

May 21, 2020

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**Sent VIA Email: [info@nirb.ca](mailto:info@nirb.ca)**

**RE: Comment Request for Sabina Gold & Silver Corp.'s Back River Project 2019 Annual Monitoring Report.**

Dear Jaida Ohokannoak,

On behalf of the Government of Nunavut (GN), I would like to thank the Nunavut Impact Review Board (NIRB) for the opportunity to provide comments on Sabina Gold and Silver's Back River Project 2019 Annual Report.

The GN has reviewed the Report and provides our Comments in the attached Appendix.

Should you have any concerns with our comments, please contact me by phone at 867-222-1789 or by email [Arobinson@gov.nu.ca](mailto:Arobinson@gov.nu.ca).

## Qujannamiik

[Original Signed By]

Amy Robinson

A/Manager, Land Use and Env. Assessment

## Appendix 1

GN Comment # 01	
<b>Department</b>	Environment
<b>Organization</b>	Government of Nunavut
<b>Subject/Topic</b>	Use of Ethylene Glycol
<b>Terms and Conditions</b>	N/A
<b>References</b>	<ul style="list-style-type: none"> <li>• Amstrup, S.C., Gardner, C., Myers, K.C., and Oehme, F.W. (1989) Ethylene glycol (antifreeze) poisoning in a free-ranging polar bear. <i>Veterinary and Human Toxicology</i>, 31(4):317-319.</li> <li>• LaKind, J.S., McKenna, E.A., Hubner, R.P., Tardiff, R.G. (1999). A review of the comparative mammalian toxicity of ethylene glycol and propylene glycol. <i>Critical Reviews in Toxicology</i> 29, 331–365.</li> <li>• Merck Veterinary Manual (2020). <i>Overview of Ethylene Glycol Toxicity</i> [Online]. Available from: <a href="https://www.merckvetmanual.com/toxicology/ethylene-glycol-toxicity/overview-of-ethylene-glycol-toxicity">https://www.merckvetmanual.com/toxicology/ethylene-glycol-toxicity/overview-of-ethylene-glycol-toxicity</a> [Accessed 6 May, 2020].</li> <li>• Sabina (2020). Back River Project 2019 Annual Report.</li> <li>• Sabina (2014) FEIS Appendix C – Spill Contingency and Emergency Response Plan (Comprehensive Spill Contingency &amp; Emergency Response Plan 2015 Site Preparation Activities)</li> <li>• Siroka Z., Bily, R., Polacek, V., Dvorak, J., and Svoboda, M. (2014). Massive death of wild boars caused by ethylene glycol: a case report. <i>Veterinarni Medicina</i>, 59(8), 388-395.</li> </ul>
IDENTIFICATION OF ISSUE	
Ethylene glycol was spilled and subsequently cleaned up, as reported in the 2019 Annual Report (Sabina 2020, Section 4.4.2, pp. 4-3, 4-4). Ethylene glycol is highly toxic to wildlife, which necessitates extra care during its use, transport, and cleanup of any spills.	
IMPORTANCE TO REVIEW AND SUPPORTING RATIONALE	
A spill of 5L of ethylene glycol occurred on the winter ice road in March (Spill No. 2019-09, 3/16/2019). This substance is highly toxic to wildlife, even in small amounts - in canids the	

minimum lethal dose of undiluted ethylene glycol is 4.4 mL/kg (Merck Veterinary Manual 2020, LaKind *et al* 1999). This is about 15mL for a typical Arctic Fox, 200-350mL for a typical Arctic Wolf. No lethal dose value has been established for caribou, however in cattle (also an ungulate) the lethal dose is 2-10mL/kg (Merck Veterinary Manual, 2020), meaning as little as 270mL could be lethal for an average caribou.

Ethylene glycol also has the capacity to be lethal to large animals, such as polar bears (Amstrup *et al.* 1989), or a large number of animals simultaneously, contributing to mass deaths (Siroka *et al.* 2014).

