



FISHERIES
AND OCEANS

PÊCHES
ET OCÉANS

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Our file / Notre référence

NU-06-0084

March 12, 2010

Baffinland Iron Mines Corporation
Suite 1016, 120 Adelaide Street West
Toronto, Ontario M5H 1T1

Attention: Jim Millard

Dear Mr. Millard:

Subject: Monitoring Report Related to the Upgrade to the Milne Inlet Tote
Road NU-06-0084

Fisheries & Oceans Canada (DFO) received the "Bulk Sampling Program – Tote Road Upgrades, Fish Habitat Monitoring 2009 Annual Report" on January 6, 2010. Following our review of the above information, we are providing comments and recommendations related to our regulatory mandate under the federal *Fisheries Act* and in context of our national Policy for the Management of Fish Habitat.

DFO reviewed the monitoring report to determine if Baffinland has satisfactorily met the terms and conditions of their *Fisheries Act* authorization, issued on August 3, 2007. Section 5.2 of the Monitoring Section in the authorization states:

- 5.2 The approved Monitoring Plan shall be implemented annually from the first year of upgrading the Milne Inlet tote road (i.e. 2007) to two years post-construction (2008-2009). The detailed Monitoring Plan shall include, but not be limited to, the following:
- 5.2.1 Monitoring to assess if the installation of crossing structures has adversely affected upstream and downstream fish migration according to the schedule in section 5.2 above.
 - 5.2.2 Monitoring of the fish habitat compensation sites to ensure that the works are functioning as intended, according the schedule in section 5.2 above.
 - 5.2.3 If at any time during the monitoring period, compensation features are not functioning as intended, measures shall be identified to reduce the risk of future failure and additional compensation shall be created to meet the No-Net-Loss guiding principle using an adaptive management approach.

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Monitoring of installation of crossing structures (5.2.1)

Subsection 20(1) applies with respect to “obstructions”. “Obstruction” is defined in the *Fisheries Act* as any “slide, dam or other obstruction impeding the free passage of fish”. An obstruction does not have to amount to a complete barrier. Subsection 20(1) of the *Fisheries Act* provides the Minister of Fisheries and Oceans (Minister) with the power to order the owner or occupier of an obstruction to provide for the free passage of fish. The term “Minister” in this case is interpreted to mean a departmental employee working in a capacity appropriate to making such a decision.

The subsection 20(1) power is discretionary and any exercise of discretion must be reasonable. The exercise of the discretionary power must be based on the Minister’s determination that it is necessary for the public interest to allow for the free passage of fish. This means it must be exercised for a legitimate, not arbitrary, purpose. While the section does not give the Minister authority to order the removal of the obstruction, due to the discretionary nature of the power, the Minister may choose to work proactively with the proponent to achieve fish passage by other means, such as redesigning of the development proposal. As a matter of practice, therefore, an order under subsection 20(1) would only be issued in the event that the owner/occupier was unwilling to cooperate.

Based on the monitoring conducted by Baffinland, DFO is concerned that fish passage is an issue at the culverts listed below:

- BG-50 – Due to the proximity of this crossing to the lake, DFO is concerned that predation by adult arctic char (moving up from the lake) on juveniles and young-of-the-year will increase due to limited passage through the two culverts at this crossing which is isolated from the seacan crossing by an island. DFO acknowledges that fish are able to pass at the seacan crossing. DFO recommends that future monitoring be conducted to confirm fish passage through these culverts for all life stages of arctic char.
- CV-78 – DFO recommends that monitoring be conducted to assess fish accessibility to the left branch upstream of the culvert and fish use of this stretch of the watercourse. If fish cannot access this reach because the culvert is perched, it will need to be reinstalled.
- CV-114 – This culvert is slightly perched and DFO recommends that additional monitoring be undertaken to confirm that fish passage for all life stages is maintained. In the event that fish passage is impeded, the culvert will need to be reinstalled at a lower elevation so that it is embedded.
- CV-129 – This culvert is slightly perched and DFO recommends that additional monitoring be undertaken to confirm that fish passage for all life stages is maintained. In the event that fish passage is impeded, the culvert will need to be reinstalled at a lower elevation so that it is embedded.

