

**Independent Environmental Monitoring Agency
Environmental Workshop (Traditional Knowledge)
Yellowknife, NWT
December 7, 2011 (9:00 am-4:00pm)
Summary of Discussion**

Revised: January 17, 2011

PARTICIPANTS

Agency Directors:

Tim Byers
Sheryl Grieve
Laura Johnston
Jaida Ohokannoak
Tony Pearce
Kim Poole
Bill Ross

Agency Staff:

Kevin O'Reilly

BHP Billiton (BHPB):

Helen Butler
Eric Denholm
Charles Klengenberg

Indian and Northern Affairs Canada (INAC):

Julian Kanigan
Carole Mills

Fisheries and Oceans:

Bruce Hanna

Akaiicho Treaty 8 - Łutsël K'e Dene First Nation (LKDFN):

Jeanette Lockhart

Akaiicho Treaty 8 - Yellowknives Dene First Nation (YKDFN):

Randy Freeman
Fred Sangris
Mary Rose Sundberg

Kugluktuk Hunters and Trappers Organization (KHTO)

Barb Adjun

North Slave Métis Alliance (NSMA):

Ed Jones

Tłı̄chų Government (TG):

Harry Apples

Wek'eezhii Renewable Resources Board (WRRB)

Jody Snortland

Interpreter:

Margaret Mackenzie (Tłı̄chų)

An opening prayer was given by Mary Rose Sundberg.

OPENING REMARKS

Chairperson Bill Ross welcomed everyone to the workshop and gave an overview of the agenda. The Agency worked with BHPB to prepare an agenda and coordinated travel arrangements. The presentations are included as handouts in participants' folders, and will also be available on the Agency website.

**PRESENTATION ON TRADITIONAL KNOWLEDGE INCLUSION AT THE EKATI DIAMOND MINE
Charles Klengenberg (BHPB)**

Charles Klengenberg started in January 2011 as the TK Advisor for BHPB at Ekati. His presentation gave background information on TK in the 1997 Environmental Agreement. BHPB is now negotiating and funding a series of Phase II community based projects pursuant to its TK strategy for the mine site. The mission, guiding principles and goals of the strategy were discussed. The 2011 community-based projects were briefly described:

- Lutsel K'e (TK Archive Project);
- Tlicho Government (Digitizing Tapes and Database Project);
- North Slave Metis Alliance (Community Legacy Genealogical Project);
- Yellowknives Dene First Nation (Digitization of Elders Stories); and
- Kitikmeot Inuit Association (Content Development for the Naonaiyaotit Traditional Knowledge Project [NTKP] Publication).

The site based programs that involved elder and youth visits were reviewed. BHPB is making a greater effort to document what happens with these site visits.

BHPB is also seeking TK input into its reclamation planning. The first phase involves a literature review and lessons learned from TK projects. BHPB is anticipating setting up a TK advisory group to assist with further work.

Carole Mills remarked that it was good to see BHPB moving from simply using TK in its monitoring programs to reclamation planning. Barb Adjun mentioned the interest of KHTO in water quality and using TK in this regard. Julian Kanigan asked how the site visits have changed or improved BHPB's monitoring programs. Bill Ross asked how environmental management at the site has been changed by better knowledge and use of TK.

Charles Klengenbergl replied that the wildlife technicians were learning about how to better differentiate male and female caribou by sight, what sort of food caribou eat, and how to better identify animal tracks. He also mentioned that BHPB is more willing to invite community members to visit the site and participate in monitoring programs. BHPB now better documents issues, concerns and results that are discussed during site visits and reports this back to communities. Eric Denholm added that the site based visits are really about beginning to build relationships and seeing what the Environment Department staff do in the office and in the field.

Ed Jones expressed some concern over the need to monitor site runoff at least once a year. Charles Klengenbergl replied that the Aquatic Effects Monitoring Program and water licence require many individual sites to be monitored, some virtually year round, and that these results are publicly reported.

Barb Adjun asked if wildlife observation and incident reports are filed by mine employees and KHTO could get copies of same. Charles Klengenbergl committed to adding KHTO to the distribution list for the annual Wildlife Effects Monitoring Program report that contains summaries of most of the wildlife observations.

Carole Mills mentioned that some examples of early use of TK at the mine site include stopping workers from urinating around the outside of buildings as this would draw in wolverines as they wanted to add their scent to these locations. BHPB also designed some caribou crossings on the Misery Road using TK. Charles Klengenbergl said that there are now fewer wildlife incidents at site and that better skirting around buildings has reduced wolverine presence at the mine. He also stated that TK had been used to locate the fencing around Beartooth pit that was later used around the airport and the Pigeon test pit.

