

Air Quality Monitoring

A variety of operations at the mine affect air quality in the vicinity and consequently have the potential to affect water quality and vegetation important to wildlife.

BHPB currently conducts the following monitoring activities to keep track of changing air quality:

- dust deposition through snow and vegetation sampling;
- road dust sampling;
- water quality sampling; and
- suspended airborne particles from plant and dust *emissions* using high volume air samplers.

The sources of airborne contaminants include the diesel electricity plant, incinerator, blasting in pits, road traffic, waste rock and *tailings* dust from the Long Lake Containment Facility (LLCF).

Air Quality Monitoring Results

While there were some useful discussions at the 2006 Environmental Impact Report Air Quality Technical Session, BHPB had not delivered the

results of the air quality, snow sampling and vegetation sampling programs from 2005 prior to the production of this annual report.

Agency's Assessment of BHPB's Activities in 2005

In previous annual reports we have noted that it could not be determined by BHPB's current sampling methods if ambient air quality objectives were being met, and whether the existing monitoring program was delivering reliable results. We recommended that a new air quality dispersion modeling analysis be conducted by BHPB, and be used as the basis for future air quality monitoring work, including the siting of sampling stations.

Some progress has recently been made with the dispersion modeling. In 2005 BHPB developed and ran the model, and reported results

for dust deposition, which helped to determine the sites for the snow and vegetation surveys taken in 2005. However, BHPB did not report on the results for ambient air quality despite this information having been requested by the Agency, EC and GNWT.

In a 1995 response to the EARP Panel request for additional information, BHPB made a clear commitment to establish an ambient air quality monitoring program for SO₂, NO₂ and total suspended particulates. This commitment was further formalized in the Environmental Agreement. BHPB is required to carry out ambient air quality monitoring with a goal of ensuring that there are no significant adverse environmental effects and that compliance with regulatory requirements is achieved. The GNWT has ambient air quality guidelines in place and there are Canadian Ambient Air Quality Objectives and Canada Wide Standards, but it is not known

with any certainty whether the Ekati Mine meets these standards. The Agency would like to see BHPB make use of its air dispersion model to predict ambient air quality at the mine site and for the surrounding areas to prove compliance with national and GNWT air quality objectives and standards. The modeling exercise, based on current understanding may well indicate that these objectives are being met.

In April 2005 and August 2005 BHPB carried out snow and vegetation sampling. Snow and vegetation sampling are to take place on a three-year cycle with the last comprehensive survey conducted in 2001. BHPB did not conduct sampling in 2004 as scheduled, to allow for the CALPUFF modeling to be done. BHPB anticipated that the modeling would help identify better sampling locations. We agreed.

The results of the 2005 surveys have not yet been formally submitted by BHPB, but preliminary results presented at the 2006

Environmental Impact Report technical session indicate that there may have been quality assurance and quality control (QA/QC) issues with the snow sampling methodology. *Nitrates* measured in snow around the mine site appear to be lower than background levels found at an accredited national monitoring network site at nearby Snare Rapids, a result that seems most unlikely. As we have previously suggested, there is, in our view, a need for BHPB to work collaboratively with EC and ENR-GNWT air quality staff in reviewing air quality and deposition sampling protocols to ensure that the required samples are properly collected and analyzed. This is becoming a priority, and we think that such a review should be completed within six months, with any changes to be incorporated into an updated Air Quality Management Plan. GNWT has also suggested changes to the high volume air sampling methodology and location to avoid influences from incineration.



The discussions at the 2006 Environmental Impact Report air quality technical session indicated, encouragingly, that potential linkages among different monitoring programs will be investigated

by BHPB, and that BHPB will attempt to link dust deposition and ambient air quality effects on lichen with potential effects on caribou. There is a role for Traditional Knowledge in identifying

the types of lichen preferred by caribou and whether biodiversity of plants is being affected.

There is also an important connection to air quality from a water quality perspective.

Snow sampling cannot be used effectively to indicate any potential problems from air *emissions*. To better understand the relationship between the airborne emission of contaminants from

the site and contaminants being received by water and by fish, the Agency suggests that fish samples collected as part of the five-year sampling program should be analyzed for organochlorines (incineration of plastics is a primary source, according to air pollution experts) to determine whether there has been any effects on Kodiak Lake fish compared to fish sampled from other lakes (i.e. Vulture, Moose, Nema and Slipper).