Sabina has recognized the harmful nature of this substance and identified it as a chemical requiring “special attention and handling” in the Spill Contingency and Emergency Response Plan, Section 6.4 Chemicals, pg. 16 (Sabina 2014).

#### RECOMMENDATION(S)

Regarding the use of ethylene glycol:

- The GN suggests substituting propylene glycol for ethylene glycol, wherever possible, due to the former being much less toxic to wildlife. Additional reasons for the substitution include:
  - Small amounts of ethylene glycol can easily be missed during cleanup or not observed as leaks from vehicles and equipment. Extra care and diligence are required in the maintenance and operation of equipment using ethylene glycol.
  - The high toxicity of ethylene glycol requires extra care and diligence in the assessment and cleanup of spills.

GN Comment # 02	
Department	Environment
Organization	Government of Nunavut
Subject/Topic	Unauthorized Discharges
Terms and Conditions	Project Certificate 007, T&C 89, 90
References	<ul style="list-style-type: none"> <li>Sabina (2020). Back River Project 2019 Annual Report. March 2020. <ul style="list-style-type: none"> <li>Section §4.4.2 Unauthorized Discharges and Spills, pg. 4-3</li> <li>Table 4.4-1. Unauthorized Discharges in 2019, pg. 4-4</li> </ul> </li> <li>Sabina (2014) FEIS Appendix C – Spill Contingency and Emergency Response Plan (Comprehensive Spill Contingency &amp; Emergency Response Plan 2015 Site Preparation Activities) External Reporting Volumes Table, pg. 33</li> </ul>
IDENTIFICATION OF ISSUE	
<p>There appears to be either a lack of information or inconsistency in spill reporting. A spill of ethylene glycol (Spill No. 2019-09, 03/16/2019) met the criteria for external reporting per Sabina's Spill Contingency and Emergency Response Plan but was not reported at the time of the spill.</p>	
IMPORTANCE TO REVIEW AND SUPPORTING RATIONALE	
<p>A spill of 1L hydraulic oil was reported to the spill line (Spill No. 2019-17, 5/9/2019), with no additional information about the spill or why 1L was reported when 90L (Spill No. 2019-07, 2/24/2019) and 80L (Spill No. 2019-10, 3/21/2019) spills of hydraulic oil were not (Table 4.4-1, 2019 Annual Report). Further information about these spills is needed to understand this discrepancy.</p> <p>The Proponent's Spill Contingency and Emergency Response Plan (SCERP) summarizes reporting volumes for various classifications of materials, specifically that the <i>Transportation of Dangerous Goods Act</i> (TDGA) Class 6.1, Poisonous Substances, have a 5L or 5kg threshold for reporting. While not regulated under the TDGA in Canada, ethylene glycol is designated as Class D2A – Poisonous and Infectious Materials, Very Toxic Materials, by Health Canada, through the Workplace Hazardous Materials Information System (WHMIS). This designation is found on most materials safety data sheets for ethylene glycol. The poisonous nature of ethylene glycol and its designation as such within WHMIS, aligns with the Proponent's SCERP volume requirements for external reporting as a poisonous substance; this spill should have been reported at the time of the spill per the Proponent's protocols.</p>	
RECOMMENDATION(S)	

1. Regarding other unauthorized discharges in 2019:
  - The GN recommends that the Proponent report:
    - All Spills of 100L or more have a legal reporting requirement; and
    - All Spills of 1L or more on surface water have a legal reporting requirement
  - The GN recommends reporting all spills.
    - 80L & 90L spills are within a reasonable estimation error of 100L and should be reported on a precautionary basis.
2. Regarding ethylene glycol:
  - The GN suggests substituting propylene glycol for ethylene glycol, wherever possible, due to the former being much less toxic to wildlife, as per comment #1
    - Spills of 5L or more of ethylene glycol have a reporting requirement per the Proponent's protocols

Additional information on spill management can be found on the GN website at <https://gov.nu.ca/environment/documents/spill-response>.

