



Fisheries and Oceans  
Canada

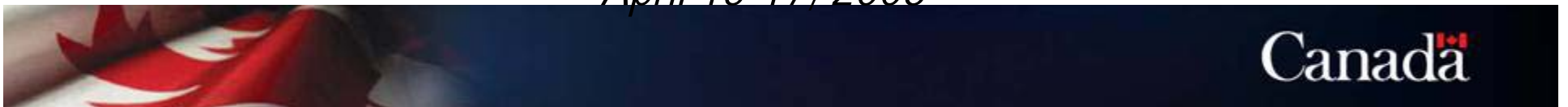
Pêches et Océans  
Canada

# Fisheries and Oceans Canada Fish Habitat Management Program

Intervention Comments  
to the Nunavut Water Board on the  
Meadowbank Gold Mine Project

*Baker Lake*

*April 15-17, 2008*





# Outline

- DFO Mandate, Relevant Legislation and Policies
- DFO Intervention Comments
- Conclusion



## DFO Mandate, Relevant Legislation and Policies

- To conserve and protect fish and marine mammals and their habitat for all Canadians.
- Fisheries and Oceans Canada (DFO) exercises this authority under the *Fisheries Act*.
  - *Section 35 prohibits the harmful alteration, disruption or destruction of fish habitat without Authorization from the Minister of Fisheries and Oceans or by regulation under the Fisheries Act*



## Relevant Legislation

### *Fisheries Act*

- Section 36 prohibits the deposition of a deleterious substance into fish frequented waters.
- Administered by Environment Canada

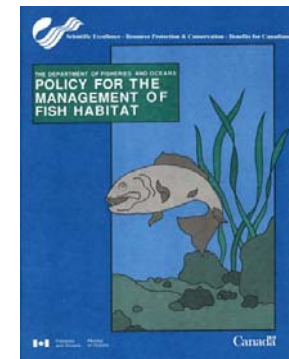
### *Metal Mining Effluent Regulations* (MMER)

- Made under the *Fisheries Act* - apply to metal mining operations. Allows for the deposit of a deleterious substance at specific concentrations and specifies monitoring requirements
- Requires the regulation be amended to list any fish bearing lake to be used as a TIA on Schedule 2. Amendments to Regulations must be approved by the Governor-in-Council of Canada



# Policy for the Management of Fish Habitat (DFO 1986)

- Guides DFO in the administration of the habitat protection provisions of the *Fisheries Act* (Sections 20-35)
- Overall Objective:
  - ***Net Gain*** of Fish Habitat Productive Capacity
- Fish Habitat Conservation Goal:
  - Guiding Principle of "***No Net Loss***" of Productive Capacity





Fisheries and Oceans  
Canada

Pêches et Océans  
Canada

# DFO Intervention Comments

- Financial Securities
- Construction
- Water Use
- Water Management
- Tailings Impoundment Area
- Contingency Planning
- Monitoring

Canada





## Financial Securities

- Letters of credit will be obtained from the proponent for the completion and monitoring of fish habitat compensation features.
- Under MMER, it is a requirement to obtain financial securities for fish habitat features compensating for the use of the northwest arm of Second Portage Lake as a Tailings Impoundment Area.



# Financial Securities

## Recommendations

- AEM provide an estimate relating to the financial security for the completion and monitoring of:
  - Dike faces
  - Finger dikes and extensions
  - Habitat mounts
  - Boulder gardens, shoals, artificial reefs
  - Lake basins





# Construction

- Easternmost Channel
- Vault Lake Road Crossing
- Central and Dewatering Dikes
- Fish Habitat Features





## Construction

### Easternmost Channel

- Westernmost channel will be eliminated, thus, water management of the other two channels connecting Second Portage Lake to Third Portage Lake is necessary.
- Hydraulic assessment of easternmost channel within natural annual spring lake level variability.
- Vegetation removal and armouring banks with rip rap proposed.

### Recommendation

- Vegetation removal be minimized.



## Construction

### Vault Lake Road Crossing

- Channel connecting Vault Lake is a barrier to fish passage. Culverts are proposed at this crossing.
- AEM committed to providing final detail design and construction drawings prior to construction for NWB and DFO review.



# Construction

## No Net Loss Plan (NNLP)

- Exterior and interior dike faces have been proposed as fish habitat.
- Other fish habitat features include finger dikes, dike extensions, habitat mounts, reefs, boulder gardens and shoals within Second Portage and Third Portage Lakes.

## Recommendation

- Criteria for the effectiveness and success of the dike faces as fish habitat be submitted no later than May 1, 2008.
- Success criteria for other habitat features be discussed with DFO prior to finalizing NNLP.



## Water Use

### Freshwater Intake Pipe

- Dewatering pipe in Second Portage Lake and the intake pipe for the explosives mixing facility should follow DFO's Freshwater Intake End-of-Pipe Fish Screen Guideline.

### Recommendation

- Detailed drawings for the intake pipe used for the explosives mixing facility be provided for review no later than May 1, 2008.



# Water Management

## Pit Lake Flooding

- AEM has proposed sufficient measures to avoid and mitigate adverse impacts to fish and fish habitat in relation to pit lake flooding.
- As updated information on the re-flooding plan is developed, it should be submitted to regulators for review and approval prior to implementation.





## Tailings Impoundment Area

### No Net Loss Plan

- All detailed plans must be submitted and approved by DFO before depositing deleterious substances into the tailings impoundment area that is added to Schedule 2.

### Fish-Out Program

- AEM has substantially completed the fish-out proposal for the northwest arm of Second Portage Lake.
  - AEM is committed to providing the final fish-out program to DFO no later than May 31, 2008.





# Contingency Planning

## No Net Loss Plan

- Contingency plan must also account for the habitat features within the basins in the event the water quality in the pits do not meet water quality guidelines.
- Contingency plan must be developed in the event targeted studies reveal that the habitat structures are not functioning as intended.
- Alternative compensation measures should be developed in consultation with the impacted communities.



# Contingency Planning

## Recommendation

- Contingency plans detailing alternative fish habitat features to offset the loss of habitat from mine construction be developed in consultation with communities and DFO and be provided for review and approval.



# Monitoring Program

## Effectiveness Monitoring

- Targeted studies within the AEMP





# Monitoring Program

## Recommendation

- Core monitoring programs and targeted studies outlined in the AEMP be provided in detail for review and approval.
- Additional baseline data must be submitted for review and incorporated if appropriate in monitoring programs.



# Monitoring Program

## Dike Construction and Dewatering

- AEM has provided a detailed monitoring plan with contingencies and threshold limits for Total Suspended Solids during dike construction and dewatering activities.

## Recommendation

- AEM has substantially completed a monitoring plan with TSS thresholds and contingencies for the dike construction and dewatering activities.



## Conclusion

- It is anticipated that mitigation measures and recommendations will adequately address the identified concerns.
- DFO expects the final NNLP will adequately address residual impacts to fish and fish habitat.
- DFO's comments and recommendations are based on our areas of expertise and jurisdiction. We trust they are helpful to the Board as they consider the project before them.





Fisheries and Oceans  
Canada

Pêches et Océans  
Canada

# Thank You – Questions/ Comments?



Canada