

APPENDIX C

2017 WORKING GROUP MEETING NOTES

APPENDIX C1

2017 MEWG MEETING RECORDS



Marine Environment Working Group Meeting 10 Meeting Minutes

Date: March 15, 2017

Location: Teleconference at 13:00 – 15:30 pm

Remote: 1-866-251-3220 ID: 6861183#

Participants		
Member Organization	Attendees	
Baffinland Iron Mines (Baffinland)	Wayne McPhee (WM)	P
	Megan Lord-Hoyle (MLH)	P
Qikiqtani Inuit Association (QIA)	Jeff Higdon (JH)	P
	David Qamaniq (DQ)	P
	Luc Brisebois (LB)	P
Department of Fisheries and Oceans (DFO)	Heather Clark (HC)	P
	Veronique D'Amours Gauthier	N
	Kim Howland	N
Government of Nunavut (GN)	Lauren Perrin (LP)	P
	Brad Pirie	N
Parks Canada (PC)	Francine Mercier (FM)	P
Environment Climate Change Canada (ECCC)	Grant Gilchrist	N
Makivik	Gregor Gilbert	N
Mittimatalik Hunters and Trappers Organization (MHTO)	Mathias Qaunaq (MQ)	P
	Elijah Panipakoocho (EP)	P
Observer Organization		
World Wildlife Fund – Canada (WWF)	Andrew Dumbrille	P
Oceans North Canada (ON)	Chris Debicki	N
	Kristin Westdal	N
Baffinland Consultants		
Golder	Andrea Locke (AL)	P
	Erin Linn (EL)	P
	Phil Rouget (PR)	P
Interpreter		
Pond Inlet	Morgan Arnakallak (MA)	P
Additional Recipients		
Qikiqtani Inuit Association (QIA)	Stephen Williamson Bathory	N

I – In person, P-phone in participation, N- Not attending

Agenda	
1.	Welcome and introductions (Megan Lord-Hoyle)
2.	Baffinland update (Megan Lord-Hoyle)
3.	Introduction to the technical team from Golder: Phil Rouget and Erin Linn. Andrea Locke departing Golder (MLH)

Agenda
Marine Environment Monitoring Presentation
Introduction and technical presentation delivered by Phil Rouget

Comments
<p>1. AD: Have the results been received from the Bruce Head study in 2016? MLH: BIM has just received the draft version two weeks ago (later than normal). We plan to share with the group as soon as comments have been incorporated;</p> <p>2. MHTO: Will drones be used for the narwhal monitoring program? PR: We are not using them in 2017, but BIM is considering this option, yet nothing is planned specifically. There is a third option for tagging purposes – VHF tagging in Tremblay Sound. We are also looking into satellite imaginary;</p> <p>3. MHTO: Will winter corridor be the same as summer corridor? MLH: Yes, proposed shipping corridor for 2017 remains the same.</p> <p>4. AD: Will the only surveys be at Bruce Head and seal study? PR: Bruce Head study will occur during summer and seal monitoring will be taking place in January; other programs are currently being reviewed with BIM;</p> <p>5. LB: Have you developed the framework for the ringed seal studies yet? If not, I suggest you work with the HTO to get their feedback. PR: No, this is very collaborative as this is step one to build the program. We haven't finalised our program yet, and will be contacting HTO and individuals involved. LB: I recommend face-to-face meetings in Pond Inlet rather than calls. PR: agreed with LB.</p> <p>6. AD: WWF species conservation fund; Does BIM give Golder 100K and say to stretch it as far as they can? Or how does it work? MLH: This is the first step. A lot will happen between now and the finalization of these programs, one of which includes budgetary considerations based on the programs selected.</p> <p>7. LB: Wouldn't the fact that no ship is seen in the area feed into habituation of the animal or the response? How will narwhals react to the real sound of the ship? PR: This is the reason we are planning to run this study to identify animals' reaction. We will be working with the local community to identify low or no vessel activity periods.</p> <p>8. MHTO: Bruce Head program during high shipping season. Could the playback program be run before the shipping season begins? PR: Yes, it is definitely possible. We will still need to run the Bruce Head program to perform behavioural studies. This is more of a logistical question, but it will be possible if there are narwhals in the area.</p> <p>9. MHTO: Narwhals typically go up in July when ice is breaking up, but more go up in August. Members are concerned with Bruce Head happening at the end of July/ beginning of August.</p>