GN Comment # 03	
<b>Department</b>	Environment
<b>Organization</b>	Government of Nunavut
<b>Subject/Topic</b>	Helicopter Flights and Pilot Observations in 2019
<b>Terms and Conditions</b>	Project Certificate 007, T&C 60, 61
<b>References</b>	<ul style="list-style-type: none"> <li>• Baffinland Iron Mines Inc. (BIMC), (2019). Baffinland Iron Mines 2018 Annual Report to the Nunavut Impact Review Board.</li> <li>• Côté, S D. (1996). Mountain goat responses to helicopter disturbance. <i>Wildlife Society Bulletin</i>, 24(1), 681-685.</li> <li>• ERM Consultants (2020) Back River Project 2019 Pre-Construction Wildlife Mitigation and Monitoring Program Report. Prepared for Sabina. 103 pp.</li> <li>• Fisher, C.A., Thomas, D.C., Wooley R.L., and Thompson, P.S. (1977). Ecological studies of caribou on the Boothia Peninsula and the District of Keewatin, NWT, 1976, with observations on the reaction of caribou and muskoxen to aircraft disturbance, 1974-1976. Prepared for Polar Gas project, Renewable Resource Consulting Services Ltd. 239 pp.</li> <li>• Miller, F. L. and Gunn, A. (1979). Responses of Peary caribou and muskoxen to helicopter harassment. Canadian Wildlife Service Occasional Paper No.40. 90pp.</li> <li>• Sabina (2020). Back River Project 2019 Annual Report. March 2020.</li> <li>• Sabina (2019). Back River Project Wildlife Mitigation and Monitoring Program Plan (Version 10), October 2019.</li> <li>• Sabina (2018). Back River Project Standard Operating Procedure: Fixed Wing and Helicopter Operations (July 2018).</li> <li>• Trailmark Systems Inc. [TSI] (2015). Review of post-2010 Literature on Human Effects on Barren-Ground Caribou: Focus on Traditional Knowledge, Western Science, and Caribou Protection Measures. Prepared for the Nunavut Wildlife Management Board. 92 pp.</li> </ul>

	<ul style="list-style-type: none"> <li>• Weladji, R.B. and Forbes, B.C. (2002). Disturbance effects of human activities on Rangifer tarandus habitat: implications for life history and population dynamics. <i>Polar Geography</i>, 26, 171–186.</li> </ul>
<b>IDENTIFICATION OF ISSUE</b>	
<p>The Proponent has recognized that the use of aircraft to support Project activities has the potential to negatively affect wildlife, including caribou. The Proponent has developed mitigation measures and standard operating procedures to reduce or eliminate negative impacts, including stating that pilots have responsibilities to monitor, report, and avoid caribou (ERM 2020, WMMP Report, Section 5.1.1, pg. 5-1).</p> <p>The Proponent states that mitigation and monitoring in compliance with Project Certificate Condition 61 was effective and that no wildlife incidents were observed. (Annual Report (Sabina 2020), pg. 4-99). The Proponent also states no caribou were reported by pilots in 2019 (WMMP Report (ERM 2020), pg. 4-2).</p> <p>However, the Proponent recorded nearly 15,000 observations of caribou during 2019, primarily during the spring migration and calving periods when, as described in the Annual Report, "Caribou were observed in all project areas during this period [April 15 to June 15]." (ERM 2020, WMMP Report Section 4, pg. 4-2).</p> <p>The apparent lack of pilot observations is inconsistent with the numbers of caribou observations reported during the year. This implies that the relevant sections of the WMMP and Aircraft SOP are not being applied in a consistent manner, or that current methods for detection to prevent helicopter disturbance to caribou are insufficient.</p>	
<b>IMPORTANCE TO REVIEW AND SUPPORTING RATIONALE</b>	
<p>The presence of caribou in such high numbers and proximity to Project activities led to the short-term shutdown of the Winter Ice Road (WIR) in April (AR response to PCC No. 39, pg. 4-65). Air operations continued during the closure, and in spite of the numbers observed by staff on the ground and closure of the WIR, which included monitoring to evaluate conditions for re-opening, no caribou were reported by pilots during this time.</p> <p>The WMMP report states that "pilots avoided groups (of caribou)..." and "large groups of caribou were avoided..." but that "no caribou were reported by helicopter pilots and as such, no management actions were reported." Additionally, the report notes that "helicopter pilots did not report any incidental sightings of caribou or other wildlife" (ERM 2020, pg. 5-2).</p> <p>This is inconsistent with the data illustrated in Fig. 5.1-1 "Frequency of Helicopter Flights Below 610m, May to August, 2019". (ERM 2020, pg. 5-3) There are clear indications of a high frequency of flights (~70 flights) below 610m, originating at the Marine Laydown Area (MLA) and stretching southward for approximately 60km. Modeling within the Caribou Road Crossing Analysis (Appendix 5C) clearly shows reasonable probability of caribou in this area during these stages of seasonal migration.</p>	