BHPB has recently purchased more efficient incinerators that have the potential to significantly reduce air *emissions*. This is a commendable initiative. We caution BHPB to review its Waste Management Plan in regard to operator training and certification, and to ensure that its waste segregation practices result in as little plastic as possible going to the incinerators. This is necessary to reduce the generation of dioxin and furan *emissions*. Annual stack tests are also suggested to ensure the incinerators are operating correctly. ■



Dust from operations at Ekati



Wildlife Effects Monitoring Program

The Wildlife Effects Monitoring Program (WEMP) at Ekati is in its ninth year. The program focuses on caribou, grizzly bear, wolverine, wolf, upland breeding birds, and falcons. In its annual wildlife monitoring report, BHPB describes habitat loss, progress on compliance with waste disposal regulations, and wildlife mortality recorded during the past year. The study area is roughly 1,600 km² centred around the mine site.

Wildlife Incidents

Numbers of caribou, grizzly bears, wolves and wolverines observed at Ekati were within the range seen in other years. No large mammals were killed as a result of traffic although there were some accidents involving a fox pup, hares, ptarmigan, a rough legged hawk and a duck. Two grizzly bears, both in poor condition, were destroyed when they posed a threat to people. Deterrent efforts failed with a wolverine that was eventually destroyed and four others were relocated.

One caribou was caught by the antlers in support wires for a tower and was released unharmed. Other predator-killed caribou were also observed in the Long Lake Containment Facility and near Misery road.

Caribou Monitoring

BHPB has made significant efforts to document caribou distribution, abundance, and behavior relative to the mine, including one annual aerial survey and four ground-based surveys. The aerial survey estimates the number of caribou that pass through the study area, compares that number with long term temporal trends and documents the timing of migrations. For the first time in 2005, it also investigated whether proximity to the mine affected caribou abundance, and whether caribou collar locations are reliable indicators for actual caribou abundance in the study area.

The caribou collar data showed a significant decrease in the proportion of collared caribou within

150 km of the mine over the years. This is consistent with the aerial survey data which shows that abundance of caribou (other than cow-calf groups) declined in proximity to the mine.

BHPB conducted two additional studies this year of caribou behaviour related to mining activity.

One study indicates that caribou are attracted to roads for travelling, but not for feeding or resting. It was also observed that caribou react more strongly to pit blasts and people compared to light-truck traffic, and that caribou with calves responded more strongly in general. The other study indicated that caribou are

not avoiding Misery road, or the proposed Sable Road, and small groups of caribou seem to be crossing roads more readily than in previous years.

Wolverine Monitoring

BHPB has increased efforts over the past year to reduce incidents with wolverines. This has included increased



Grizzly bear near haul road



attention to waste management, employee training, site patrols, regular building inspections, reinforced skirting around buildings, use of escalating deterrents, and even “problem” wolverine relocation. The Agency has commended BHPB for its efforts to make buildings at Ekati less attractive to wolverine. There were 128 wolverine sightings and 33 incidents (all in winter) recorded in 2005. One animal had to be destroyed after it became cornered and aggressive and four more were relocated away from the mine.

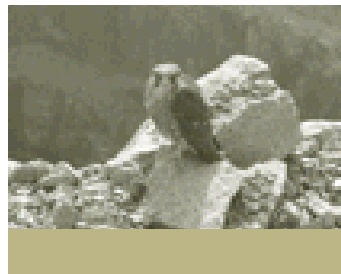
BHPB participated in a wolverine DNA sampling program developed by the GNWT that can identify



individual wolverines, and estimate their ranges. This DNA study replaces the wolverine snow track surveys for the 2005 and 2006 study years. Results of the DNA sampling program have yet to be released.

Bird and Raptor Monitoring

BHPB identified a significant difference in density for ten upland breeding bird species between control and mine sites. Two species (rock and willow ptarmigan) showed a significant declining trend at both mine and control sites, and two more species declined significantly at the mine sites. BHPB reported an observed change in raptor distribution with peregrine falcons increasing and gyrfalcons decreasing.



Historic nests are not being used while new nest sites are being developed, in spite of efforts at deterrence, on pit walls.

Agency Assessment

This year’s WEMP report is well organized and written, and amply supported with appropriate maps and tables. BHPB has been responsive to suggestions from the Agency, government, and Aboriginal parties to adapt and improve monitoring programs over time, and the changes to survey methods or study approaches are appropriately described in the report.

Our assessment focuses on caribou monitoring as the decline of the Bathurst herd is of paramount concern to our Aboriginal members. We expect the additional caribou studies undertaken by BHPB will provide the information needed to adjust mine operations and closure plans to cause the least negative impacts to caribou. Next year’s “roads and caribou”

study might be improved by using remote monitoring (such as unmanned video cameras) to remove observer effects of vehicles on roads. The road study could benefit from additional analysis of the effect by sample year, snow bank height, group size, and sensitivity to sample size. There should also be a distinction made between caribou travelling on (attractant or positive effect) as opposed to parallel the road (deterrent or negative effect).

