



Fisheries and Oceans  
Canada

Pêches et Océans  
Canada

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Fish and Fish Habitat Protection Program  
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October 20, 2023

*Your file    Votre référence*

2AM-MEL1631

*Our file    Notre référence*

11-HCAA-CA7-00014

Nunavut Water Board  
Attn: Richard Dwyer  
Manager of Licensing  
PO Box 119  
Gjoa Haven, NU  
X0B 1J0

Via email to: richard.dwyer@nwb-oen.ca

**Subject:    Comment Request for Response on Comments for Agnico Eagle Mines Limited's Meliadine Gold Mine Project 2022 Annual Report**

Dear Richard Dwyer,

The Fish and Fish Habitat Protection Program (the Program) of Fisheries and Oceans Canada (DFO) received your request for comments on September 20, 2023. DFO has reviewed Agnico Eagle's response to the comments in *230704 2AM-MEL1631 2022 Annual Report DFO Comments-IMLE.pdf*. The Nunavut Water Board (NWB) invited parties to indicate whether the comments have been addressed.

Some of DFO's comments remainder unaddressed. DFO provides the following for the NWB's consideration.

<b>Comment Number:</b>	DFO-1
<b>Subject/Topic:</b>	Erosion of CP1 Berm
<b>References:</b>	Appendix 6: Annual Geotechnical Inspection Report, Sec 3.2
<b>Comment:</b>	Gap/Issue: Erosion issues were identified in the CP1 Berm and a toe berm was constructed downstream of the CP1 Berm.
<b>Conclusion/Request:</b>	AEM to provide details on if the toe berm construction interacted with Fish or Fish Habitat and whether erosion resulted in sediment being mobilized to the aquatic environment downstream of CP1.
<b>Proponent's response</b>	As per 2022 Annual Report Answers provided to the NIRB on August 4th, 2023 (DFO-1), the berm was constructed between the downstream toe of the dike and the

	downstream water collection ditch. The construction did not interact with fish habitat. Rock fill was used as the construction material and as such minimal sediment was observed coming from the berm. All contact water from the berm is collected within the downstream water collection ditch where it is pumped to CP1.
<b>DFO Response</b>	DFO considers the proponent's response satisfactory.

<b>Comment Number:</b>	DFO-2
<b>Subject/Topic:</b>	Culverts
<b>References:</b>	Appendix 6: Annual Geotechnical Inspection Report, Sec 12 & 13; Appendix 7; and Appendix 8; Appendix 31-10 Water Management Plan
<b>Comment:</b>	<p>Gap/Issue: Some culverts on the AWAR and Rankin Inlet Bypass Road are undersized for flow and more than half of the culverts inspected show signs of erosion. The roads (AWAR and Rankin Inlet Bypass Road) are blocking flow causing ponding of water at identified locations.</p> <p>The Annual report does not identify fish and fish habitat issues with culverts and flow management and does not provide a plan to address the issues identified. Appendix 7, <i>2021 Annual Geotechnical Report Agnico Eagle Responses and Action Table</i>, identifies a few actions that AEM is committed too, but does not address the potential of sediment entering fish habitat nor the impacts to fish passage. AEM also states that additional culverts will be installed during the waterline construction in 2024 (Appendix 8, <i>2022 Annual Geotechnical Report Agnico Eagle Responses and Action Table</i>).</p>
<b>Conclusion/Request:</b>	<p>Proponent to provide a plan for repair and/or replacement of damaged culverts prioritizing repairs to culverts with potential to affect fish passage and those affecting fish and fish habitat along the roads.</p> <p>AEM should provide an updated Road Management Plan that includes actions to be taken to avoid contravention of the Fisheries Act by the deposit of sediment into fish habitat and addresses potential fish passage concerns at crossings.</p>
<b>Proponent's response</b>	As per 2022 Annual Report Answers provided to the NIRB on August 4th, 2023 (DFO-2), Agnico Eagle is prioritizing further work (repair/replacement) at the crossing locations containing salmonids (Culvert 11- Rankin Inlet Bypass Road KM 3.5, Culvert 10- AWAR KM 16.5, and Culvert 7-AWAR KM 27.5). Work is planned for summer/fall of

	<p>2023 upon reception of the required authorizations. In addition, a new culvert will be installed at KM 8.8 of the AWAR.</p> <p>The next update of the Road Management Plan will address assessment of potential fish passage for eventual future culvert replacement. Section 7.1 of the Road Management Plan, as well as the Sediment and Erosion Management Plan, addresses sediment control mitigation measures that are implemented.</p>
<b>DFO Response</b>	<p>DFO considers the proponent's response satisfactory.</p> <p>DFO looks forward to reviewing plans to replace culverts that present fish passage issues and to reviewing updates to the Road Management Plan.</p>