An even higher frequency of low level flights extends from the Goose Camp area ~10km. Multiple ground-based observations by site staff between Mid-April to early June, 2019 indicated hundreds, sometimes thousands of caribou observed in all areas of the Project (Goose Camp, MLA, WIR, & Forward Camp)(ERM 2020, WMMP Report, Appendix 4A: Incidental Caribou Observations, 2019).

Given the numbers and extent of caribou present around site areas, flight path records below 610m, and contemporaneous ground-based observations, it is unlikely effective monitoring from helicopters would not detect caribou. A lack of effective observations from helicopters has direct implications on the outcome and success of the mitigation measures applied to aircraft (AR 5.1.1 pg. 5-1) and is contrary to the stated approaches within the WMMP.

Aircraft have the potential to cause disturbance to caribou (TSI 2015). Low altitude flights often result in strong negative responses in ungulates (Côté 1996). Low altitude flights can increase energetic costs to caribou through interruption of foraging behaviour and eliciting flight and avoidance responses (Weladji and Forbes 2002). Large groups of caribou can be more sensitive to overflights than smaller groups, and these large groups are more sensitive in certain seasons, such as post-calving (Fisher *et al.* 1977).

#### **RECOMMENDATION(S)**

1. The GN recommends that, in addition to tracking the number and locations of flight paths below 610m as is currently done, the Proponent implement a requirement that all helicopter pilots provide justification for flying at altitudes below 610m in the flight log. This action has been applied to other projects in Nunavut (e.g. Baffinland's Mary River Project (BIMC 2019)).
2. The GN also recommends that wildlife observations become a required part of flight log reporting protocols for all flights. This will necessitate increased effort from the Proponent to ensure pilots provide wildlife observations made during flights, particularly as such observations would require short route deviations and/or alterations of the current flight path, per the Proponent's protocols, depending on the scenario.
3. The GN recommends that near real-time collar monitoring data, already in-use by the Proponent, be used to understand the likelihood of encountering caribou along a planned flight path.
4. The GN recommends that subsequent annual reports compare the caribou collar data to flight log data to evaluate the extent to which there is spatial-temporal overlap between caribou and low-level flights.



GN Comment # 04	
<b>Department</b>	Environment
<b>Organization</b>	Government of Nunavut
<b>Subject/Topic</b>	Progressive Reclamation
<b>Terms and Conditions</b>	Project Certificate 007, 15, 32
<b>References</b>	Sabina (2020). Back River Project 2019 Annual Report. March 2020.
IDENTIFICATION OF ISSUE	
In reviewing the Annual Report, it is not clear whether or not any progressive reclamation activities took place.	
IMPORTANCE TO REVIEW AND SUPPORTING RATIONALE	
The Proponent notes that there was no new construction in 2019 (Annual Report response to PCC No. 32, pg. 4-54). However, new construction and progressive reclamation are not the same activity and are not mutually exclusive.	
RECOMMENDATION(S)	
The GN Recommends that the Proponent provide an explicit description of any progressive reclamation activities planned or undertaken during the reporting year, in this case, 2019.	