	<p>PR: Traditionally Bruce Head monitoring starts late July; perhaps schedule an earlier program as it will not require extensive planning for the initial monitoring – will need to discuss this further.</p> <p>MHTO: They are very eager for a program like that and want to note that there are many seals in the area at that time also.</p> <p>10. AD: Goes back to budget as it is challenging to plan a program without seeing a number. MLH: We are taking other areas into consideration when it comes to annual programs (studies that could be done every couple years).</p>
	Face –to-face meeting – Megan Lord-Hoyle
	<ul style="list-style-type: none"> • Face to face meeting in spring – proposed at the end of April; • Feedback – last week of April is not good; first week of May could work; • Logistically it will not be possible at site; considering having this meeting in Ottawa; if this doesn't work because of other Canada 150th Anniversary activities in Ottawa, then we will have a meeting in Toronto; • Working towards having the November meeting to be held at site; • Spring meeting – will share an agenda; intention – finalize monitoring programs and emphasis on community based monitoring and development of the monitoring framework; • Will be looking for feedback and suggestions from all parties on the monitoring framework, we will set aside time for all parties to present on applicable research/programs at the meeting. This will require feedback in advance of the meeting for planning.
	Break – 15 minutes
	Technical presentation delivered by Andrea Locke
	<p>1. MHTO: Asked about narwhal tagging, and if the information will be picked up via GPS. AL: Admitted she was not the expert on tagging and suggested to speak with Phil when he returns. PR: Information will be received via receiver station which is located at shore; VHF – signal within the line of sight; Satellite would allow to obtain information.</p> <p>2. JH: Could local repeater stations interfere with these stations? PR: There is a possibility for signal interference from other equipment already set up. We will need to have a conversation with MHTO to identify stations' location and frequency.</p> <p>3. MHTO: Fish around Milne Inlet need to be monitored to see if they are getting more iron in their bodies. AL: If any char are killed they are sent to the lab to be tested for metal, hydro carbons and other contaminants that may be picked up. This has happened over the last couple of years. MHTO – left the call at this stage. No further comments received at the end; A number of conversations will be held with different groups re: economics/social studies. BIM will be Looking for specific feedback and input from groups.</p>

Action Items		Action By	Date Completed
Meeting, November 29, 2016			
1.	Include analysis of tug boat noise levels in monitoring	Baffinland/Golder	
2.	Evaluate the need to include noise and vibration monitoring in Pond Inlet	Baffinland/Golder	
3.	Provide a copy of the Annual Project review forum presentation to KH	Baffinland	
4.	Prepare Draft ToR revisions	Baffinland Dec 23, 2016	Dec 22, 2016
5.	Draft letter to NIRB requesting clarification on their role	Baffinland	February 17, 2017
6.	Distribute list of participants for review by organizations	Baffinland	Dec 22, 2016
7.	Schedule winter conference call	Baffinland	Complete
8.	Distribute ECCC reporting template developed with the HTOs	GG	Nov 30, 2016
9.	Consider options for observers/inspections around ragged island	Baffinland	Complete
10.	Look into any devices placed in the water around the port area	Baffinland	
11.	Send emergency ballast water exchange zones report	KH	
12.	Look into MMO report to be prepared for QIA	Baffinland	
Meeting, March 15, 2017			
1.	JH to email comments following the meeting	JH	March 15, 2017
2.	Baffinland to schedule face to face meeting for 1 st week of May	MLH	Complete

