visibility over the snowbanks may be required. | Phase 1 | 8.2.4 WMMP Procedure #7 | Addressed. Correct reference is WMMP Procedure #8. |

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| 76 | GNWT - ENR: Central Email GNWT | Topic 73: WMMP - Boreal Caribou Effects Monitoring - Snow Track Surveys, 6.2.5 Boreal Caribou Effects Monitoring; 6.2.5.1 Overall Monitoring Approach | None | 1) Take geo-referenced photos of all wildlife tracks recorded during the winter track survey so that species identification can be independently verified. | May 15: OK. Updated in the WMMP (current working draft). | Phase 1 | 8.2.4 WMMP Procedure #7 | Addressed. Correct reference is WMMP Procedure #8. |

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| 77 | GNWT - ENR: Central Email GNWT | Topic 74: WMMP - Boreal Caribou Effects Monitoring - Need for Camera-based Surveys, 6.2.5 Boreal Caribou Effects Monitoring; 6.2.5.2 Adaptive Management | While the proposed combination of aerial surveys and road-based winter track surveys are likely to detect boreal caribou presence in the late-winter months, they do not provide year-round monitoring to detect potential interaction of boreal caribou with the road during other seasons. | 1) ENR recommends the use of remote cameras placed at regular intervals along the road between km 121 and 160 to increase the likelihood of detecting boreal caribou presence in the study area and to provide greater temporal coverage of periods when the road is operational. A camera-based program would also increase detection of other big game species year round, and could provide a comparison in wildlife crossing rates during times when the road is closed to traffic during the shoulder seasons vs. times when the road is operational. | May 15: Boreal caribou (and other species) are to be reported using the Wildlife Observation Log from all staff and drivers on the road year-round. CZN believes the Wildlife Observation Log, combined with the proposed boreal caribou monitoring programs are appropriate based on the low caribou density in the area and are appropriate for year-round monitoring. Low caribou density in the area is also supported by the March 2019 baseline aerial survey results which did not detect boreal caribou (the March 2019 baseline report in prep) and the previous 2010/2011 and 2014 baseline aerial surveys. Remote cameras have been proposed to detect unauthorized road use when the Checkpoint north of the Liard River is not staffed. These cameras should also detect caribou if present. | Phase 2 | N/A | ENR stands by our original recommendation, with the modification that cameras be used along the access road from the junction with the Nahanni Butte Access Road (km170) to km 110 to cover the same area as the winter track surveys. ENR recommends that cameras be deployed following the end of the operation of the Phase 1 winter road while it can still be traveled by snowmobile so that cameras can collect one summer of pre-Phase 2 baseline data prior to construction of the all-season road. |

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| 78 | GNWT - ENR: Central Email GNWT | Topic 75: WMMP - Boreal Caribou Effects Monitoring, 6.2.5 Boreal Caribou Effects Monitoring; 6.2.5.1 Overall Monitoring Approach | The results of recently completed baseline aerial surveys for boreal caribou may have implications for the design of the effects monitoring program. | 1) The WMMP should be updated such that proposed survey methodology, and measurable parameters for the effects monitoring program explicitly consider the results of past and recently completed baseline surveys to help refine and further justify the proposed approach. | May 15: OK. The WMMP will be updated to include all baseline (i.e., all species baseline) collected after preparation of this WMMP. | Phase 2 | N/A | NA |
| 79 | GNWT - ENR: Central Email GNWT | Topic 76: WMMP - Collared Pika Effects Monitoring, 6.2.6 Collared Pika Effects Monitoring; 6.2.6.2 Adaptive Management | The WMMP states that "Since large fluctuations of collared pika abundance and distribution can occur naturally over a brief time, a quantifiable threshold for adaptive management is unspecified. Pikas continued use of suitable habitat within 300 m of the access road is proposed as an adaptive management threshold." Given this statement, how can a monitoring program that is only conducted every five years hope to measure any fluctuations or to draw conclusions about "continued use" | 1) Collared Pika Effects Monitoring should be conducted annually for at least the first five years of road operations to characterize natural fluctuations in abundance and distribution. The frequency of surveys thereafter could then be re-evaluated to determine the minimum survey interval necessary to detect change. | May 15: CZN is open to discussing annual monitoring for the first three to five years of road operation with ENR and then evaluating an appropriate survey interval. These will be updated in the WMMP. | Phase 2 | N/A | NA |

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| 80 | GNWT - ENR: Central Email GNWT | Topic 77: WMMP - Standard Operating Procedures, Appendix B - Standard Operating Procedures | The WMMP references standard operating procedures and standardized data collection sheets in several sections of the document, but none of them are included in Appendix B. | 1) Develop Standard Operating Procedures forms and data collection sheets for inclusion in Appendix B for Wildlife Observations and Incident Logs, stand-alone routine surveys for wildlife, mitigation audits, etc. | May 15: OK. Will be included in the updated WMMP. | Phases 1 and 2 | SOP #1 | Addressed. Several SOPs provided in this version of the WMMP. |
| 18 | GNWT - ENR: Central Email GNWT | Topic 18: Draft Road Construction Management Plan, section 3.3, item d, page 12 | The plan states that: "Pika: prohibit the disturbance of talus habitat (within pika range) year-round unless predisturbance presence/not detected surveys have been completed and pikas were determined to not be present". | 1) Revise this section to include baseline data results, in addition to pika range, for prohibiting disturbance to talus. | May 15: We will include a summary of pika baseline studies and habitat. | | | Addressed |
| 21 | GNWT - ENR: Central Email GNWT | Topic 21: Management Plans – General | The management plans concerning construction, waste management and traffic control are not cross referenced well with the WEMP. | 1) It is recommended to cross reference the WEMP linkages between the other plans that also have wildlife implications to make this link clearer. | May 15: OK. | | | Addressed |