GN Comment # 05	
<b>Department</b>	Environment
<b>Organization</b>	Government of Nunavut
<b>Subject/Topic</b>	Shipboard Marine Mammal Observations in 2019
<b>Terms and Conditions</b>	Project Certificate 007, T&C 58, 64, 65
<b>References</b>	<ul style="list-style-type: none"> <li>ERM Consultants (2020) Back River Project 2019 Pre-Construction Wildlife Mitigation and Monitoring Program Report. Prepared for Sabina. 103 pp.</li> <li>Sabina (2020) Back River Project Annual Monitoring Report. March 2020.</li> <li>Sabina (2019a). Back River Project Wildlife Mitigation and Monitoring Program Plan (Version 10), October 2019.</li> <li>Sabina (2019b) Back River Project Standard Operating Procedure: Marine Shipping Wildlife Mitigation and Monitoring. September 2019.</li> </ul>
IDENTIFICATION OF ISSUE	
<p>Shipboard wildlife observations (e.g. seals, polar bears, etc.) were recorded in August 2018 (2019 Annual Report pg.4-107), but not in August 2019 (2019 Annual Report pg. 4-104), even though the same vessel and route was used. A copy of the WMMP was available and in use for both shipments. Wildlife observations are valuable data in understanding and mitigating potential negative impacts to wildlife from the project.</p>	
IMPORTANCE TO REVIEW AND SUPPORTING RATIONALE	
<p>The Proponent indicates that it provided the relevant SOP to the shipping company, who is reported to have followed the guidance within the SOP. The Proponent also states that the SOP will be used for shipping in 2020 (Annual Report response to PCC 58).</p> <p>The Proponent is responsible for ensuring that staff and contractors follow established protocols and standard operating procedures. This includes receiving reports and wildlife observations where required.</p>	
RECOMMENDATION(S)	

1. The GN recommends that the Proponent clarify why there is a lapse in observations between 2018 and 2019, and identify what steps it will take to avoid a similar lapse in the future.
2. The GN recommends the Proponent increase its efforts to convey the importance of reporting required wildlife observations to its shipping contractor and other staff and operators employed directly or indirectly at the site.

GN Comment # 06	
<b>Department</b>	Environment
<b>Organization</b>	Government of Nunavut
<b>Subject/Topic</b>	Fuel Transportation
<b>Terms and Conditions</b>	Project Certificate 007, T&C 94
<b>References</b>	<ul style="list-style-type: none"> <li>Sabina (2020) Back River Project Annual Monitoring Report. March 2020.</li> </ul>
IDENTIFICATION OF ISSUE	
<p>The Proponent has provided a self-evaluation of “Partially Compliant” in respect of PC term and condition 94 which states that “The Proponent shall ensure fuel trucks meet industry design standards and receive regularly scheduled maintenance of fuel lines, nozzles and dust caps”, but it has given no details to justify this evaluation.</p> <p>Additionally, the 2019 Annual Report does not describe the volumes or types of fuel stored or transported at any of the various project sites.</p> <p>The lack of this information prevents the adequate evaluation of this aspect of the Proponent’s Annual Report.</p>	
IMPORTANCE TO REVIEW AND SUPPORTING RATIONALE	
<p>Appropriate spill contingency planning involves a detailed understanding of the volumes and types of fuels stored and transported at the Project site. The GN asserts that this information is a valuable part of the description of Project activities for the year, and supports Project monitoring and evaluation undertaken by stakeholders and regulators. The inclusion of this information would allow for a more complete review of the Annual Report.</p>	
RECOMMENDATION(S)	
<ol style="list-style-type: none"> <li>The GN recommends that the Proponent provide a description of: <ul style="list-style-type: none"> <li>its efforts toward compliance with PC T&amp;C 94 to reach the status “Partially Compliant”; and</li> <li>what efforts remain in order to achieve full compliance.</li> </ul> </li> </ol>	

2. The GN also requests that the Proponent provide information about the volumes and types of fuel stored and transported at various Project sites in 2019. This information should also be included in future Annual Monitoring Reports.

