Environment Canada Environnement Canada

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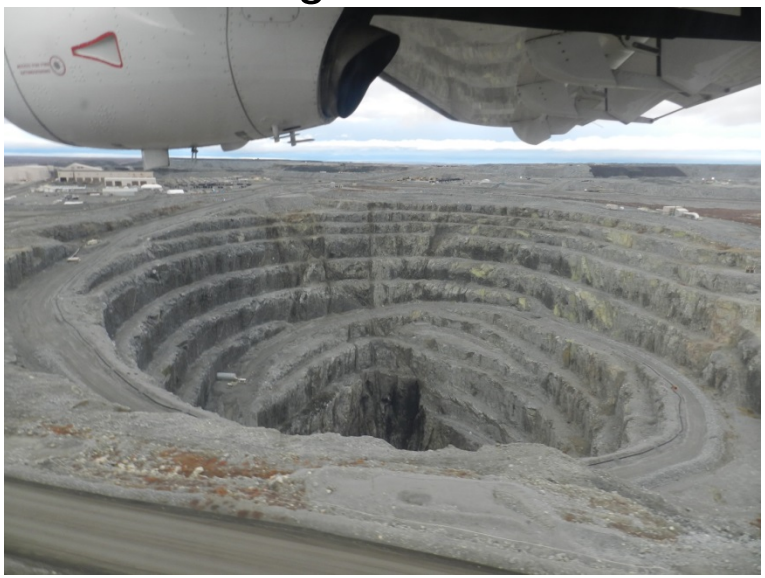
Environment Canada's Presentation to the Mackenzie Valley Environmental Impact Review Board regarding Dominion Diamond Ekati Corporation Jay Project

MVEIRB Public Hearing
Yellowknife, NT
September 14 - 16, 2015

Context

- EC is participating in the proposed Jay Project to provide specialist expertise, information and knowledge to both the MVEIRB under the MVRMA and to regulators
- EC's comments and recommendations intended to provide expert advice to proponents and decision-makers, in accordance with its program-related responsibilities and associated guidelines and policies.



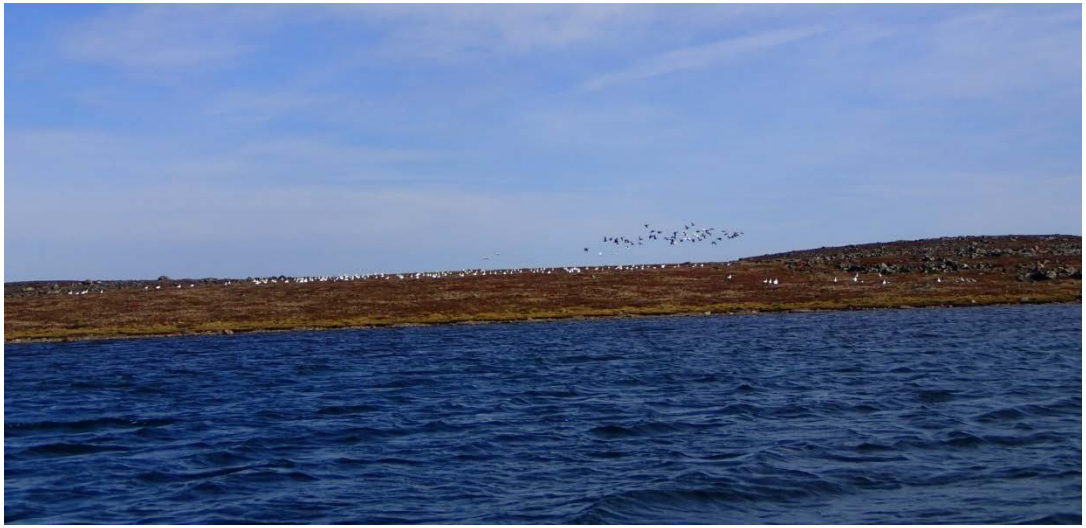
EC's Recommendations for the Jay Project

- EC acknowledges and appreciates the effort that the Proponent has and will continue to invest in monitoring.

