

# Independent Environmental Monitoring Agency



## 2007-08 Year in Review and Annual Report Summary



# Presentation Outline

- Agency 2007-08 Annual Report Summary
- Agency Highlights in 2007-08
- Agency focus since April 2008
- Focus for the future
- Summary

# Agency Annual Report Summary 2007-08

**“The Monitoring Agency shall report annually.... to BHP, the Minister, and the GNWT. All reports of the Monitoring Agency shall be made available to the Aboriginal Peoples and the general public.”**



Agency Director Visit to Lutsel K'e--March 2008

Environmental Agreement  
for BHP Billiton Diamonds Project



Bathurst Caribou near Ekati, May 2007

# Wildlife Effects Monitoring

- 11 years of monitoring results
- 6,000 caribou counted in study area in 2007
- More likely to find caribou farther away from the mine
- Caribou observations too few to analyze behaviour
- Better waste management at site has meant fewer wildlife incidents (no wolverine problems in 2006 or 2007)
- Wolverine monitoring (DNA) not conducted since 2006

# Wildlife Effects Monitoring and Regional Monitoring

## The Agency recommends:

BHPB should, in collaboration with GNWT, recommence wolverine DNA monitoring in 2009 for continuation every second year. All cells within the BHPB study area should be sampled. The snow track surveys for wolverine should be discontinued in favour of the DNA monitoring.

# Wildlife Effects Monitoring

## BHPB Response:

BHPB is prepared to cooperate with GNWT in the future should a similar monitoring program be set up. Future modifications to the Wildlife Effects Monitoring Program will be considered.

## GNWT Response:

It is GNWT's intent to continue to move forward with a wolverine DNA monitoring program in the central barrens. The GNWT has had initial discussions with BHPB about participation in this program.

# Aquatic Effects Monitoring Program

- Review of the AEMP was completed by the Wek'eezhii Land and Water Board
  - BHPB required to submit studies on effects size, sample variability
- 2007 AEMP unavailable at time of Agency Annual Report (will be reported on next year)
  - Some contaminants increasing in lakes downstream - approaching CCME (nitrate interim guideline exceeded in Cell E)
  - Fish sampling carried out, slimy sculpins not suitable as a substitute species and further testing to be done (in Cell E) due to evidence of exposure to hydrocarbons on Leslie Lake fish

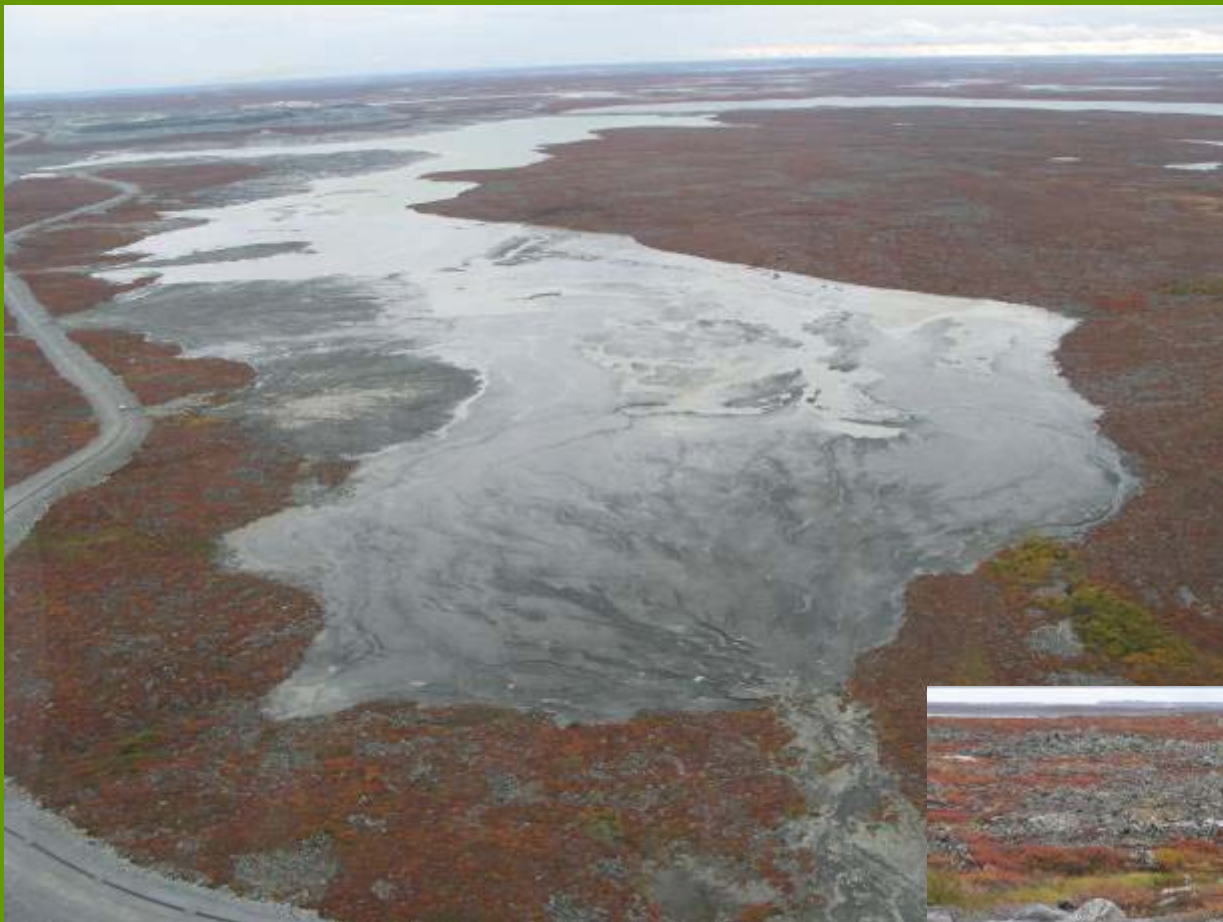


# Aquatic Effects Monitoring Program

- Watershed Adaptive Management Plan submitted
  - Agency worked with EMAB on review of Ekati and Diavik plans
  - Ekati plan a good first step but further information needed on mitigation options
- Long Lake Water Quality Models submitted by BHPB
  - A helpful model, predictions for chloride and nitrate completed and reflect observed results
  - More work needed to link research to closure uncertainties, and to predict all contaminants of interest