Marine Environment Working Group

Wednesday May 3, 2017

8:30 am – 5:00 pm

Ottawa Delta City Centre

101 Lyon Street North, Ottawa ON K1R 5T9 Canada



Conference Call In Details: 1 866 251-3220 ID: 29299503#

Member Organization	Participants		Member Organization	Participants	
Baffinland (BIM)	Wayne McPhee (WP)	I	Mittimatalik Hunters and Trappers Organization (MHTO)	Mathias Qaunaq (MQ)	I
	Megan Lord-Hoyle (MLH)	I		Elijah Panipakoocho (EP)	I
	Joe Tigullaraq (JT)			Daisy Koono (DK)	I
Qikiqtani Inuit Association (QIA)	Stephen Williamson Bathory (SWB)	N		Patrick Innaraq (PI)	I
	Jeff Higdon (JH)	I	Observer Organization	Participants	
	Luc Brisebois (LB)	I	World Wildlife Fund – Canada (WWF)	Andrew Dumbrille (AD)	N
Fisheries and Oceans Canada (DFO)	David Qamaniq (DQ)	I		Amanda Hanson Main (AHM)	N
	Veronique D'Amours-Gauthier (VG)	I	Oceans North Canada (ONC)	Chris Debicki	N
	Kim Howland (KH)	I		Kristin Westdal	N
Environment and Climate Change Canada (ECCC)	Amy Black (AB)	N	Baffinland Consultants	Participants	
	Grant Gilchrist (GGi)	I	Golder (GL)	Phil Rouget	I
Government of Nunavut (GN)	Brad Pirie (BP)	I	Golder (GL)	Erin Linn	I
	Amy Robinson (AR)	N	Environmental Dynamics Inc. (EDI)	Mike Settingington	I
	Krista Johnson (KJ)	I	Additional Observers		
Parks Canada (PC)	Francine Mercier (FM)	I	Post-graduate students (ECCC)	(2 students)	I
Makivik (MK)	Gregor Gilbert (GG)	I	Interpreter	Geela Tigullaraq	I
Recipients: All above. Anne Wilson (ECCC), Jean Francois-Dufour (ECCC), Marianne Marcoux (DFO), Trevor Taylor (ONC)					

P-phone in participation, I – In person, N- Not attending

Agenda

Time	Activity
8:30 am - 9:00 am	Welcome and introductions (Megan Lord-Hoyle, All)
	Baffinland Update and Meeting Objectives (Megan Lord-Hoyle)
9:00 am – 9:30 am	Seabird Monitoring (Grant Gilchrist)
9:30 am – 10:00 am	2017 Marine Environment and Narwhal Monitoring Programs (Phil Rouget and Erin Linn)
10:00 am – 10:30 am	Health Break

10:30 am – 12:00pm	2017 Marine Environment and Narwhal Monitoring Programs (Phil Rouget and Erin Linn)
12:00 pm – 1:00 pm	Lunch (provided)
1:00 pm – 3:00 pm	Monitoring Framework and Scheduling Workshop (Megan Lord-Hoyle, All) Discussion on: <ul style="list-style-type: none"> • Field programs and alignment with Project objectives • Thresholds for adaptive management • Requirements to develop a monitoring framework and schedule
3:00 – 3:30 pm	Health Break
3:30 – 5:00pm	Roundtable updates on relevant research projects Next Steps
Reference Material:	
 Baffinland and Golder Final Present	 ECCC May 3 Presentation.pdf