GN Comment # 07	
<b>Department</b>	Environment
<b>Organization</b>	Government of Nunavut
<b>Subject/Topic</b>	Standard Operating Procedure for Waste Management
<b>Terms and Conditions</b>	Project Certificate 007, T&C 04, 14
<b>References</b>	<ul style="list-style-type: none"> <li>• Coogan, S.C.P. and Raubenheimer, D. (2016). Might macronutrient requirements influence grizzly bear-human conflict? Insights from nutritional geometry. <i>Ecosphere</i> 7, 1–15.</li> <li>• ERM Consultants (2020) Back River Project 2019 Pre-Construction Wildlife Mitigation and Monitoring Program Report. Prepared for Sabina. 103 pp.</li> <li>• Appendix 5D, Back River Project: Standard Operating Procedure 008 – Waste Management</li> <li>• Marquard-Petersen, U. (2011). Invasion of eastern Greenland by the high arctic wolf <i>Canis lupus arctos</i>. <i>Wildlife Biology</i> 17, 383–388.</li> <li>• Sabina (2020). Back River Project Annual Monitoring Report. March 2020.</li> <li>• Sabina (2019). Back River Project Incineration Management Plan. July 2019.</li> <li>• Savory, G.A. <i>et al.</i> (2014). Anthropogenic food use and diet overlap between red foxes (<i>Vulpes vulpes</i>) and Arctic foxes (<i>Vulpes lagopus</i>) in Prudhoe Bay, Alaska . <i>Canadian Journal of Zoology</i> 92, 657–663.</li> </ul>
IDENTIFICATION OF ISSUE	
The Proponent's Standard Operating Procedure (SOP) for waste management doesn't adequately describe protocols and locations for storage of potential wildlife attractants (e.g.	

cooking oils, food contaminated cardboard, kitchen waste, etc.) between becoming 'waste' and being incinerated.

### IMPORTANCE TO REVIEW AND SUPPORTING RATIONALE

Waste, when not properly managed, can become a preferred source of food for scavenging species, including bears [*Ursus spp.*], foxes [*Vulpes spp.*], wolves [*Canis lupus*], wolverines [*Gulo gulo*], and birds (e.g. ravens [*Corvus corax*], gulls [e.g. *Larus sp.*], especially at crucial times of an animal's lifecycle (e.g. pre-denning hyperphagy in grizzly bears [*Ursus arctos*]) (Coogan & Raubenheimer (2016), Savory *et al.* (2014)). These patterns can lead to habits and reliance on anthropogenic food sources as well as range shifts and expansions (Marquard-Petersen 2011, Savory *et al.* 2014).

It is crucial that site staff are aware of the best practices related to waste management, and that waste is handled and securely stored at each step in the waste stream, from generation to incineration.

### RECOMMENDATION(S)

The GN recommends that the Proponent include additional information within the Waste Management SOP for the benefit of staff, training efforts, and review by stakeholders including:

- Description of explicit handling of each waste type at each point in the waste stream, from becoming 'waste' to being handled as ash. This should include location and procedures for secure temporary storage, prior to incineration.
  - These steps are only partially described in the SOP, with some waste categories receiving more detailed descriptions than others.
- The SOP should also include an anticipated incineration schedule, which may include different days and times for different burns as incinerator capacity (e.g. min/max) and waste type requires.
- In addition to an incineration schedule, explicit instructions should be included for how waste types should be securely stored between burns, with attention given to the containment of liquids and odours that may serve to attract wildlife.