BHPB plans to implement additional improvements to the aerial surveys in the near

future. In our view it is timely to review the objectives, design and analysis of the aerial surveys. We encourage BHPB to involve its consultants, GNWT, the Agency, and the communities to ensure that the aerial surveys are effective and efficient. The caribou collar data may prove useful to predict caribou density at Ekati, once the statistical power of each data set is established. A statistical power analysis would be useful in determining an appropriate level of survey effort, and hence in establishing confidence in the results. ■



Regional Monitoring and Cumulative Effects

The Agency has been recommending a greater focus on regional caribou monitoring for the last few years. We are pleased that BHPB has announced plans to change its caribou monitoring program in accordance with advice offered to it from several sources. The planned changes involve a larger study area around the mine and support for regional studies being carried out by the Government of the Northwest Territories (GNWT).

Last year, together with the (Diavik) Environmental Monitoring Advisory Board, we recommended that GNWT, the governments of

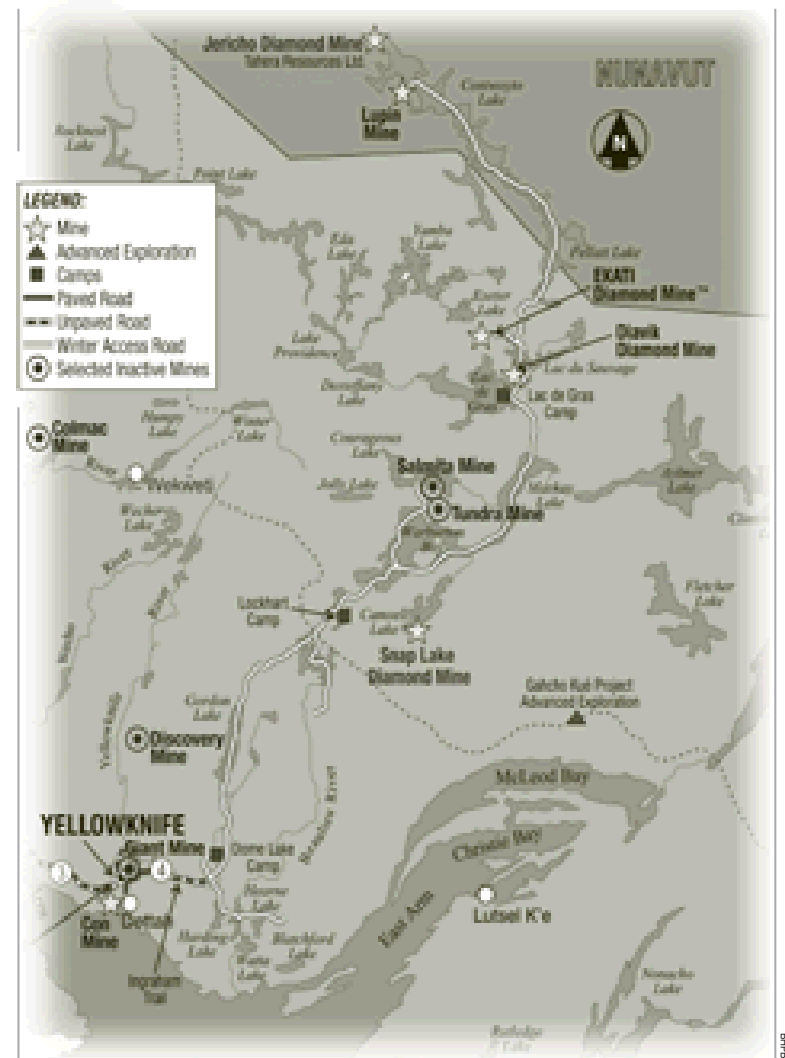
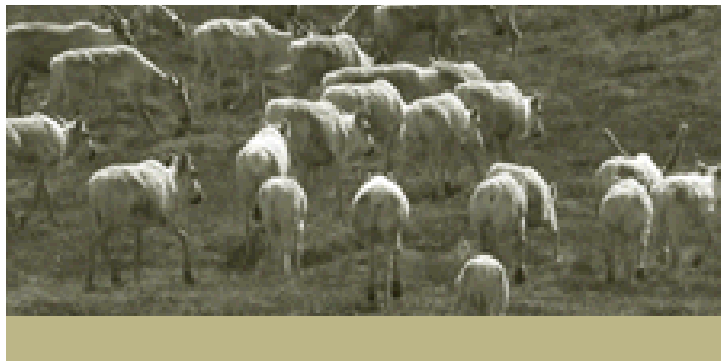
Nunavut and Canada should become more involved in the regional monitoring of the Bathurst caribou herd, including herd distribution, predator abundance, new population surveys and other work. We are pleased to be part of a recent workshop on Bathurst herd monitoring and have noted that the GNWT has adopted the Bathurst Caribou Management Plan and released the Barrenground Caribou Strategy.