<b>Comment Number:</b>	DFO-3
<b>Subject/Topic:</b>	Location Data of Shipping Vessels
<b>References:</b>	Appendix 30: Meadowbank and Meliadine Mines Marine Mammal and Seabird Report, 2022
<b>Comment:</b>	<p>Gap/Issue : Project Certificates 004, 006, and 008 require vessels supplying the Meadowbank Complex and Meliadine mines to avoid sensitive marine mammal and seabird habitats such as haul-outs and breeding colonies.</p> <p>Ongoing outages for location data of ships - AEM stated in 2020, 2021, and 2022 report that "<i>Additional effort will be made in 2022 to ensure Groupe Desgagnés provides accurate track data to Agnico Eagle</i>". To this day, vessels continue to have AIS issues lasting 12 hours to several days.</p>
<b>Conclusion/Request:</b>	<p>Proponent to provide additional details on the "<i>Additional effort</i>" being implemented to ensure accurate vessel tracks, and compliance with setbacks from sensitive habitats.</p> <p>Proponent to retrieve the missing information from other sources of information.</p>
<b>Proponent's response</b>	As per 2022 Annual Report Answers provided to the NIRB on August 4th, 2023 (DFO-3), Agnico Eagle acquires archived AIS data from Vesseltracker, a commercial AIS supplier that aggregates AIS data from satellite and shore-based stations. These data vary in frequency based on distance from shore, location of shore-based stations, and position of satellites. In some cases, AIS position data is available on an hourly or sub-hourly basis, but in other cases, position data can be 12 hours or more between fixes.

	<p>The frequency of fixes is beyond the control of Agnico Eagle, as it is often due to a “gap” in satellite availability over the location of the vessel in the Arctic at the time. Agnico Eagle continues to investigate alternative commercial AIS suppliers regularly; however, Vesseltracker remains the most reliable at this time. Agnico Eagle continues to train vessel captains regularly and remind them of the importance of maintaining sensitive habitat buffers prior to the start of each shipping season.</p>
<b>DFO Response</b>	<p>DFO considers this response unsatisfactory.</p> <p>On-going location outages across multiple years, lasting in some cases greater than 12 hours is unsatisfactory. to the proponent should pursue additional options (e.g. PAME – Arctic Ship Traffic Data) to fill in data gaps in vessel locations, and confirm compliance with setbacks/avoidance of sensitive marine mammal habitats/areas.</p>

<b>Comment Number:</b>	DFO-4
<b>Subject/Topic:</b>	Marine Mammal Monitoring Program
<b>References:</b>	Appendix 30: Meadowbank and Meliadine Mines Marine Mammal and Seabird Report, 2022
<b>Comment:</b>	Gap/Issue: Current Marine Mammal Monitoring survey efforts (1 survey per day, lasting 1.5-2 hours) are not sufficient for effective marine mammal monitoring.
<b>Conclusion/Request:</b>	Proponent to update their marine mammal monitoring protocol and include increased monitoring efforts. This updated protocol should be developed by a marine mammal expert, be reviewed and approved by DFO and aim at effectively detecting and avoiding marine mammals during shipping.
<b>Proponent's response</b> <b>Proponent's response</b>	As per 2022 Annual Report Answers provided to the NIRB on August 4th, 2023 (DFO-4), the marine mammal monitoring protocol (MMMP) is described in the approved Shipping Management Plan and the Marine Mammal Survey Standard Operating Procedure (SOP). The protocol is for a dedicated MMSO to complete a minimum of one survey per day, however two or three surveys daily is preferred when timing allows, with each marine mammal survey lasting for a minimum of 1.5 hours to not more than two hours to mitigate observer fatigue and eyestrain. The approved MMMP is well implemented; more than one dedicated marine mammal survey per day is frequently

	<p>conducted during shipping, and survey effort continues to improve each year.</p> <p>For example, since 2020, survey effort has almost doubled, with approximately 110 survey hours (moving transects) in 2020, 2021, and 2022, compared to 62 survey hours or less in previous years. Agnico Eagle will continue to emphasize the importance of multiple surveys per day.</p> <p>In addition, crew members are always scanning for marine mammals. If a marine mammal is observed during the voyage outside of the dedicated marine mammal observation period (i.e., off-effort), this is recorded as an incidental sighting, and any mitigation required to avoid marine mammals during shipping is recorded and reported in the annual report.</p>
<b>DFO Response:</b>	<p>DFO considers the proponent's response unsatisfactory.</p> <p>DFO understands that more monitoring effort is often put in, but the current protocol still calls for 1.5-2 hours of observation a day which leaves 22-22.5 hours without any marine mammal detection. This is not sufficient to effectively detect marine mammals during shipping. More observation time is required which could mean more marine mammal observers on board or alternative detection methods. DFO looks forward to help the proponent improve the current protocol.</p>