Fred Sangris said that he spent about ten years trapping around the Lac de Gras area in the 1970s. He used dogs and wolves would often follow him and his team. Wolves tend to feed about once a week and gather in certain areas about March of each year. Wolverines can travel up to 40 or 50 miles in a day and they make rounds of a certain territory. White foxes tend to be in the eastern areas and follow the wolves and caribou. There are burial sites for the Dene throughout the barrens. He said that a lot of wildlife biologists get most of their experience from the class room rather than living on the land. His grandfather used the area all along the Coppermine River from at least 1865. Wildlife seems to have declined in the area of the mines. It will be important to make the mine safe for wildlife when it is finally closed. He agrees with bringing up wildlife harvesters to the mine site. It is important for the company to get consent from communities and their leadership.

Julian Kanigan asked how BHPB did its TK work in the past. Helen Butler responded by saying that the Phase I studies were done during the original Environmental Impact Statement in about 1996. The NTKP by KIA was a success story, with the other projects less so. BHPB is now re-evaluating this work and its approach. The Caribou and Roads Study started off with both Lutsel K'e and Kugluktuk and was quite successful. With BHPB's loss of Chris Hanks as an experienced staff person, someone else to coordinate TK work was needed and Charles Klengenber now takes on that role.

Julian Kanigan said that reclamation planning should be a key focus for future TK work. How will this be done and what are the next steps? Helen Butler responded by saying that there will be a literature review and that some preliminary work has already begun including an interview with George Lafferty who worked on the Colomac mine remediation. Further information is in the reclamation research plan for TK and will be forthcoming.

LUTSEL K'E COMMUNITY TRADITIONAL KNOWLEDGE PROJECT **Jeanette Lockhart (Lutsel K'e Wildlife, Lands and Environment Committee)**

Jeanette Lockhart gave a presentation on Lutsel K'e's use of a Geographic Information System (GIS, computer based mapping and information storage) that began in 1999 with the help of BHPB. Information has been collected and stored on hunting, fishing, trapping, place names, burials, and industrial uses. Some examples of land use were shown including land uses within the community, the spring harvest for 2004 and place names. Seasonal harvesting information is collected from harvesters through interviews that are then transcribed and matched with areas on maps. Elders have said that some areas should be protected from development. There are now hundreds of these files and about 95% have been transcribed and then digitized to areas on maps. This will be useful information to connect Elders and youth and to help transmit the culture. It will also be used to help have input into industrial development and the health of wildlife populations and their management. Over the short term, the remaining 5% of the files need to be digitized. The files then need to be matched to locations on maps and finally, made into a searchable database.

Charles Klengenber asked what sort of support the University of Alberta had provided. Jeanette Lockhart said that the University had provided some students over the years who had helped people understand how to better organize information and research. These students included Brenda Parlee and Stephen Ellis. They had also shown people how to set up and use computers, and helped with the funding for all of this.

Eric Denholm asked what digitizing the tapes actually involves. Jeanette Lockhart responded by saying that the original tapes are 8 mm films that need to have consistent information reported as to who was interviewed, when, how long, what they said and where it is located on the tapes, which must all then be tied back to maps. As some of the interviews are in Chipewyan, the transcribers need to be fluent in that language. There was a local person trained in how to enter all of this into the GIS, so it is hoped that another student might help with this part of the work. An example of how the information can be used was provided where the community put together information on what it was like at Nonacho Lake before the hydro-electric dam was put in there.

Some of the Elders who were interviewed have passed on and there is a lot more information in the community on TK and land use that can be gathered if there is sufficient funding. Charles Klengenber mentioned that it would be good for people in Lutsel K'e to see how the KIA have put together and used the NTKP in a GIS.

Harry Apples stated that some of this discussion was hard for him to follow as he would like to see some of the projects and get to the mine site more often. The last time he was up to Ekati was when the Fay Bay spill took place in May 2008.

COMMUNITY HERITAGE PROJECT
Sheryl Grieve (North Slave Metis Alliance)

Sheryl Grieve, as a NSMA employee, gave a short verbal presentation on the NSMA Genealogy project that it would like to undertake, in preparation for a TK project to be completed in a later phase. The NSMA has no formal recognition from government. There is a general lack of respect for the North Slave Métis People and their Aboriginal rights and the provision of insufficient funding with the unavoidable effect of limited NSMA capacity to participate in resource management. This project will help NSMA document and prove who is indigenous North Slave Metis (basically indigenous Metis families from 1921 or before, and their descendents). The first part of the work will likely take about two years and then an archive and database of information on land use will be developed along with rules around its use.