The wolverine monitoring program was changed this year from track surveys to DNA sampling, for which we indicated support last year. BHPB's program has

become part of a regional wolverine sampling program, one that we believe will be a significant improvement once the data become available. We continue to encourage cooperation and collaboration among the various mining companies so that the results of the different monitoring programs can be meaningfully compared and used for regional and *cumulative effects* management.

In this respect, we are pleased to note that the independent monitoring agency for the Snap Lake Mine (SLEMA) has come into existence, and we have initiated communication with both the chairperson and the executive director. We hope we can establish a cooperative relationship with that organization, as we have with the Diavik monitoring board.

We also note that the newly granted water licence for Ekati now requires monitoring and evaluation of the Ekati contribution to *cumulative effects* in Lac de Gras. ■



Communications and Consultation

Part of the Agency's mandate is to assist in the facilitation of effective participation of Aboriginal Peoples in the environmental management of Ekati. Throughout the past year the Agency has

continued to observe and hear concerns from our Aboriginal members about the way BHPB has been consulting with them. On more than one occasion the Agency has offered to help

the company communicate more effectively with the Aboriginal parties. To date, BHPB has not taken us up on our offers. We have received no positive response.

BHPB's Activities in 2005

In 2005, as well as welcoming representatives of Dogrib Treaty 11 Council (now the Tlicho Government), Akaitcho Treaty 8 Tribal Council and Kugluktuk in mine site visits, BHPB staff visited Kugluktuk, Lutsel K'e and Dettah. The community visits discussed monitoring programs, the Fish Habitat Compensation Fund and mine closure.

In January 2006 BHPB held a planning session with all interested parties to discuss details of its next three-year impact assessment report, due later this year. In our view, this was a very positive process where the parties jointly determined the schedule and agenda for reviewing the impact report once published. The weakness in this process, however, was that only summary versions of key reports were available for the technical sessions. Also, the schedule does not allow any time for changes that may arise from the

review comments from the Ekati site visit in June to be incorporated into the summer 2006 monitoring programs.

Of particular note was the constructive tone of the meeting held in March for discussing the terms of reference for the Interim Closure and Reclamation Plan. BHPB's willingness to discuss and make changes based on the issues raised was appreciated by the participants.

Given the positive outcomes from the above two consultation meetings, as well as the Long Lake *tailings* management review of 2004, we were disappointed in BHPB's proposed closure planning process. The process, including timelines and agenda, has been developed without significant input from all the interested parties. At the initial WLWB closure working group meeting, BHPB was provided with a message that almost all stakeholders are dissatisfied with the company's attempts at consultation, which implies that decisions will have



Ekati site tour by the Yellowknives Dene

BHPB



already been made by the company regarding closure options.

During the initial community consultations, some parties were not consulted, and those that were consulted were not adequately notified ahead of time about the consultation event. The lack of notification prevented considered responses being made by the participants. The consultation sessions that did occur did not address all mine components or closure issues. Further, interested parties were not able to review or consider these in a collaborative fashion. The Agency and other parties are also very concerned with the compressed timelines for consultation, much of it set unilaterally by BHPB for June and July—a time when not many people are available for this kind of activity due to the summer field season, hunting and vacation time. In spite of these concerns, BHPB continues to move ahead on its own timeline and agenda. In our view, BHPB's consultation process could easily

be improved by revising the steps as recommended by the Agency (see page 12). Such an arrangement would allow for strong community involvement and transparency at the start, particularly the options selection process. It would also promote stronger agreement on the closure objectives and the preferred options once selected. More involvement earlier in the process would likely result in greater participant buy-in for the closure plan that results.

In the near future BHPB will also need to prepare an adaptive management plan and to review the AEMP in 2006—both of these would benefit from a collaborative consultation process with the interested parties. We urge BHPB to conduct any consultations in a collaborative manner with the interested parties, as it did with the three-year environment impact report meetings.

Timing of Reports

A worrisome trend is BHPB's delivery of its annual regulatory and monitoring reports later each year. This prevents

meaningful reviewer input in time to provide comments that could be incorporated into upcoming seasonal environmental monitoring programs. For example this year EIR technical sessions were held before reports were completed and participants only had summary reports. This did not allow for a full technical review and discussion of the results presented by the company.