<b>Comment Number:</b>	DFO-5
<b>Subject/Topic:</b>	Aquatic Invasive Species
<b>References:</b>	Shipping Management Plan (Version 4)
<b>Comment:</b>	<p>Gap/Issue: Current monitoring plans do not include a monitoring program for aquatic invasive species.</p> <p>There is a risk of introducing aquatic invasive species through haul contamination from ships coming from Quebec.</p>
<b>Conclusion/Request:</b>	Proponent to include a non-Indigenous Species/Aquatic Invasive Species Monitoring Program around zones of higher risk. This monitoring plan should be developed by an expert, be reviewed and approved by DFO and response measure should be added to the shipping management plan.
<b>Proponent's response</b>	As per 2022 Annual Report Answers provided to the NIRB on August 4th, 2023 (DFO-5), Agnico Eagle thanks DFO for their comment and wishes to reiterate its commitment to mitigating risks of introducing aquatic invasive species.

	<p>As per its Shipping Management Plan, Agnico Eagle requires the shipping companies contracted to supply the Meliadine Mine through the annual sea-lift operations to comply with the Ballast Water Regulations, which reduces the risk of invasive species being introduced as a result of mine related shipping activities.</p> <p>Under the Ballast Water Regulations, all vessels are required to have a Ballast Water Management Plan. The Ballast Water Management Plan is written in accordance with the requirements of Regulation B-1 of the International Convention for the Control and Management of Vessels' Ballast Water and Sediments and aims to prevent, minimize and ultimately eliminate the risk of introducing harmful aquatic organisms and pathogens from vessels' ballast water and associated sediments, while protecting vessel's safety. The ballast water treatment systems from the vessels used to supply the Meliadine Mine also comply with the applicable requirements and regulation D-2 for ballast water management.</p> <p>The Shipping Management Plan was developed in collaboration with third party experts and was reviewed by Parties through the NIRB process. Subsequent updates of the Shipping Management Plan have been submitted to NIRB and have been made available for Parties to review and comment.</p> <p>Agnico Eagle believes the above-mentioned information addresses the intent of DFO's recommendation and remains available to further discuss potential improvements to its approved Shipping Management Plan with DFO as required.</p>
<p><b>DFO Response:</b></p>	<p>DFO considers the proponent's response unsatisfactory.</p> <p>While the Shipping Management Plan does comply with Ballast Water Regulation, ballast water exchange is not 100% effective at preventing the introduction of invasive species. Additionally, both the Ballast Water Regulations and Shipping Management Plans do not address the potential for invasive species introduction via other mechanisms/pathways – ship hull, smaller crafts etc. DFO currently has no information confirming that the current measures in place are effective at preventing the introduction of invasive/non-native species. A non-Indigenous Species/Aquatic Invasive Species Monitoring Program Roberts Bay around zones of higher risk, should be developed in collaboration with subject matter experts and DFO.</p>

<b>Comment Number:</b>	DFO-6
<b>Subject/Topic:</b>	Underwater Noise
<b>References:</b>	Shipping Management Plan / MMSO / Noise Monitoring
<b>Comment:</b>	<p>Gap/Issue: Underwater noise from shipping vessels has the potential to elicit disturbance effects on marine mammals by reducing their ability to travel, communicate, and find food.</p> <p>During the 2022 shipping season, 14 vessels served the project. We currently do not know what noise level and characteristic is produced by those shipping vessels and the potential impact on marine mammals.</p>
<b>Conclusion/Request:</b>	Proponent to monitor and model their noise footprint using expert support. This model should aim at evaluating the impact of shipping noise on marine mammals present on the shipping route. A Shipping Management Plan should be updated according to the model.
<b>Proponent's response</b>	<p>As per 2022 Annual Report Answers provided to the NIRB on August 4th, 2023 (DFO-6), the FEIS predicted that in some cases, vessel noise may elicit behavioural changes in individual marine mammals that are in close proximity to these vessels. The residual environmental effect of a change in marine mammal behaviour as a result of Project vessel noise was considered to be low in magnitude, and the likelihood of behavioural disturbance from Project-related vessel noise was considered likely, but would be reversible soon after underwater noise effects subsided. Agnico Eagle continues to follow the Shipping Management Plan and the Marine Mammal Management and Monitoring Plan that was developed for the Project to meet commitments made during the Nunavut Impact Review Board (NIRB) hearings related to Marine Shipping.</p>
<b>DFO Response:</b>	<p>DFO considers the proponent's response unsatisfactory.</p> <p>DFO has currently no information on noise generated by shipping vessels used by the proponent. Without this information it is impossible to understand the impact it has on marine mammals and verify the proponent's assumptions. There is an increase in number of shipping vessels in the Arctic. More scientific evidence shows that shipping noise has cumulative impacts on marine mammals including behavioral effects. Monitoring is the first step to adopt appropriate avoidance and mitigation</p>

