



WWF-Canada
318 Creekside Village
Iqaluit, Nunavut
Canada X0A 0H0

Tel: (867) 222-2620
Toll-free: 1-800-26-PANDA
(1-800-267-2632)
Fax: (416) 489-3611
ca-panda@wwfcanada.org
wwf.ca

May 14, 2018

Solomon Amuno
Technical Advisor II
Nunavut Impact Review Board

Sent via email: info@nirb.ca

Re: NIRB request for comments regarding Baffinland Iron Mines Corporation's 2017 Annual Report for the Mary River Project (NIRB File No. 08MN053)

Dear Mr. Amuno:

The World Wildlife Fund (WWF) is an international conservation organization that was established in 1961. Our mission is to stop the degradation of the planet's natural environment and to build a future in which humans live in harmony with nature by conserving the world's biodiversity, ensuring that the use of natural resources is sustainable, and promoting the reduction of pollution and wasteful consumption. WWF has supported research and field projects in the Canadian Arctic since 1972, and currently has offices in both Iqaluit and Inuvik.

WWF is aware that conservation objectives in Nunavut must be met in a way that promotes the enhancement of community values and well-being, alongside the sustainable development of projects like Baffinland Iron Mines Corporation's (BIMC) Mary River project.

We are happy for the opportunity to participate in the environmental assessment and monitoring processes for the Mary River project as administered by the Nunavut Impact Review Board (NIRB), and have provided input during its consideration of both the original Mary River project and the subsequent Early Revenue Phase proposal, as well as to the review of BIMC's previous Annual Reports. During each of these engagements with the NIRB's process, we have highlighted that the Mary River project, if well planned and executed, could set a benchmark for sustainable Arctic development and the implementation of adaptive management, and that it could provide significant benefits to Nunavummiut.

To that end, WWF continues to serve as an observing member of the Marine and Terrestrial Environment Working Groups (MEWG and TEWG, respectively) and to contribute toward the work of the groups. WWF recognizes that all parties to the NIRB's monitoring process have a role in ensuring the sustainable development of the Mary River project, and we continue to hope that the establishment and implementation of a project-specific monitoring program will enable the on-going involvement of parties and guides BIMC's responsible development of the project.

WWF provides the enclosed comments for the NIRB's consideration and looks forward to continuing its engagement in the Board's process.

1. General Comments

Adaptive Management

We have included comments related to the need for appropriate adaptive management within nearly every submission made to the NIRB and to BIMC for the Mary River project. We again submit our concern that an adaptive management framework is not yet in place to identify and appropriately mitigate impacts to the environment, specifically to marine mammals and terrestrial wildlife. We request that Baffinland indicate how adaptive management is being appropriately and effectively applied to the project with specific reference to marine mammals and their habitat and terrestrial wildlife. In addition to the following comment, we submit specific requests related to the development of indicators and thresholds in the section that follows.

Development of Indicators and Thresholds

Similar to the on-going issue of adaptive management, we have previously made our concern known with regard to the lack of indicators and thresholds developed to inform project management and mitigation measures. WWF again submits that the development of indicators and thresholds should be of the highest priority to Baffinland, the NIRB, and all parties involved in the on going monitoring of this Project. WWF remains concerned that despite Baffinland's promises over the past number of years, the work to identify thresholds and indicators has still not been initiated. Without the necessary indicators and thresholds in place, it is impossible to employ adaptive management to address, or even understand, the impacts this project may be having. WWF requests that Baffinland provide a preliminary plan of action that highlights its proposed approach and suggested timeline for the development of indicators, thresholds, and related materials (i.e. reports, studies, information to inform their development, etc.). WWF submits that while the development of indicators and thresholds is indeed challenging and dynamic work, a clearly defined pathway appears to be necessary at this point, if for no other reason than to ensure that work toward their development is initiated.