Comments	
1.	<p>Update Presentation</p> <p>MLH gave an update presentation on the Project, an overview of Phase 2 with a focus on shipping, and the NIRB Annual Report.</p> <p>LB: Reviewed NIRB annual report, found new format to be beneficial.</p> <p>DQ: Asked whether Inuktitut translation of NIRB report had been given to HTO</p> <p>MLH: There is only an Inuktitut translation of the Popular Summary, the entire report has been sent to HTO.</p>
2.	<p>Seabird Monitoring Update</p> <p>GGi: Update on seabird research in response to broader research questions as well as Project terms and conditions. Research could produce 50 technical papers. Highlighted @AChangingArctic twitter feed.</p> <p>KH: Will the study include bird diets. Also mentioned that fish stock in Hudson's Bay is changing.</p> <p>GGi. Yes, diets are studied.</p> <p>LB: How are the studies related to Baffinland?</p> <p>GGi: The studies are setting a baseline as well as looking at key foraging and breeding areas to inform shipping movements. Future studies will refer to the baseline assessment to determine potential impacts. This project drives innovation and requires a diverse group of people.</p>
3.	<p>Marine Mammal Monitoring Program</p> <p>PR: 2017 is the 4th year of the Bruce Head monitoring program. Golder and Baffinland will be going to Pond Inlet to discuss with interested members of the community. A training session will be run before the study. Eventual plan is to transfer program to a community based monitoring program. Golder/Baffinland is collaborating with the DFO for the Narwhal Tagging program. The tagging program will be run by DFO with support from Baffinland and Golder and additional equipment to meet Baffinland study objectives.</p> <p>MQ: Better to start the study before the ships start coming to accurately assess impact of Baffinland ships, also marine mammals are generally more afraid of tourist ships and not afraid of the Baffinland</p>

	<p>ships. We are concerned about pollutants getting into their diet. PR: The study will monitor behavior for all boat types and DFO will collect data on Narwhal stomach contents. The timing of the study is meant to align with periods where there is no ship presence or hunting to observe behavior with and without ship presence.</p> <p>General discussion on Narwhal mortality during tagging study. EL: This is a DFO led program so we need to ask them – in previous years there were no mortalities and the team has reduced the handling time. There will be 2 veterinarians as part of the team. Erin will follow up with DFO and Phil will provide the information in the upcoming Pond Inlet meeting JH: DFO has lost animals during tagging studies in the past. MLH: Should there be a mortality associated with Project impacts there is a Wildlife Compensation Agreement in place. The tagging program is being run and lead by DFO, we will have to follow-up with them as they likely have their own protocol in place. VG/LB: The DFO has a protocol in place, as they are leading the program the compensation should come through their direction. *VG: Returned from lunch explaining the DFO protocol with the HTO on whale injury/death. The Inuit field team member makes a decision about whether to put an animal down, there is no compensation provided, however the whale is given to the community to use and the HTO gets the tusk. LB: Based on this and that DFO is leading the program, the Baffinland/QIA wildlife Foundation is not appropriate to use.</p> <p>MQ: Workers in Mary River are not all from Pond Inlet so narwhal should go to hunters.</p> <p>DQ: There are programs which use cameras to follow sharks to observe behavior, could that be used here?</p> <p>PR: Open to using new technology like attaching cameras to the whales however could be an issue with water clarity.</p>
3.	<p>Marine Ecological and Aquatic Invasive Species Monitoring Program</p> <p>EL provided updated of the 2017 program, outlined areas of possible DFO collaboration. Expansion of coverage of program to include Ragged Island and an expanded aquatic invasive species program from years previous.</p> <p>MQ: Main concern is contamination in the food supply. Would like to see monitoring continue.</p> <p>DQ: Noted that two individuals in Pond Inlet have taken diving courses for consideration in hiring.</p> <p>PR: This will be further discussed with the HTO in Pond Inlet.</p> <p>JH: Are there plans in 2017 to do a second radial design to set a baseline for the second ore dock? PR: The radial design is based on the discharge point not the ore dock so the second ore dock is within the current study data.</p> <p>KH: DFO sampling will be covering a greater area (around 5km from the port). There is a standard approach using PVC plates being developed but ice can be an issue for this. Baffinland including looking at hull fouling is beneficial. Additional baseline on ballast water would be helpful to help compare current conditions and the treated ballast water in the future.</p> <p>MLH: This is on our radar but is most likely not possible for 2017. We will be discussing internally and with our shipping companies.</p> <p>EP: We want the studies to continue and monitor the health of fish including halibut. We would also like to hear more about the studies and the outcomes because people are curious and these animals are part of the diet.</p>