BHPB should use the principles of consultation and communication recommended by the Agency (see page 28) to develop a consultation strategy with our Aboriginal Society Members. A consultation such as this process would contribute to



Award ceremony in Kugluktuk



BHPB in Kugluktuk

Consultation, as defined in the BHPB Environmental Agreement:

- (i) the provision, to the party to be consulted, of notice of a matter to be decided in sufficient form and detail to allow that party to prepare its views on the matter;
- (ii) the provision of a reasonable period of time in which the party to be consulted may prepare its views on the matter, and provision of an opportunity to present such views to the party obliged to consult; and
- (iii) full and fair consideration by the party obliged to consult of any views presented.



Principles of Consultation and Communication:

Following our Annual General Meeting in October 2005, the company commented on its need to improve its consultation processes and has sought our advice. Based on our observations and comments we have received from our Aboriginal Society Members this year, the following suggestions would improve BHPB's communication and consultation:

- Process and agenda should be worked out and agreed to with the people being consulted.
- Flexibility in terminology and approach is desirable to accommodate individual communities' unique schedules, preferred procedures and comprehension of issues. There should be meaningful recognition of the effort community members must make to understand the project and the issues, and the value of their input.
- Ensure timing of consultation allows for the best possible community participation.
- Consultation should be confined to the topics agreed to ahead of time, while not avoiding good discussion or questions and answers.
- Presentations should be complete but efficient and short, making good use of photos and illustrations, that allow for effective communication in communities.
- To alleviate time constraints hampering complete comprehensive dialogue between the company and communities, it may, where appropriate, be beneficial to have a staff person spend additional time in a community either before or after a consultation meeting to meet with individuals (identified by the community) to better prepare the community and to gain additional feedback.
- BHPB should continue to ensure that there are collaborative opportunities to meet with all interested parties, including communities, on important initiatives.

Recommendation

4. BHPB consultation and communications activities should adopt the principles suggested by the Agency and our Aboriginal Society Members.

► Communications and Consultation

a better working relationship and improved collaborative review of Ekati environmental programs.

The Agency also encourages the Aboriginal Society Members to work with the company and government agencies to define its own consultation procedures and to try and provide consistency in representation and participation for specific consultation topics or activities.

It has been noted by our Aboriginal Society Members

that it is difficult to have consistency in representation due to the lack of funding for individuals to participate in meetings. The amount of time commitment for a particular topic can be excessive. It is, however, valuable and more efficient to the company to have the same person with the appropriate expertise from an individual community or Aboriginal organization attend all the meetings on a particular topic or issue. In order to ensure appropriate

participation, BHPB may wish to consider developing a funding strategy as part of its consultation process to ensure those participants who are not salaried employees are able to participate.

Agency's Activities in 2005

Consultation initiatives of the Agency are highlighted on page 29. ■



Presentation of the Naonayaotit Traditional Knowledge Project to team members in Kugluktuk

Consultation Initiatives of the Agency

Date and Location	Purpose	Main Issues
May 26, 2005 Lutsel K'e	Agency director and manager attend meeting with Wildlife Land and Environment Committee, at its request, on the LLCF operation and changes	<ul style="list-style-type: none"> • Downstream contamination from LLCF • Fencing of LLCF • Use of flocculants and filter dykes • Cell E as the final polishing area • Recommended use of an empty pit, community involvement in option selection • Mine tour by community members • Update provided on water licencing
June 10, 2005 Yellowknife	Agency sponsors presentation by Dr. Chris Johnson, University of Northern British Columbia on regional monitoring and <i>cumulative effects</i> assessment	<ul style="list-style-type: none"> • More information needed on basic caribou ecology to better define questions • Modeling should isolate effects of specific developments • More caribou monitoring data needed and GNWT has responded
August 5-9, 2005 Fort Reliance	Agency director invited to a Lutsel K'e Youth Fish Camp	<ul style="list-style-type: none"> • Basic information and training provided on fish ecology and effects of mining using Ekati as a reference point
September 23-24, 2005 Dettah	Agency directors and manager visit Kaw Tay Whee school, Agency hosts open house, Agency holds board meeting	<ul style="list-style-type: none"> • Presentation made to 12 students on Ekati Mine and monitoring, Agency learns Tlicho names for wildlife • Open house questions around mine closure planning
October 28, 2005 Yellowknife	Agency Annual General Meeting	<ul style="list-style-type: none"> • General discussion of Agency recommendations from 2004-5 annual report • Air quality issues discussed including energy conservation measures by the company • Wildlife deterrence • Agency budget and work plan dispute • Cancellation of environmental workshops and planning for the 2006 Environmental Impact Review Report
October 28, 2005 Yellowknife	Agency director briefings for North Slave Métis Alliance leadership and staff	<ul style="list-style-type: none"> • Roles and responsibilities, mine status
November 15, 2005 Lutsel K'e	Agency director attends meeting between BHPB and the community, at the request of the Wildlife, Lands and Environment Committee	<ul style="list-style-type: none"> • Community wanted more consultation on its own timeline • Site visits by community members • Concerns about caribou and <i>tailings</i>, caribou and roads • Option of putting waste rock into completed pits
January 30, 2006 Yellowknife	Agency director attends BHPB meeting with North Slave Métis Alliance members on closure planning	<ul style="list-style-type: none"> • Need for additional consultation and site visits • Issue of elder reimbursement for meeting participation
February 16, 2006 Yellowknife	Agency sponsored session with <i>reclamation</i> and closure experts	<ul style="list-style-type: none"> • Cost of backfilling pits • Effect of permafrost thaw on reclaimed structures • Closure issues for private lands • Need for basic lichen research and monitoring • <i>Reclamation</i> cost estimation • Best practices for waste rock • Use of Traditional Knowledge in mine closure and <i>reclamation</i>