# Air Quality Monitoring Program

- Agency sponsored an independent review of BHPB's air quality monitoring program and modeling
  - Problems identified with data collection and analyses methods
  - BHPB responded positively with a collaborative meeting of experts in January 2008
  - Agreement to improve snow and lichen sampling and to further discuss continuous air quality monitoring
- New incinerators on site
  - Not operated in 2007-08, need for new Waste Management Plan



Tailings Discharge Point, Cell A  
September 2008

Cell B, Long Lake Containment Facility September 2008



# Tailings and Wastewater Management

- BHPB study shows that pore water quality in the LLCF is a good indicator of long-term water quality
- 2007 Wastewater and Processed Kimberlite Management Plan highlights operational and long-term challenges for closure
  - Extra-fine kimberlites make up 35% of the volume and do not settle over time. This may make working on the tailings difficult (placing rock or vegetation cover)
  - Tailings breakdown over time meaning more moisture is retained and there is less resistance to erosion, making revegetation more difficult

# Traditional Knowledge

- Caribou and Roads TK Project continued with mixed results from the inokhok program
  - Kugluktuk elders recommend monitoring in different seasons and using other methods
- Fish study to look at abnormalities undertaken
- Use of TK at site good but could be better documented in BHPB's annual environmental report

# Reclamation and Closure

- BHPB agreed to mine component-specific approach for closure objectives, options and criteria
  - Further work needed on measurable closure criteria and research
- Working group in place to review the plan but limited Aboriginal participation
- Some progress on pit lake reclamation to allow fish passage and habitat enhancement but further discussions required
- Revised draft plan to be submitted in December 2008

# Reclamation and Closure

The Agency recommends that:

- DIAND should increase the amount of resources available to potentially affected Aboriginal communities to engage in regulatory and review processes, in particular the closure planning process for the Ekati mine.

# Reclamation and Closure

## DIAND Response

- DIAND recognizes that Aboriginal organizations have concerns about their capacity to participate in regulatory and review processes. DIAND has no formal process to provide participant funding for these processes, but will continue to consider individual proposals as funding becomes available.



# Reclamation and Closure Recommendations

The Agency recommends that:

- BHPB should improve its reclamation research plan to include an explicit description of the link between the research task and the related closure measure, how the research task will be carried out to deal with each of the remaining uncertainties, what data will be collected, how the results will be used to improve the ICRP and when the results will be available to amend the ICRP. This recommendation should be targeted especially at the four issues of concern—pits, LLCF cover, water quality in the LLCF and the extra-fine processed kimberlite.

# Reclamation and Closure

## BHPB Response

- Changes to the layout and content of the Reclamation Research Plan have been undertaken to address these and other concerns and will be included in the final draft due later this year.

# Regional Monitoring and Cumulative Effects

- Draft terms of reference and budget completed for Multi-Project Environmental Monitoring Agency although BHPB has withdrawn from the process.
- GNWT held a caribou and cumulative effects workshop in February 2008. There was agreement to develop a computer model to assist with understanding the cumulative effects on the Bathurst caribou herd
- The 2002 multi-party Regional Plan of Action for the Slave Geological Province is to be updated.

# Assessment of the Regulators

- DFO has discussed fish in pit lakes after closure with BHPB
- DIAND continued to provide good technical expertise in the review of Ekati environmental reports, thorough and regular site inspections carried out
- GNWT contributed towards improved air quality monitoring
- Environment Canada continues to contribute on air and water quality and helped the Agency understand the CCME water quality guidelines
- Wek'eezhi Land and Water Board is managing the ICRP review process well

# Assessment of BHPB

- Improvements made to Closure Plan and air quality monitoring
- Better cooperation with the Agency and regulators
- No major environmental issues identified in 2007
- Mediated settlement reached on use of Agency's Separate Fund
- Agency continues to request a formal deadline for submission of monitoring reports

# Agency Highlights in 2007-08



Director Visit to Łutsel K'e in March 2008

# Communications and Consultation

- Individual Director visits to communities upon request (several meetings with NSMA held; May and September 2007, and March 2008 visits to Lutsel K'e)
- Agency was not able to hold a meeting in a community in 2007-08
- Agency held an environmental workshop in November 2007

# Agency Highlights – 2007-08



Ekati Site Visit in May 2007



# Agency Focus Since April 2008

- Review of 2007 monitoring reports
- Environmental workshop for members
- Participation in ICRP working group
- Document review (e.g. Sable, Pigeon, Beartooth water licence renewal application)
- Board meeting held in Lutsel K'e in September 2008
- New NMSA Director appointed in August 2008

# Overall Perspective on Ekati

- Overall good environmental management at Ekati
- Look forward to improved air quality monitoring results
- Need to move forward with Reclamation Research Plan
- Review of work on Sable, Pigeon, Beartooth effluent quality criteria (ammonia, chloride, copper, nickel and zinc)
- What are the lessons from the Fay Lake spill?

# THANK YOU



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