DIGITIZATION OF ELDERS' STORIES
Mary Rose Sundberg (Goyatiko Language Society)

Mary Rose Sundberg gave a verbal presentation on the TK work that the Goyatiko Language Society has started and would like to continue with the financial support of BHPB. The Yellowknives Dene First Nation has a lot of tapes made during interview of Elders. Some of these date back to the 1960s. About 150 of these tapes have been digitized using funding from GNWT Education, Culture and Employment and other sources. Four trainees have been working on this for many months including Dene literacy, English upgrading, transcribing skills, and basic computer skills. There are also more tapes at the Dene Nation but the Dene Nation has little capacity but have been supportive of the work to date. More interviews are available in the CBC collection at the NWT Archives but the contents are not described or indexed very well. The Tlicho Community Services also has some tapes that include interviews with Yellowknives Dene First Nation Elders that were done before the 1990s. Some of these tapes have been digitized using other funding. The Roman Catholic Diocese of Mackenzie-Fort Smith has a good photo collection that includes subjects and locations of interest for the Yellowknives Dene First Nation. The Diocese is willing to share. There are some good ideas about how all of this information can be put together and then used for historical research, family geneology, education in Dene and non-Aboriginal schools, and for Treaty negotiations. Mary Rose Sundberg expressed interest in learning more about how others use their TK research and how a GIS can assist. The early tapes could be useful in better understanding environmental changes. She mentioned that there is a lot of work being done on the Giant Mine with the help of some Memorial University professors and this may result in a book for the community and others.

Fred Sangris added that he had done about 200 hours of interviews and that all of this work should form the basis for a library and research centre for the Yellowknives Dene First Nation. More work can still be done with the Elders of today. This requires a lot of work and a team to help with transcribing. Financial support for this work is essential.

Tony Pearse mentioned that is crucial from his experience to have the original materials duplicated and protected from fire. Eric Denholm said that BHPB would be pleased to support the work that Mary Rose and Fred described, and that this could be done in manageable tasks with a good plan.

EFFECTS OF DEVELOPMENT ON CARIBOU: INSIGHTS FROM *INUIT QAUJIMAJATUQANGIT* AND AN ECOLOGICAL MODEL
Damian Panayi (Golder Associates) and Barbara Adjun (Kugluktuk Hunters and Trappers Organization)

Barbara Adjun introduced the presentation by saying that about 10 Elders have been interviewed to date and that the data are kept at the KIA office for safekeeping. The data will be added to the NTKP.

Damian Panayi gave a presentation on the project. The objectives of the project were as follows:

- KHTO wanted to use both western science and Inuit Qaujimagatuqangit (IQ) to investigate questions related to the effects of development on barren-ground caribou; and
- Train community researchers in both research methods.

A set of scientific and IQ questions were developed to guide the research. The scientific research involved a model to estimate the sensory disturbance experienced by caribou, while the IQ research relied on interviews with experienced harvesters. Using GNWT caribou collaring data, the potential weight loss as a result of sensory disturbance from resource development was calculated (0.047 kg/day) and found to be substantially less than the weight loss due to insect harassment (0.15 kg/day). The IQ interviews revealed that environmental change was identified as having the greatest effect on caribou while resource development was more often cited as part of overall cumulative effects. Resource development can serve as both an attractant (shade, fans for air circulation at the mines, and sanctuary from insects) and a deterrent (changes in migration, noise, human disturbance), with overall greater habituation to human presence. Caribou behaviour around mines appears to be changing. There are differences in scale between what science and IQ can contribute, but they complement one another.

Kim Poole asked whether a report on the project is available as the work has not been formally peer reviewed. Barb Adjun replied to say that there is one but it needs to be presented to the community first, and others such as AANDC, Government of Nunavut and KIA will be invited to attend. KIA will eventually hold and own the rights to the report.

Eric Denholm asked how often the work should be redone. Damian Panayi responded by saying that was not clear at this point. Tony Pearse asked how the zone of influence around resource development activities was calculated. Damain Panayi replied that the Johnston et al. work on a zone of influence was used.

Harry Apples said that Elders speak of regular cycles of abundance for animals including caribou. He stated that caribou have gotten leaner over the last while and that the meat is not as tasty as before, probably due to contamination from resource development. Barbara Adjun confirmed that Inuit have seen cycles for caribou too. Bill Ross mentioned that the Agency understands that scientists have seen cycles for caribou populations. The Agency has heard from communities that dust may be an issue and has recommended better lichen monitoring. Following Agency suggestions, BHPB has responded with improved lichen and dust monitoring.

Kim Poole asked Harry Apples whether there would still be a decline in the caribou herds in the absence of the resource development boom. Harry Apples responded by saying that others too have commented on the decline in the caribou and that he is concerned about the effects of dust which seems to be carried for long distances. Barbara Adjun commented that the mining activity is definitely causing more stress and disturbance for caribou. Migration routes have changed. Climate change has also had some influence.