Traditional Knowledge Incorporation at Ekati

The company continues to support Traditional Knowledge (TK) documentation projects in Kugluktuk and Lutsel K'e. The Naonayaotit Traditional Knowledge Project (NTKP)

team members have developed a geographic information system database containing the ecological knowledge of the local Inuit from an area encompassing some 720,000 km² of Arctic

tundra. The team including Kugluktuk elders and BHPB staff, won a BHPB internal corporate award for the NTKP. BHPB's Summary Report for its Environmental Agreement Annual Report

for 2004 states that information from the NTKP is "presently being used in mine management". The Agency has requested details from BHPB on how the NTKP results are being used in

environmental management but had not received a response as we go to press. For the last eight years the Agency has been encouraging the company to report on how it uses TK in operat-

Elder Concerns and Recommendations Related to Mine Infrastructure at Ekati

	Location and Concern	Recommendation
	<p>Location: Caribou trails through Pigeon Creek culvert</p> <p>Concern: A caribou herd could become trapped in the culvert and damage Pigeon stream habitat.</p>	<p>Create ramps for caribou passage over the culvert.</p>
	<p>Location: Fox Haul Road and Fox Pit</p> <p>Concern: Caribou access to Fox Pit and danger from road crossings.</p>	<p>Improve the road crossing at the ammonium <i>nitrate</i> building (explosive storage) location and add a caribou crossing sign. Construct <i>inokhok</i> north of Nema and Nero Lakes to encourage caribou to avoid the area and potentially cover patches of tundra to eliminate wildlife attractants. (Note - <i>inokhok</i> were constructed).</p>
	<p>Location: Airstrip</p> <p>Concern: Caribou access to airstrip</p>	<p>Construct an <i>inokhok</i> fence with the <i>inokhok</i> spaced more closely than usual. The electric fence should be made more visible to caribou by using flagging.</p>
	<p>Location: <i>Processed Kimberlite</i> pipeline</p> <p>Concern: Caribou could be reluctant to cross these due to the visual barrier, smell and noise.</p>	<p>Cover pipe with fine gravel and creating wide crossings on both sides of the pipeline.</p>
	<p>Location: Panda Waste Rock and Beartooth Pit</p> <p>Concern: Caribou access to pit</p>	<p>Divert caribou away from potentially dangerous area using gates on the Sable Road, building caribou escape ramps by the gates, and using <i>inokhok</i>.</p>



ing its mine. Vivian Banci's report commissioned by BHP Billiton, "Caribou & Roads: Implementing TK in Wildlife Monitoring at the Ekati Diamond Mine Inc., NWT" is a good example of how it can do this. Some of the Inuit and Yellowknives Dene elders' recommendations in this report are related to mine closure issues. The study was undertaken in response to Lutsel K'e hunters' observations of limping caribou while hunting at Aylmer Lake in 2001. They attributed this to injuries from the Misery road at Ekati.

Elders from several communities spent time at Ekati each summer from 2002 to 2004 to observe caribou behaviour in relation to roads. In 2002 they observed that crippled caribou represented about 4% of the total observed animals.

Overall, the primary concern of the elders was preventing injury to caribou migrating through the Ekati area. Their advice included:

- the earliest possible closing of roads no longer used;

- building ramps on existing roads;
- using aerial photos and truck driver observations to determine best locations for these ramps;
- knocking down high berms in problem areas;
- using *inokhok* to deflect caribou from danger areas and using human diverters (dedicated staff for

detering caribou) in areas of highest danger; and

- dogs and wolf decoys might be used as potential diversion tools.