- EC's recommendations will be presented over two days of the hearings:
  - Day 2 - Wildlife concerns; impacts to waterbirds, migratory birds, species at risk and their habitats
  - Day 3 – Aquatic environments; benchmark concentrations, effects study area and pit water quality at closure

Issue 1: Phosphorus Benchmark Concentration

- Modelling indicates that phosphorus concentrations are to increase in Lac du Sauvage over the life of the project
- EC's concern is with the selected guidelines for total phosphorus (0.02 mg/L) for this water body
- The trophic status of the lake should be maintained



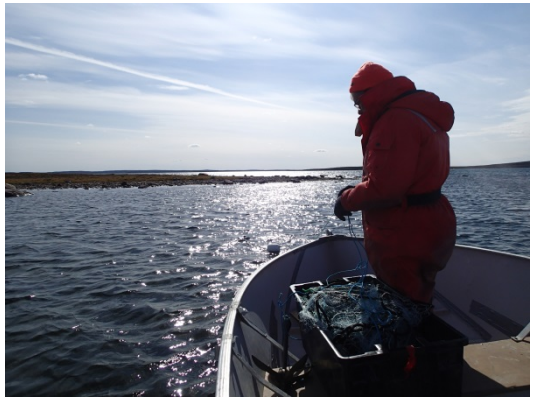
Issue 1: Phosphorus Benchmark Concentration

- The transition from oligotrophic to mesotrophic (0.01 mg/L) is the appropriate benchmark to indicate that a change is occurring and effects may be expected

- EC recommends that:
  - The trophic status of Lac du Sauvage be maintained as oligotrophic; and
  - The guideline for total phosphorus be selected to indicate a change in the trophic status of the lake from oligotrophic to mesotrophic so that effects can be evaluated before a trophic shift occurs.

Issue 2: Effects Study Area for Fish and Fish Sampling Program

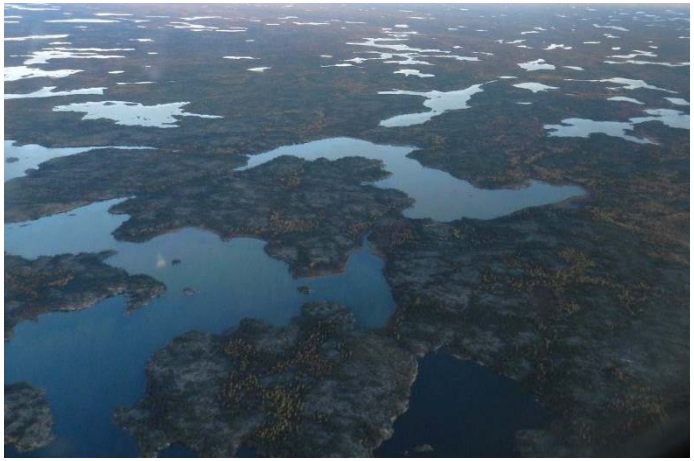
- EC notes a discrepancy between the effects assessment area and how the effects on fish are to be assessed.
  - Sampling of small bodied fish in Lac de Gras does not provide information on the effects of the mine related discharge
- The conceptual Aquatic Effects Monitoring Program has not progressed to the level of detail that is expected at this stage of the process.
  - Additional information is needed on the reference lake selection, fish selection, and sampling location selection



Issue 2: Effects Study Area for Fish and Fish Sampling Program

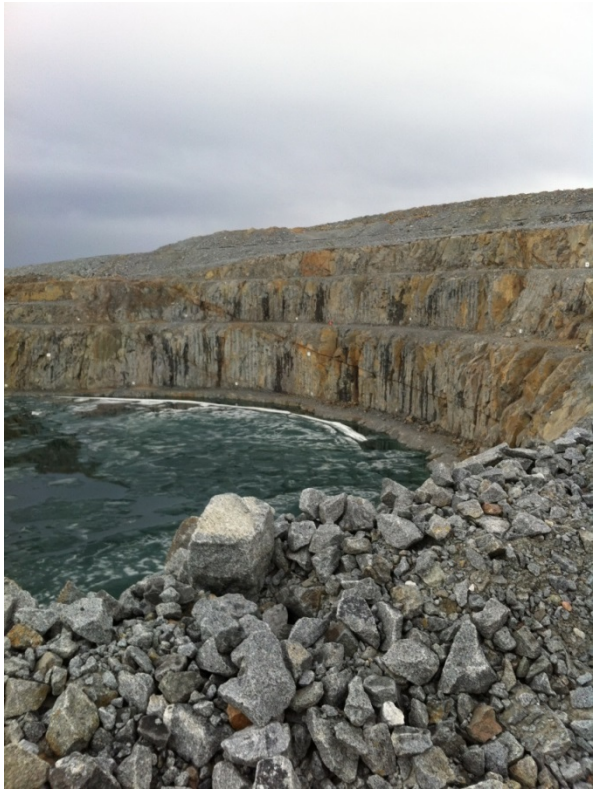
EC recommends that:

- The effects study area and the proposed sampling program under the AEMP be aligned. The effects assessment area for the fish valued component be reduced from the outlet of Lac de Gras to the outlet of Lac du Sauvage.
- Additional details regarding the AEMP study design, including fish, reference lakes, and sampling locations



Issue 3: Post-closure Water Quality in Misery Pit

- EC has concerns with concentrations of TDS, total phosphorus, copper, iron, manganese, and mercury, being elevated above guidelines and discharging to Lac de Gras in perpetuity.
- Uncertainty exists with the contingency of transferring additional volume from Misery to Jay pit and how this could impact the stability of meromixis in the Jay pit upon closure.