Comprehensive science

Owing to the fact that the Mary River project involves activities on such a large scale, it is essential that Baffinland's understanding and monitoring of the receiving environment be proportionately well-rounded and inclusive. It appears to WWF as though Baffinland routinely takes a more limited approach to the monitoring work it is conducting. For instance, in the case of marine mammals, Baffinland has limited its work to narwhal only (excluding bowhead and beluga whale species), and is focusing on its work at the Bruce Head study area (excluding the Eclipse Sound and Pond Inlet areas in favour of a focused study at Milne Inlet), and has limited its survey design to shore-based observations coupled with studies undertaken by other agencies (such as DFO) for other purposes, with whom it partners in order to gain access to data collected for interpretation. It remains WWF's opinion that a comprehensive program, integrating results from a number of methods, is the only sensible approach to properly understanding the complex and diverse impacts a project such as Mary River can have on the receiving environment. We have included recommendations relating to individual NIRB certificate terms and conditions in the sections of our submission that follow.

MEWG TEWG and NIRB's Role

WWF has provided submissions to the NIRB related to Baffinland's Annual Reports for a number of years, and in many instances, Baffinland has responded to our comments with a stated intention to address items at the MEWG or TEWG table. We have attempted to discuss items with Baffinland and other parties around these working group tables, however it does not appear that our voice is being heard. Despite the fact that a number of our specific comments were raised with Baffinland (via the NIRB process) in 2016 and during MEWG meetings in 2017, these issues have not been adequately addressed, nor have our suggestions been incorporated into ongoing monitoring programs. It has been WWF's experience that, regarding our comments for the 2016 Annual Report for instance, Baffinland indicates in its response to comments submitted that issues will be dealt with at the MEWG. At subsequent MEWG meetings, however, these items were not discussed. It has also not set aside time to address specific issues or comments provided through the NIRB process.

WWF wrote to the NIRB in July 2016 specifically requesting it weigh in as to expectations around Baffinland making changes to marine monitoring programs, but received no response to these questions. At this point, we specifically have suggested that items in the current submission be vetted through the NIRB process, such that there is a public dialogue and these matters remain on the public record.

Monitoring framework

While not a component of Baffinland's 2017 Annual Report, the NIRB Monitoring Framework for the Mary River Project could conceivably provide meaningful direction to Baffinland for its annual reporting. WWF appreciates having had the opportunity to comment on the NIRB's draft Monitoring Framework for the Mary River Project in 2017. We feel strongly that having such a framework in place is essential to the development and execution of an effective monitoring program for the Mary River project, including the development of useful annual monitoring reports. With regard to all of the foregoing "General Comments", we feel that a project monitoring framework is necessary to guide the development of indicators and thresholds which would in turn inform adaptive management of the project, and that a framework would also provide the needed direction for Baffinland's programs to employ a sound approach to comprehensive science, and further, to provide the necessary definition of roles and expectations for matters to be determined via the working groups and/or vetted through the NIRB.

While the development of the monitoring framework appears to be on hold, recognizing that the draft framework was provided to parties last summer, WWF requests that Baffinland provide an update as to whether (and how) it has incorporated aspects of the draft framework in its ongoing project monitoring work and the mitigation of project related impacts.

2. Items not addressed from Baffinland's 2016 Annual Report and Response to WWF Comments

In reviewing Baffinland's 2017 Annual Report, WWF notes that a number of comments included in our submission regarding Baffinland's 2016 Annual Report have still not been addressed by either the NIRB or Baffinland.

In general, WWF is disappointed with Baffinland's lack of response and follow through to our comments from 2016. On many occasions, Baffinland notes that issues would be addressed via the MEWG, however, and as discussed in the above-noted comment, WWF has not found this to be the case over the

last year. A number of comments which follow were submitted last year and are provided again for Baffinland and NIRB's consideration as part of the current review as these issues remain salient, and are in fact, becoming of heightened importance as they continue unaddressed year after year.