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| 175 | GNWT - ENR: Central Email GNWT | Topic 129: Wildlife: NWT Listed and Pre-listed Species at Risk | <p>Sections 76 and 77 of the <i>Species at Risk (NWT) Act</i> require the Minister of Environment and Natural Resources to make a submission to the body responsible for assessing the potential impacts of a proposed development, or for considering a Land Use Permit or Water Licence application, respecting the potential impacts of the proposed development, Permit or Licence application on a NWT-listed or pre-listed species or its habitat. NWT-listed species are those that are on the NWT List of Species at Risk. Pre-listed species are those that have been assessed by the NWT Species at Risk Committee (SARC) but have not yet been added to the NWT List of Species at Risk.</p> <p>The Proponent should be aware that NWT-listed or pre-listed species at risk and their habitat may also be subject to protection under existing sections of the NWT <i>Wildlife Act</i>.</p> <p>As a best practice, ENR encourages the Proponent to consider potential impacts, mitigation measures and monitoring requirements for species at risk listed under the federal <i>Species at Risk Act</i>, as well as those designated as at risk by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) that may occur in the project area, and the prohibitions that may apply to these species under federal legislation.</p> <p>The project area overlaps with the ranges of the following NWT-listed and/or pre-listed species:</p> <ul style="list-style-type: none"> • Boreal Caribou – Threatened in the NWT • Barren-ground Caribou - Threatened in the NWT • Grizzly Bear – Special Concern in NWT • Little Brown Myotis (bat) – Special Concern in the NWT • Northern <i>Myotis</i> (bat) – Special Concern in the NWT • Wood Bison – Threatened in the NWT • Western Toad – Threatened in the NWT <p>There are impacts and potential impacts to NWT-listed or pre-listed species at risk, but they can be mitigated by our standard advice, existing LUP or WL conditions, or by mitigation/monitoring measures proposed by the Proponent.</p> | <p>1) Potential impacts to the species at risk listed above from the project include sensory disturbance, attraction to operations, destruction of habitat, risk of injury, risk of mortality, risk of contact with or ingestion of toxic substances, reduced habitat quality, disruption or barriers to movements or migration. ENR is satisfied that with application of the specific recommendations:</p> <p>a) Within other sections of this letter to the Board;</p> <p>b) Within our letter submitted to the Proponent;</p> <p>c) As well as application of the wildlife mitigation and monitoring measures outlined in the Proponent's LUP/WL applications and supporting documents, potential negative impacts to the species at risk listed above can be avoided or minimized.</p> | May 15: CZN looks forward to continuing our collaboration with ENR to advance mitigations, monitoring, and adaptive management for the Project. | | | |

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| 176 | GNWT - ENR: Central Email GNWT | Topic 130: Cumulative Effects Tracking | Keeping track of the disturbance footprint of development activities is an important component of tracking and informing the management of cumulative effects on wildlife and wildlife habitat. | 1) The Proponent should submit the bounding coordinates or geospatial data for the proposed project footprint and for the completed project footprint to the Land and Water Board for placement on the public registry. The Mackenzie Valley Land and Water Board's "Standards for Geographic Information Systems (GIS) Submissions" should be followed when submitting spatial data. | May 15: The MVLWB should confirm this request, and if so, advise at what stage data for the proposed project is to be provided i.e., now or detailed design. | | | |
| 177 | GNWT - ENR: Central Email GNWT | Topic 131: Wildlife Abodes | <p>Subject to sub-section 51(2) of the <i>Wildlife Act</i>, it is illegal to break into, destroy, or damage a den, beaver dam or lodge, muskrat push-up or hibernaculum unless you have an Aboriginal or treaty right or a permit to do so.</p> <p>Protection of dens, beaver lodges, muskrat push-ups, and hibernacula is essential to ensuring reproductive success and survival of both adults and young.</p> | 1) The proponent should conduct pre-activity surveys within 800 m of the project footprint to identify active bear dens if project activities will occur between September 30 and March 30. Surveys should be conducted in the fall to detect freshly dug dens. | May 15: Yes, pre-construction den surveys are provided in the WMMP. Refer to Section 6.1.1. | Phase 1 | 8.1.1 | Addressed |
| 178 | GNWT - ENR: Central Email GNWT | None | None | 2) If an active bear den is detected, or suspected, the proponent should implement and maintain an 800 m exclusion zone until the bear emerges in spring. | May 15: Refer to Section 6.1.1 of the WMMP that describes pre-construction bear den surveys. | Phase 1 | 8.1.1 | Addressed, but delaying construction until the bear emerges from den in spring is not included as an adaptive management option. |

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| 179 | GNWT - ENR: Central Email GNWT | None | None | 3) If a bear den and exclusion zone would result in the halt of part or the entire program, the proponent should contact ENR to discuss alternative mitigation options. The location of active bear dens should be kept confidential between the developer and ENR until after emergence in the spring. | May 15: Section 6.1.1 of the WMMP will be updated to ensure ENR is contacted to discuss mitigation options if an active bear den is identified and that bear den locations are to be kept confidential between CZN and ENR/Parks Canada. | Phase 1 | 8.1.1 | Addressed |
| 180 | GNWT - ENR: Central Email GNWT | None | None | 4) It is recommended that, if encountered, beaver lodges, muskrat push-ups, and hibernacula are not disturbed or damaged. | May 15: OK. Will be included in the updated WMMP. | Phase 1 | 8.1.1 | Not addressed. Legislative requirement acknowledged in the WMMP but, no specific mention of what actions would be taken if beaver lodges or muskrat push-ups are encountered. |