Issue 3: Post-closure Water Quality in Misery Pit

- EC recommends that:
  - The Proponent identify mitigation measures to minimize levels of contaminants in the Misery pit for the closure period, as Misery will be discharging into Lac de Gras in perpetuity.
  - The development of a contingency plan that identifies feasible treatment and/or management methods for the closure stages and minimization of uncertainties to the extent possible.

Issue 4: Waterbird By-catch

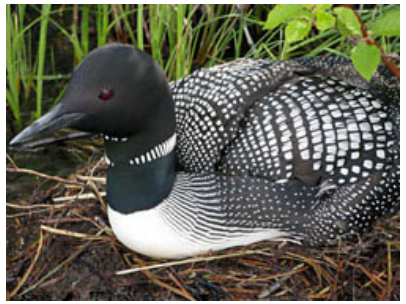
- EC is concerned by the frequency of waterbird entanglements during fish-outs
- EC notes observations of several waterbird species (loons, mergansers and long-tailed ducks) which represent a high risk of entanglement.

Issue 4: Waterbird By-catch

- EC supports the development of a diving bird mitigation strategy to prevent or minimize incidental take during fish-out activities in the final fish-out plan.
- EC looks forward to reviewing and providing input to the Proponent in its development.
- The effectiveness of proposed mitigation measures will need to be monitored to trigger an adaptive management response and inform future fish-outs.

Issue 5: Avoiding Incidental Take of Migratory Birds

- The Proponent committed to developing mitigation measures to avoid incidental take with EC
- In addition, the Proponent needs to avoid engaging in potential destructive or disruptive activities in key sensitive periods and locations; develop and implement mitigation measures to minimize the risk of incidental take on migratory birds, nests and eggs and help maintain sustainable populations of migratory birds.



Issue 5: Avoiding Incidental Take of Migratory Birds

EC recommends that the Proponent:

- Consult EC's fact sheet "Planning Ahead to Reduce Risks to Migratory Bird Nests";
- Avoid clearing land during the migratory bird nesting season;.
- Use a scientifically sound approach determine the likelihood of nesting birds;
- Ensures surveys are carried out by an avian biologist or naturalist;
- Include EC's recommended sensitive nesting period and setback distances in the management plans; and
- Include monitoring of the effectiveness of mitigation measures in the management plans and annual report.

Issue 6: Migratory Bird Use of Mine-altered Water

- Waterfowl and waterbirds can make extensive use of water management ponds, especially if these areas are subject to earlier thaw than natural water bodies.
- The conceptual Wildlife Effects Management Plan does not include any proposed monitoring related to the use of mine-altered waters by migratory birds.

Issue 6: Migratory Bird Use of Mine-altered Water

EC recommends that:

- Surveys of mine-altered waterbodies should be carried out. A professional wildlife biologist should be involved in the design of surveys, or other measures to ensure that the survey design is appropriate for the detection of local migratory bird species.
- Monitoring results should be included in annual monitoring reports and EC should be notified of any incidents involving injury or mortality of a migratory bird.

Issue 7: Species at Risk

Terrestrial species at risk with ranges that overlap with the Ekati Birds Effects Study Area.

Terrestrial Species at Risk	COSEWIC Designation	SARA Status	Government Organization with Primary Management Responsibility	Recovery Strategy, Action Plan or Management Plan posted on the Species at Risk Public Registry
Peregrine Falcon (anatum-tundrius complex)	Special Concern	Schedule 1, Special Concern	GNWT	Management Plan – Proposed
Rusty Blackbird	Special Concern	Schedule 1, Special Concern	GNWT	Management Plan - Proposed
Short-eared Owl	Special Concern	Schedule 1, Special Concern	GNWT	
Grizzly Bear (Western population)	Special Concern	No Status	GNWT	
Red-necked Phalarope	Special Concern	No Status	EC	
Wolverine	Special Concern	No Status	GNWT	

Issue 7: Species at Risk

EC recommends that:

- If species at risk listed are encountered during project activities the primary mitigation measure for each species should be avoidance;
- The Proponent ensure that mitigation and monitoring strategies are consistent with any applicable COSEWIC assessment status report, SARA recovery strategy, action plan and management plan; and
- The Proponent consult with the GNWT and EC on adaptive management strategies should they be required.

Conclusions

- EC has made several recommendations that are intended to mitigate negative effects that relate to EC's mandate.
  - Additional information can be found in EC's Technical Report
- EC anticipates working with Stakeholders and the Proponent to finalize monitoring and reporting requirements.

Questions