3. Review of 2016 Annual Report

b. Terms and Conditions

WWF's review of the 2017 Annual Report included a consideration of Baffinland's compliance with NIRB Project Certificate Terms and Conditions. Based on the information presented, WWF submits the following comments and requests:

i. Conditions 99, 101:

In our comments provided to NIRB regarding Baffinland's 2016 Annual Report for the Mary River Project, we requested that Baffinland comment on its ability to undertake more direct studies on disturbance, including acoustic monitoring before, during, and after ship transects, drone monitoring before, during, and after ship transects and possibly undertaking analyses of photographic surveys before, during and after transects. WWF also provided suggestions for BIMC in considering the results of aerial and acoustic surveys. WWF requested that BIMC respond to these recommendations with its planned approach and any changes it may make based on comments received.

WWF notes that in its 2016 response to this condition and others related to ongoing marine monitoring, Baffinland advised that it would continue to discuss the marine mammal monitoring programs with the MEWG and the community of Pond Inlet to assess the effectiveness of the program and make adjustments if required to advance the understanding of narwhal behaviour and develop capabilities within the local community to take an active role in marine mammal monitoring.

Despite our comments having been raised with Baffinland (via the NIRB process) in 2016 and during MEWG meetings in 2017, these issues have not been adequately addressed, nor have our suggestions been incorporated into ongoing monitoring programs.

Similar to our comments on Baffinland's 2016 Annual Report, WWF remains concerned with Baffinland's heavy reliance upon shore-based data collection and monitoring to inform its findings on the effects of project shipping on narwhal behaviour and responses.

WWF again requests that Baffinland comment on its plans to undertake additional studies on disturbance, including acoustic monitoring and additional aerial surveys. WWF also suggests again this year that BIMC's monitoring program would be strengthened by continuing aerial surveying in Milne Inlet as well as additional areas such as Eclipse Sound and Pond Inlet.

ii. Condition 105:

WWF requested in its comment to the 2016 Annual Report that Baffinland confirm how many Project and non-Project vessels moved through the study area during the 300+ hours of reported observation from the Bruce Head station, and how many vessels moved through Milne Inlet in total, during the 2016 shipping season. These numbers were not provided in Baffinland's response. WWF requests that Baffinland confirm the numbers of Project and non-Project vessels moving through the Bruce Head

study area for both 2016 and 2017 seasons, as this information provides insight into the amount of vessel traffic that resulted in the narwhal behaviour observed at Bruce Head.

WWF is concerned that basing conclusions on only information collected from Bruce Head studies may be unintentionally limiting the analysis of marine mammal behaviour. WWF requested in 2016 that Baffinland confirm what specific measures it has in place to reduce the potential for shipping interactions with marine mammals. WWF did not receive a specific response to this question in Baffinland's response to comments via the NIRB process, and we submit it again with the request that Baffinland provide this information in its response.

iii. Condition 109:

The condition requires that BIMC “conduct a monitoring program to confirm the predictions in the FEIS with respect to disturbance effects from ships noise on the distribution and occurrence of marine mammals, and that the survey be designed to address effects during the shipping seasons, and include locations in...Milne Inlet, Eclipse Sound and Pond Inlet. The survey shall continue over a sufficiently lengthy period to determine the extent to which habituation occurs for narwhal, beluga, bowhead and walrus.”

In our comments to the 2016 Annual Report, WWF requested that Baffinland clarify how it planned to improve its monitoring program in 2017 to provide the required information regarding locations in Eclipse Sound and Pond Inlet in meeting the requirements of condition 109, and whether it was of the mind that shore-based surveying alone will provide sufficient information about the disturbance effects that ship noise has on distribution and occurrence of marine mammals.

Baffinland noted in its response to our comment that it would continue to discuss the marine mammal monitoring programs with the MEWG and the community of Pond Inlet to assess the effectiveness of the program and make adjustments if required to advance the understanding of narwhal behaviour and develop capabilities within the local community to take an active role in marine mammal monitoring. WWF does not feel that the limited discussions that have taken place during MEWG meetings have provided for an adequate response from Baffinland.

