Parks Canada Parcs Canada

Nunavut Impact Review Board (NIRB)
PO Box 1360
Cambridge Bay, NU
X0B 0C0

June 30th, 2022

Dear NIRB,

Subject: Baffinland Iron Mines Corp. Annual Report 2021 - Mary River Project.

The Parks Canada Agency (PCA) appreciates the opportunity to provide comments on the Mary River Project 2021 Annual Report submitted by Baffinland Iron Mines Corporation (BIMC) to the Nunavut Impact Review Board (NIRB) as requested by the NIRB in the April 12, 2022 correspondence. As requested, PCA is providing the following comments with respect to the Report:

Effects Monitoring

a. Whether the conclusions reached by Baffinland in the 2021 Annual Report are valid; and
b. Any areas of significance requiring further supporting information or any changes to the monitoring program which may be required.

As previously raised in our comments on BIMCs 2019 and 2020 Annual Monitoring Reports, a key item of concern continues to be the need to improve the review schedule for comments on draft monitoring reports and the process for resolution of associated issues prior to issuance of this annual monitoring report and prior to each shipping season.

PCA is not providing any comments regarding compliance monitoring as we will not have a regulatory role for this project until Tallurutiup Imanga National Marine Conservation Area is gazetted under Schedule 1 of the *Canada National Marine Conservation Areas Act*. Parks Canada also notes that we support comments, relevant to the marine environment, provided by the Department of Fisheries and Oceans, Transport Canada, and Environment and Climate Change Canada.

If you have any questions, please contact Allison Stoddart (819) 661-0283, or by email at Allison.Stoddart@pc.gc.ca.

Sincerely,

Trent Peters
A/Field Unit Superintendent
Parks Canada Agency
Nunavut Field Unit

Mary River Project 2021 Annual Report: submitted by Baffinland Iron Mines Corporation (BIMC)				
Cmt #	**Section**	**Page**	**PCA Comments re: BIMC 2021 Annual Report Conclusions**	**Areas of significance requiring further supporting information/changes to monitoring program**
1	NA	NA	This annual report presents results based on both 2020 monitoring reports as well as draft 2021 monitoring reports. MEWG members are currently reviewing and providing comments to BIMC on the draft 2021 monitoring reports, as a result, MEWG feedback has not been considered or incorporated into the draft 2021 monitoring reports that inform this Annual Report. PCA would like to reiterate that the inclusion of MEWG feedback on draft individual monitoring reports is important as this feedback has the potential to influence BIMC's analysis and final reports which, in turn, inform this Annual Report. The timing of annual report submission to NIRB results in the NIRB seeking comments from interested parties on a report that is based on monitoring reports that have not benefitted from MEWG input.	BIMC should work with the NIRB, MEWG, and other relevant parties to determine a reporting and review schedule that provides for the inclusion of MEWG feedback to BIMC's draft monitoring reports and resolution of associated issues, prior to preparation of this annual report. To ensure that all of Parks Canada's concerns related to the 2021 draft monitoring reports are clear to the NIRB, we have included our comments to BIMC on the 2021 draft monitoring reports as an attachment here.
2	2021 BIM Annual Report Table 4.2.6 Marine Mammals Impact Evaluation PC No. 101 Results, g. Group Composition and Behaviour	p. 318-321	The assumption of narwhal remaining stationary is not clear throughout the conclusions made regarding the estimate of the amount of time that narwhal behavior is impacted by shipping. For example, under group size (p. 318) the 2021 Annual Report states, "However, given the temporary nature of the effect (i.e., up to 7 min per vessel transit), this would not be considered a biologically significant behavioural response…" This wording only takes into account that the estimate of time that narwhal behaviour is impacted may be lesser based on the assumption that narwhal remain stationary when the time impacted may also be greater than the estimate provided. For example, narwhal may travel in the direction of the transiting ship or may move to an area where sound propagation and received levels of sound increases (e.g., deeper water or in areas that are not sheltered by features such as islands) and therefore narwhal may be impacted for a greater amount of time than the estimate suggests.	Parks Canada recommends revising wording throughout this section (pp. 318-321) and elsewhere where the impacts of vessels on marine mammal behavior is discussed to account for the fact that the amount of time narwhal may be impacted may be both lesser or greater than the estimate provided based on the assumption that narwhal remain stationary during a vessel transit.
3	2021 BIM Annual Report Table 4.2.6 Marine Mammals	p. 324	The exchange of narwhal between putative summer stocks for the Baffin Bay narwhal population is presented without clarifying the current observed magnitude of exchange compared to the level of exchange identified by the best available science in past studies and Inuit Qaujimajatuqangit.	Parks Canada recommends clarifying that although both western science and Inuit Qaujimajatuqangit have identified that there is a natural exchange of narwhal between putative summer stocks for the Baffin Bay narwhal population (i.e., between summer stock areas such as Eclipse Sound and Admiralty Inlet), the current