	measures. Other mining operations are required to monitor underwater noise through Terms and Conditions of their Project Certificate to monitor shipping noise (Project Certificate T&C: Hope Bay T&C 33, Baffinland T&C 109-112)
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<b>Comment Number:</b>	DFO-7
<b>Subject/Topic:</b>	Appendix on fish and fish habitat
<b>References:</b>	NA
<b>Comment:</b>	Gap/Issue: The Meliadine Mine Project reporting does not include an appendix specific to fish and fish habitat. Such a report is provided by AEM for the Meadowbank complex and allows Fisheries and Oceans Canada to properly monitor compliance with the <i>Fisheries Act</i>
<b>Conclusion/Request:</b>	Proponent to provide an appendix including, but not limited to: <ul style="list-style-type: none"> <li>• Report on death of fish;</li> <li>• Report on Harmful Alteration, Disruption and Destruction of fish habitat;</li> <li>• Report on fish passage issues;</li> <li>• Fish-out activities;</li> <li>• Measures implemented to avoid and mitigate impacts to fish or fish habitat; and</li> <li>• Offsetting activities.</li> </ul>
<b>Proponent's response</b>	<p>As per 2022 Annual Report Answers provided to the NIRB on August 4th, 2023 (DFO-7), Agnico Eagle would like to clarify the referred Appendix 38 of the Meadowbank Complex Annual Report (<i>Whale Tail 2022 Report on the Implementation of Measures to Avoid and Mitigate Serious Harm to Fish</i>) is provided in accordance with Condition 3 of the Fisheries Act Authorizations (FAAs) 16-HCAA-00370 and 20-HCAA-00275 for the Whale Tail Mine. There is no FAA issued for the Meliadine Mine; as stated in Section 1 of the Meliadine Annual Report, the Annual Report is intended to address annual reporting requirements under the current authorizations, namely the NWB Water Licences, NIRB Project Certificate, KivIA Permits and Production Lease, and Inuit Impact and Benefit Agreement (IIBA).</p> <p>Agnico Eagle is committed to fulfilling reporting requirements from its various authorization and proposes to have a meeting with DFO to clarify current reporting requirements related to DFO authorizations.</p>
<b>DFO Response:</b>	DFO considers the proponent's response satisfactory.



	DFO looks forward to working with the proponent to clarify reporting requirements and develop an appendix to the annual report that will satisfy DFO.
<b>Comment Number:</b>	DFO-8
<b>Subject/Topic:</b>	Road Management Plan
<b>References:</b>	NA
<b>Comment:</b>	<p>Gap/Issue: As noted in Section 6 of the 2022 Annual Monitoring Report, DFO issued a Warning Letter to AEM related to the infilling of Pond J6 that had been previously reported and was observed during the site visit. During the site visit a number of watercourse crossings on the All Weather Access Road and the Rankin Inlet Bypass road were identified as being likely barriers to fish movement due to perched outlets or constriction/infilling of the channel.</p> <p>Number 24 of Part D of Water Licence 2AM-MEL1631 states: <i>24. The Licensee shall, for the purposes of culvert and bridge construction, ensure that all activities remain outside of the natural channel width by the placement of abutments, footings or armouring above the ordinary High Water Mark so that there is no restriction to the natural channel processes.</i></p> <p>Measures to address the fish passage barriers are being discussed between AEM and DFO, and a plan is required to ensure that the watercourse crossings are in compliance with the <i>Fisheries Act</i>.</p>
<b>Conclusion/Request:</b>	AEM should provide an updated Road Management Plan that includes actions to be taken to avoid contravention of the Fisheries Act by the deposit of sediment into fish habitat and addresses potential fish passage concerns at crossings.
<b>Proponent's response</b>	Agnico Eagle would like to refer DFO to the answer provided to comment DFO-2 above. The next update of the Road Management Plan will address assessment of potential fish passage for eventual future culvert replacement. Section 7.1 of the Road Management Plan, as well as the Sediment and Erosion Management Plan, addresses sediment control mitigation measures that are implemented.
<b>DFO Response:</b>	<p>DFO considers the proponent's response satisfactory.</p> <p>DFO looks forward to review the next Road Management Plan.</p>

If you have any questions with the content of this letter, please contact me by email at [jose.audet-lecouffe@dfo-mpo.gc.ca](mailto:jose.audet-lecouffe@dfo-mpo.gc.ca). Please refer to the file number referenced above when corresponding with the Program.

Yours sincerely,

A handwritten signature in black ink that reads "José Audet-Lecouffe". The signature is written in a cursive style with a large, stylized 'J' and 'L'.

José Audet-Lecouffe  
Senior Biologist  
Fish and Fish Habitat Protection Program  
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CC:  
Alasdair Beattie, Fisheries and Oceans Canada  
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