Traditionally, Inuit built *Inokhok* to follow the crest of a ridge or hill to aid in hunting caribou. The Dene also used the same method to hunt caribou, but with spruce trees cut and stuck in the snow rather than piled rocks. ■



Inokhok built at Ekati to deflect caribou

Mackenzie Valley Environmental Impact Review Board's Traditional Knowledge Guidelines

In May 2005, the Mackenzie Valley Environmental Impact Review Board (MVEIRB) published guidelines for incorporating Traditional Knowledge (TK) into the environmental assessment process. These guidelines should help raise the profile of TK in environmental impact assessment and provide formal direction to developers in using TK in their baseline studies. The guidelines direct companies to seek dialogue with Aboriginal communities regarding how TK should be gathered and used.

We note that the MVEIRB's guidelines incorporated our recommendations on the following matters:

- Acknowledgement that the holistic approach of TK can make links between different components of the environment;
- Considerations in soliciting TK from Aboriginal Peoples;
- Community peer-review and approvals of TK use by proponents; and
- Acknowledgement of cross-cultural sensitivities in public hearing procedures.



New Ekati Water Licence

As we reported last year, the Agency participated in the technical review process and the public hearing for BHPB's main water licence. The new water licence was issued August 19, 2005 and extends to 2013.

In our view three of the most significant changes to the licence include requirements for the BHPB to engage in the following activities:

- Involve Aboriginal parties in a fish palatability monitoring program at Ekati;
- Revise the Aquatic Effects Monitoring Program and assess the *cumulative effects* of the Ekati project in the Lac de Gras region; and
- Develop an adaptive management plan with thresholds for action if certain water quality parameters increase downstream of the Long Lake *processed kimberlite* containment facility.

Many of our recommendations for the new licence were adopted by the MVLWB. These include:

- Retention of aspects from the former licence related to *reclamation* and closure conditions;
- Requirement for the waste rock seepage monitoring report to include a discussion of management implications from the data collected;
- Requirement for BHPB to conduct a review of its Aquatic Effects Monitoring Program;
- Consideration by BHPB of the potential for poor quality drainage into lakes from snow melt due to air contaminant deposition at the site; and
- Mechanism for crediting *progressive reclamation* work against the balance of the security deposit.

Agency recommendations that were not adopted by the MVLWB in the new water licence included:

- A requirement that BHPB resume annual collaborative workshops for the review of environmental monitoring results;
- A requirement that the Wastewater and Processed Kimberlite Management Plan include a description of proposed *reclamation* measures; and,
- A requirement that the two main water licences at Ekati be merged when the Sable, Pigeon and Beartooth water licence expires in 2009.

Assessment of the Regulators

The Regulators and Our Mandate

Our mandate as the public watchdog of BHPB's environmental performance at Ekati includes monitoring the performance of the federal and territorial government agencies and the other organizations set up to provide the regulatory oversight of the mine.

The following are comments from the Agency regarding Ekati regulator performance.

Agency's Assessment

In 2005-6 government regulators including DFO, DIAND, EC, GNWT and the MVLWB (and WLWB) collectively were involved in environmental management at Ekati.

DFO – With the exception of the water licence renewal, the Agency noticed a diminished role in 2005 with respect to DFO's involvement in the review of Ekati's

environmental programs in comparison to other years. We expect DFO to play a key role in BHPB's *reclamation* planning process, particularly in providing guidance on the *reclamation* of open pits and water drainage channels that have the potential to become fish habitat when mining ceases.

DIAND – Due to the lack of a full-time inspector assigned to Ekati for much of the year, inspections were sporadic throughout 2005 (only two inspections for 2005 were



The Agency and Environmental Agreement signatories after signing the Resolution Agreement

2005 New Water Licence Process

In August of 2005 BHPB received a water licence for the original four-pipe operation (Panda, Koala, Misery, and Fox) at Ekati. The process conducted by the Mackenzie Valley Land and Water Board was protracted over a period of 20 months, commencing with BHPB's application in December of 2003 and continued well beyond the July 2004 public hearing. The process involved several rounds of draft licences issued to reviewers for comments, and two extensions to the existing water licence to allow sufficient time for the process to be completed. Following the deadline to submit evidence at the public hearing, a scientifically sound document discussing mixing zones downstream of Ekati was distributed by the MVLWB and later withdrawn. All the regulators and most of the Aboriginal organizations participated in the review process.

By the time the licence was issued, there was a common understanding among all the parties that the process had been lengthy, cumbersome and bewildering. The MVLWB, to its credit, then commissioned an independent evaluator of the process to better define the problems that had hindered the process and to identify improvements for future re-licensing events.

The independent reviewer conducted a comprehensive survey of all the parties to the process and the information on the public record, and then issued a number of recommendations in its final report. A unique and helpful element of this report was the provision of the MVLWB's response along side each of the recommendations.