Monitoring of fish habitat compensation sites (5.2.2)

During the 2009 field season, Baffinland undertook monitoring of the fish habitat compensation sites and determined that the watercourses at seven of sites (CV154, CV159, CV113, CV152, CV157, CV166 and CV176) were not fish bearing.

Three of these compensation sites (CV154, CV159 and CV176) were designed to restore/enhance fish habitat that was impacted during the construction of the original Tote Road (620 m²). Although the work was completed, the watercourses were found to be not fish bearing so there are no fish utilizing these areas. The compensation proposed does not function as intended so cannot be counted as a gain in habitat.

Four of the compensation sites (CV-113, CV-152, CV-157 and CV-166) were designed to provide upstream access (49,011 m²). Since there are no fish to access the habitat upstream, the compensation proposed at these sites does not function as intended (providing fish passage to upstream habitat) so cannot be counted as a gain in habitat.

Baffinland has indicated that, at CV-170, low water levels could restrict access and several barriers exist both upstream and downstream of the crossing (Baffinland stated both a partial barrier and a natural barrier exist downstream) which also prevents access to the crossing location (Table 3.8 in the monitoring report). Table 3.8 also indicates that no fish were collected at this site. In addition, photographs of CV170 in Appendix E.2 – Habitat Compensation Crossings suggest that the culvert is slightly perched. The table in Appendix E.2 also indicates the gradient is inaccessible approximately 25 m upstream of the crossing. Based on this information, DFO has concluded that this compensation site does not function as intended therefore cannot be counted as a gain in habitat.

The following table is a summary of the areas of compensation that was to be provided at the various compensation sites. The first column shows those areas that have been determined to be a gain in habitat. The second column shows the remainder of proposed habitat compensation that cannot be counted as a gain in habitat. The results in the table are based on monitoring conducted by Baffinland in 2009.

Compensation Site	Compensation Type	Gain in Habitat (m ²)	Not a Habitat Gain (m ²)
CV-001	RH	100	
CV-154	RH		100
CV-159	RH		20
CV-181	RH	300	
CV-183	RH	900	
CV-187	RH	114	
CV-113	RA		3,798
CV-152	RA		17,721
CV-157	RA		18,256
CV-166	RA		9,236
CV-170	RA		13,374
BG-016	HE	500	
CV-176	HE		500
TOTALS		1,914	63,005

RH = Restore Habitat

RA = Restore Access

HE = Habitat Enhancement

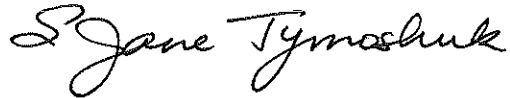
In the *Fisheries Act* authorization amendment, issued December 8, 2008, DFO agreed to a 1:1.5 compensation ratio as outlined the No Net Loss Plan prepared by Baffinland (August, 2007). Based on the original *Fisheries Act* Authorization which was issued for the HADD of 8,551 m² of fish habitat, a minimum of 12,826.5 m² of compensation was to be provided. According to the totals in the above table, most of the compensation that was proposed does not function as intended. To reach a compensation ratio of 1:1.5, 10,912.5 m² of additional compensation, proven to be successful, needs to be provided.

Meeting Proposal:

The elements discussed in this letter are conditions of the *Fisheries Act* authorization that DFO issued to Baffinland on August 3, 2007. To ensure the requirements of this authorization are met, DFO suggests a meeting be set up to discuss the most appropriate course of action to ensure all crossings are functioning as proposed and that the loss of fish habitat is adequately compensated for.

Should you have any questions or comments, please contact me at (705) 750-4054, FAX (705) 750-4016 or e-mail (jane.tymoshuk@dfo-mpo.gc.ca).

Sincerely,

A handwritten signature in black ink that reads "S. Jane Tymoshuk". The signature is written in a cursive style with a large, stylized "S" at the beginning.

S. Jane Tymoshuk
A/ Habitat Management Biologist
Fisheries and Oceans Canada
Eastern Arctic Area

Copy Eric Kan, Fisheries and Oceans Canada
 Ryan Barry, NIRB
 Phyllis Beaulieu, Nunavut Water Board