TRADITIONAL KNOWLEDGE USE AT EKATI MINE: AGENCY PERSPECTIVE **Tim Byers (Independent Environmental Monitoring Agency)**

Tim Byers gave a presentation on behalf of the Agency. He reviewed how TK was dealt with in the 1997 Environmental Agreement that covered Ekati, which essentially stated that BHPB is to incorporate all available TK in its environmental management and to give full consideration to TK. The Agency's role is to make recommendations regarding the integration of TK into BHPB environmental plans and programs at site. The Agency has made 19 recommendations in its Annual Reports with regard to TK since it began in 1997. In December 1998 and March 2003 the Agency held workshops on TK use at Ekati. The latter resulted in a recommendation for a TK advisory panel. The work that BHPB has done on TK was also described including the Caribou and Roads project and fish monitoring. The Agency also provided advice to AANDC on the use of TK in aquatic monitoring. BHPB wants to improve its use of TK in closure

planning. The Agency believes that BHPB should better document its use of TK in environmental management.

Julian Kanigan asked how the Agency will use TK in closure planning at Ekati. Tim Byers replied that the Agency has encouraged BHPB to better use TK in closure planning but can only offer advice.

Kim Poole mentioned that the objectives for the October 2010 TK workshop related to the Diamond Mine Wildlife Monitoring Program review were not clear which partially led to that workshop not meeting expectations of the companies and many participants.

Eric Denholm said that BHPB is trying harder on TK and that its new approach seems to be helping, especially the site visits. He admitted that the objectives for the October 2010 wildlife monitoring workshop were not met. BHPB will be working with the WLWB on a proposal for non-lethal fish sampling.

INVOLVING ABORIGINAL PEOPLES

Carole Mills (Contaminated Site Division, Aboriginal Affairs and Northern Development)

Carole Mills used selected slides from a presentation on involving Aboriginal peoples in contaminated sites work to illustrate how to better collaborate with communities. She discussed some of the benefits of working with Aboriginal peoples including better projects and outcomes, and building trust and credibility. TK can help with dealing with uncertainty and can help with unforeseen problems. She used some examples from her involvement with the Colomac mine remediation to explain how community involvement and TK helped shape that project.

Eric Denholm asked if AANDC has a standard definition for TK and guidance on the range of involvement that communities should have in a project. Carole Mills responded by saying there is no standard definition and that each project is different. Colomac was successful because of early and direct involvement by the Tlicho communities that helped to build trust and respect.

Helen Butler asked whether there is a paper on the Colomac project that reviews these experiences and whether some good examples of TK use in mine closure planning could be highlighted. Carole Mills said that there is one summary paper done by Tony Pearse. Specific examples of TK use in closure planning are harder to come by but it is really an issue of involvement and building partnerships.

CLOSING REMARKS

Barbara Adjun said she got a lot of good information to take home including a better understanding of what TK can do for environmental management. Training is important and so is building strong relationships. There are still concerns over how TK will be used and who has control over it. Building capacity in the communities is very important. She was happy to hear what others at the workshop had to offer.

Fred Sangris said this type of meeting should continue on a regular basis. If TK and science were both properly used, there would be no need for abandoned mines to be cleaned up. Industry needs to do more, especially using TK during closure and reclamation. Not everyone in a community is a TK holder but a community can tell who really is an expert on various things. One of the objectives of mine closure and reclamation should be to return an area as close as possible to its original state.

Harry Apples wanted to know what the Inuit people thought about not filling the pits and whether they might overflow in the future with contaminated water. Will the water be safe in the future? He is concerned about refilling the pits with water and possible downstream effects.

Eric Denholm explained that BHPB's next big task with mine closure planning is to work more closely with the communities. He has heard these concerns from Harry Apples before and took some time to try to address them but committed to further work with a TK working group for the Interim Closure and

Reclamation Plan. Eric Denholm explained that the pits would be reconnected to natural water bodies surrounding the mines site, but only if the water is safe. This would involve constructing channels and drainage systems so that the pits would not just overflow on their own. Harry Apples was pleased to hear this explanation and said that he now better understands what the plan is for the mine. Eric Denholm also thanked the Agency for putting together the workshop.

Randy Freeman said that he has been involved in TK research for 26 years and feels that some progress has been made. People are beginning to understand TK better and to value it. It is really a two-way street where communities need to be more open to working with interested parties, but government and industry also have to be willing to take the time and spend the money to do things well. If there is no respect, TK will not be collected or used.

Bill thanked everyone for attending the workshop. He said that trust is very important and must be built from community involvement. Mine closure planning at Ekati is an area where TK use should be possible and the Agency strongly encourages everyone to work together.

A closing prayer was given by Harry Apples.