GN Comment # 08	
<b>Department</b>	Environment
<b>Organization</b>	Government of Nunavut
<b>Subject/Topic</b>	Extended Use of the Winter Ice Road
<b>Terms and Conditions</b>	Project Certificate 007, T&C 39, 40, 42, and 45
<b>References</b>	<ul style="list-style-type: none"> <li>ERM Consultants (2020) Back River Project 2019 Pre-Construction Wildlife Mitigation and Monitoring Program Report. Prepared for Sabina. 103 pp.</li> <li>Nunavut Impact Review Board (NIRB) (2017). Companion Document to NIRB Project Certificate [No.: 007]. 61 pp.</li> <li>Sabina (2020). Back River Project Annual Monitoring Report. March 2020.171 pp.</li> </ul>
IDENTIFICATION OF ISSUE	
<p>The Project Certificate describes use of the construction and use of the Winter Ice Road (WIR) as being from mid-January to April, annually (NIRB 2017). The Proponent described its anticipated use in 2019 as being from mid-December to mid-April (ERM 2020). However, due to delays in resupply arrival, the Proponent requested that use for 2019 be extended. The Proponent then operated the WIR from April 19-May 10.</p> <p>The 2019 Annual Monitoring Report states that caribou in proximity to the WIR resulted in the short-term closure of the WIR in April 2019 (BR-AR pg. 4-65). This closure was not reported within the Pre-Construction Wildlife Mitigation and Monitoring Program Report, and no further details are provided within the Annual Report.</p>	
IMPORTANCE TO REVIEW AND SUPPORTING RATIONALE	
<p>The majority of wildlife observations on the WIR occurred after the proposed closure date (April 15). This illustrates the importance of wildlife habitat near the road during the spring season, which is recognized by the Proponent; "In a typical year, the WIR is designed to be closed by April 15 to minimize disturbance to caribou during spring migration." (WMMP Report, §5.3, pg. 5-6).</p>	

As evidenced by the short-term closure of the road, its continued use in the operation period after April 15<sup>th</sup> would likely have resulted in disturbance to caribou.

While the Proponent's analysis of caribou movement patterns around the road in 2019 did not show an effect of the road on migration, extended seasonal use of the road and increased road traffic as the Project scales up could affect movement patterns.

### **RECOMMENDATION(S)**

While the GN recognizes the additional steps taken by the Proponent to address impacts to wildlife from extended use of the WIR, future ice road use should be limited to the date range for the permitted Project, from mid-January to April (NIRB 2017, pg. 6), as the impacts of WIR usage during this date range were assessed during Project review.

The GN requests additional information relating to the short-term closure of the WIR relating to concentrations of caribou in the immediate vicinity of the WIR. It is encouraging to see that mitigation measures are being implemented but more information is warranted.

Details could include:

- The number of caribou observed up to the time of closure(s);
- The duration of the closure(s);
- Descriptions of actions taken by staff to initiate the closure(s);
- Steps taken to monitor caribou during closure(s); and
- Steps taken to evaluate conditions that would permit reopening of the road.



GN Comment # 09	
<b>Department</b>	Environment
<b>Organization</b>	Government of Nunavut
<b>Subject/Topic</b>	Vegetation Monitoring
<b>Terms and Conditions</b>	Project Certificate 007, T&C 32, 34
<b>References</b>	<p>Golder (2019). Back River Project 2019 Vegetation Monitoring Plan. Prepared for Sabina. 37 pp.</p> <p>Sabina 2020a). Back River Project Annual Monitoring Report. March 2020.171 pp.</p>
<b>IDENTIFICATION OF ISSUE</b>	
<p>The findings of the 2019 Vegetation Monitoring Report show clear impacts to vegetation from the construction and use of the Winter Ice Road (WIR). The Report states “the majority (75%) of vegetation plots surveyed showing low to no disturbance” (§6.0, pg. 18). This indicates that 1 of every 4 plots was observed to have moderate to high disturbance.</p>	
<b>IMPORTANCE TO REVIEW AND SUPPORTING RATIONALE</b>	
<p>Vegetated ecosystems in the PDA are valuable resources and habitat for species of interest, and a basic premise of the vegetation monitoring programs is to track, reduce, or eliminate the impacts to these ecosystems.</p> <p>Monitoring is valuable, as is taking steps to reduce impacts and following recommendations stemming from monitoring reports.</p>	
<b>RECOMMENDATION(S)</b>	
<p>2019 Vegetation Monitoring Report contains recommendations on how to reduce the impact that construction and use of the WIR have on vegetation (Section 6.0, pg. 18). The GN suggests that the Proponent provide additional information on how it has and/or will demonstrate efforts to act on those recommendations.</p>	