WWF is concerned with the status of this condition for two reasons – first, while the Project Certificate clearly requires that the effect of ship noise on the distribution and occurrence of marine mammals be considered outside of Milne Inlet – the condition specifically notes Pond Inlet and Eclipse Sound, Baffinland has conducted work only via its observations from the Bruce Head station, in Milne Inlet. Within the 2017 Annual Report, Baffinland stated that the current Bruce Head program monitoring narwhal movement is focused in Milne Inlet due to higher concentrations of marine mammals in this area during the shipping season, compared to Eclipse Sound and Pond Inlet. It further noted that while the Bruce Head Shore-based Monitoring Program has proven to be a successful program option for assessing behaviour of narwhal in close proximity to shipping, it does not provide information on larger-scale movements of whales.

WWF suggests that expanding the scope of focus per the condition requirement to include Eclipse Sound and Pond Inlet would enable Baffinland to assess narwhal behaviour over a larger area, and to support the assessment of larger-scale movements of whales. In order to properly understand the effects this project may have on marine mammals, it is essential that the monitoring program include Pond Inlet and

Eclipse Sound as required by the term and condition – these areas represent important parts of the animals’ migration corridors, feeding, and socializing areas, and these areas, utilized by marine mammals, are subject to project-related ship movements. WWF suggests that Baffinland be required to adhere to the specifics of this condition; doing so would ensure a more comprehensive understanding of the project. WWF suggests that while a useful program, and one that we suggest should continue, monitoring undertaken at the Bruce Head station alone should not absolve Baffinland from meeting its other obligations under this condition.

Similarly, WWF is concerned with Baffinland’s unwillingness to consider (as required by the condition) the extent to which habituation occurs for species other than narwhal (i.e. beluga and bowhead whales). Rationale was provided during MEWG meetings; specifically that the high cost of effort would not result in statistically robust data due to low abundance of other species. WWF believes however, that even a qualitative assessment of whale movements in this case would be helpful and would achieve compliance with the Term and Condition; that at a minimum, anecdotal or sparse information would be better than Baffinland’s current refusal to adhere to this aspect of the condition. WWF requests that Baffinland’s plans for surveying in 2018 and beyond include provisions for including observational data on beluga and bowhead, and that for future years, it develop a specific program designed to further its understand of beluga and bowhead habituation related to project shipping.

iv. Conditions 110, 111, 112:

All of these conditions speak to the requirement that Baffinland develop the thresholds and indicators necessary to facilitate an assessment of the effects of vessel noise on marine mammals and marine mammal populations. Baffinland’s 2017 Annual Report provides information regarding acoustic monitoring conducted in 2014, 2015 (passive monitoring near Bruce Head) and in 2017 (passive monitoring via narwhal fitted with Acusound tags). Based on Baffinland’s discussion of the 2017 narwhal tagging program, only 9 whales were successfully monitored, and even then, the duration of recording was variable, as was the location of tagged animals. WWF submits that this type of survey will not result in data that can be relied upon or analyzed with any degree of statistical significance. WWF suggests that alternate individual and population-level survey methods be utilized to inform Baffinland’s understanding of marine mammals and to develop the thresholds and indicators required by these conditions

In addition, Baffinland’s Annual Report provides information in relation to both Conditions 111 and 112 regarding its preparation for the proposed Phase 2 Expansion Project. Namely, Baffinland notes that it has retained a consultant to conduct underwater noise modelling and undertake an assessment of Project-generated underwater noise on marine mammals in Milne Port and along the northern shipping route with consideration of both incremental and cumulative noise effects for proposed Phase 2 operations. WWF supports this work, and suggests that the same type of assessment along the shipping route be undertaken with regard to the ongoing shipping related to the current Mary River Early Revenue Phase operations.

Conclusion

The WWF remains committed to providing constructive input into the NIRB's environmental assessment and monitoring processes for the Mary River Project. We appreciate the opportunity to provide comment at this stage and look forward to further discussions with both BIMC and the NIRB as the Project develops.

Should you have any questions regarding the WWF's submission, please contact me at (867) 222-2620.

Sincerely,

A handwritten signature in black ink, reading "Paul Crowley". The signature is fluid and cursive, with the first name "Paul" and last name "Crowley" clearly distinguishable.

Paul Crowley
Vice President, Arctic
WWF – Canada
Iqaluit, Nunavut

cc: Megan Lord-Hoyle, Baffinland Iron Mines Corp.