Overall, the reviewer found that most of the problems with the process involved either a lack of guidance, or limited technical capacity, on the part of the Board. Some of the more significant evaluator recommendations that the Board agreed to, include:

- establish, and adhere to, firm timelines and procedures for the process, and communicate these to the parties at the outset;

- conduct Board training in quasi-judicial processes and in processes related to their mandate;
- develop a comprehensive guide to the water licensing process, based on consultation with a range of participants who are involved with Board processes;
- develop detailed procedural guidance for Board staff for all tasks from receipt of applications through process scoping, distribution of licence and maintenance of the public record;
- implement a process planning activity for all Type A water licence proceedings to better understand the legal process requirements, identify technical and procedural issues, and develop a workplan and timeline for the application. A scoping session at the outset of the process would be important; and,
- determine the need for technical assistance during the process planning exercise, and take action to ensure that adequate technical capacity is available to the Board for the review, including increasing the budget as may be required.

In our view, the steps the MVLWB has taken since the new Ekati water licence have been commendable. The commissioning of an independent review, and the MVLWB's apparent willingness to learn from past mistakes and improve its procedures, are earmarks of a dedicated and innovative agency that is working hard to better deliver on its mandate. We give the MVLWB full marks in this regard.



Comments from the Regulators and Aboriginal Parties on the new Ekati Water Licence

All the regulators and most of the Aboriginal parties participated in the new licence process, and provided comments to the MVLWB respecting the content of the new licence. The process was lengthy, and was subject subsequently to an evaluation by an independent evaluator (see page 33). Over the course of the review period substantive comment by these intervenors was submitted to the Board.

Most of the comments fell into the following categories:

- **Reclamation and Security** – reviewers suggested the revised *reclamation* and closure plan be developed promptly, and stressed its relevance in establishing appropriate security for Ekati.
- **Scientific studies and management plans** – reviewers preferred that the licence contain detail related to specific aspects of the ongoing environmental monitoring program. The need to ensure Board approval of submitted plans and reports was urged.
- **Effluent quality thresholds for discharge** – reviewers suggested an adaptive management plan be developed to ensure that effluent criteria remain appropriate.
- **Ensuring conditions are enforceable** – reviewers suggested wording of licence conditions to ensure enforceability and reduce ambiguity in interpretation.
- **Conditions related to drawdown of lakes** – advice on avoiding harm to fish habitat during periods of authorized drawdown to lakes was provided.
- **Hydrocarbon contamination** – update of current approach to management of spills and allowable levels in effluent.

► Assessment of the Regulators

filed to the Agency public registry). In our view this was unacceptable. We believe DIAND should be more accountable for ensuring that its recruitment process is sufficient to ensure Ekati is inspected regularly. This is a recurring problem—a lengthy inspector vacancy period also occurred earlier in Ekati's operation in 2002.

DIAND made progress on policy initiatives related to development of minesite *reclamation* guidelines and aquatic monitoring guidelines involving collaborative processes. The Agency found that the DIAND Water Resources and the Environment and Conservation division continue to be engaged in regulatory processes in a constructive manner.

GNWT – Assisted BHPB in air quality modeling and provided technical expertise related to air quality monitoring in collaboration with Environment Canada in 2005. GNWT has been involved with BHPB in advanced wolverine research

techniques particularly relevant in light of continued wolverine problems.

EC – Assisted BHPB in air quality modeling and provided technical expertise related to air quality monitoring in collaboration with GNWT in 2005. EC continues to participate effectively in ongoing review of Ekati management plans and provides constructive feedback to the company on issues such as *tailings* management.

MVLWB – The MVLWB demonstrated its responsiveness to an Agency recommendation from last year in regard to increasing its technical capacity. It also undertook a review of its own performance in managing the development of a new water licence for BHPB. As of February 2006, authority over the BHPB Water Licences was transferred to the Wek'èezhii Land and Water Board (WLWB) and we believe the MVLWB has been cooperating effectively with its establishment.

Assessment of Environmental Agreement Signatories Ability to Work Collaboratively

Three of our seven directors are jointly appointed by the signatories to the Environmental Agreement (BHPB, GNWT and the Government of Canada). When a director resigns, it is the responsibility of the signatories to work collaboratively to identify replacement candidates, and to agree on new directors to our board, in consultation with the Aboriginal Society Members. The need to appoint two directors in 2005 offered the signatories an opportunity to rejuvenate the expertise and experience necessary to the Agency. The inability of the three parties to appoint two new directors has left the Agency shorthanded, and this has created difficulties for us. We have, on many occasions throughout the year, requested the signatories to place a high priority on this and to resolve this issue at the earliest possible date. ■