	Impact Evaluation PC No. 101, Results, Trends, e.			**magnitude of exchange** on an annual basis and resulting large-scale distribution shift has not been observed to date with satellite tag data or aerial survey abundance estimates and to our knowledge has not been identified by Inuit Qaujimajatuqangit. For example, scientific evidence from Fisheries and Oceans Canada identified 16% of narwhal tagged in 2012, and from 2016-2018 visited other summer management areas during July 25-August 24 (i.e., the period corresponding to when aerial surveys typically take place) and 33% of narwhal travelled to one or more summer management areas during the typical open water season (DFO, 2020). Based on point estimates of abundance in Eclipse Sound from 2019 to 2021 the approximate decline on an annual basis from 2019-2021 ranges from 50-52% during the typical aerial survey period compared to 16% of narwhal tagged in 2012, and from 2016-2018. Reference: DFO (2020). Information Related to the Delineation of the Eclipse Sound and Admiralty Inlet Narwhal Stocks. Canadian Science Advisory Secretariat, Science Advisory Report 2020/048.
4	2021 BIM Annual Report PC No. 111, Trends, Early Warning Indicators	p. 368	Regarding the Early Warning Indicator of proportion of immatures, the 2021 Annual Report states, "The EWI threshold for narwhal has not been exceeded to date despite an increase in year-over-year shipping associated with the project." The EWI has decreased 24% in 2021 and the lack of detection of a statistically significant decline may be attributed to a low sample size and absence of statistical power rather than conclusive evidence that the EWI threshold has not been exceeded to date. Further, Baffinland also states that, "In 2022, Baffinland plans to resume icebreaking operations in 2022 in conjunction with mitigation measures implemented in 2020…".	Parks Canada recommends clarifying whether a precautionary approach to icebreaking and shipping will be taken during the 2022 operational season if more conclusive results are not available from the secondary assessment of the EWI metric with a photo analysis of the 2021 aerial survey data or if the secondary analysis of the EWI threshold does indicate a statistically significant decline in the proportion of immatures.
5	2021 BIM Annual Report	*pp.353-360*	The appended 2020 Open Water Passive Acoustic Monitoring Report (Appendix G.25, p. 51) states that "It is well known that currently there are no established regulatory thresholds under any jurisdiction that would aid in the determination of significance of acoustic masking effects on narwhal…There is no vocalization masking model developed in the literature that is narwhal-specific and no research is available on the hearing ability (i.e., audiogram) of	Parks Canada recommends clarifying in the appropriate sections of the 2021 Annual Report the current limitations for interpreting the metric of Listening Range Reduction and its lack of thresholds, narwhal-

	PC No. 109, Appendix G.25 – 2020 Open Water Passive Acoustic Monitoring Report	Appendix G.25, p. 51	narwhal. More research is needed to understand the process and biological significance of masking, as well as the risk of masking by various anthropogenic activities, before masking can be incorporated into regulation strategies or approaches for mitigation." Baffinland's 2021 NIRB Annual Report does not provide this context for the interpretation of results for Listening Range Reduction (LRR).	specific research, literature comparisons with other species, and mitigation approaches.