	<p>MQ: Brought up what had been mentioned previously that there was concerns of the land eroding where ships pass by.</p> <p>PR: We are doing modelling of the potential wake effects to wind and wave effects along the northern shipping corridor. Effects from propeller wash will also be looked at along with the effects of a new ore dock, and ballast water discharge. Results will be ready as part of the Environmental Assessment. MQ: Would like to report back on these results to the community.</p> <p>JH: Explain hydrodynamic modelling. PR: explains the process of modelling and confirms that the effects are realistic.</p> <p>LB: Any Project related fatalities need to be reported to the wildlife foundation. Also preference should be given to ships that use ballast water treatment. Where is the location of ballast water exchange?</p> <p>KH: Testing for ballast water salinity only works if it's coming from fresh water. Transport Canada keeps track of water exchange. The exchange is in the Atlantic prior to entering Nunavut waters.</p> <p>WM: Ballast water treatment is not available. Plan is to release ballast water at the port so that the exchange of ballast can be confirmed. Transport Canada keeps a data base of ballast water exchange forms.</p> <p>EP: Is Baffinland monitoring near Pond Inlet? Have we tested if water is saltier deeper down? PR: Several programs that have collected data from fresh and salt water interface near the port. Shouldn't be much difference between open ocean and Pond Inlet. KH: Slight difference but not enough to impact organisms in the water.</p>
4.	<p>General Discussion</p> <p>JH: Are we still looking at the play back study in the future?</p> <p>PR: The playback study is an add on to the Bruce Head program, not possible in 2017 but still considering for 2018.</p> <p>MLH: A number of the programs discussed at the March meeting were developed further based on budget and logistics etc. They are not off the table for the future but we have prioritized the programs for this year.</p> <p>LB: Bylot Island has largest colony of arctic geese, concern for the Inuit. MS: responds saying that terrestrial study looks at snow geese areas.</p> <p>MQ: Commented on a past event where a polar bear was killed in Mary River and the hide was not properly removed and damaged. LB: The protocol wasn't followed by Baffinland because they didn't have someone available who knew how to remove the hide. This process is being addressed.</p> <p>EP: Narwhals don't mind people walking on land but they are threatened by sudden noise or movements. Also discussed eiders and thick billed murrets that go under ice to get food. Are there any ideas to re-instate ship board observer program and get data more safely.</p> <p>WM: Baffinland has looked at many alternatives and worked with MEWG, consultants, and DFO but viable options have not been put forward. This is an area for a potential sub-committee. Sub-committee on shipboard observers formed with LB, WM, GGi, and JH (QIA, ECCC, Baffinland).</p> <p>EP: monitoring was done in 2012-13 and narwhals would dive when vessel was close however they would return 30 minutes later, back to surface once the ore vessel passed by.</p>

	<p>PR: DFO will be running seal aerial survey in May, discussions in place about involvement in the future.</p> <p>KH: The current monitoring of ballast water discharge prevents the updated risk analysis suggested in condition 88.</p> <p>JH: Asked about previous aerial surveys for seals specifically 2016. PR: There is a data sharing agreement for 2016 with DFO. Golder completed analysis of 2 days of data in good conditions and distance analysis is being completed. This is a very slow process. Looking at visual detection software to expedite the analysis. VG: asking DFO science to provide status on their work.**</p>
5.	<p>Community Based Monitoring Discussion</p> <p>MLH presented concept of community based monitoring and proposal to develop sub-committee and coordinate efforts with both industry and government focus, in order to build capacity for local environmental monitoring.</p> <p>GGi, Parks Canada, expressed interest.</p> <p>LB: Community based monitoring slide deck was provided to the MEWG in November 2016 for reference.</p> <p>JH: asked if the HTO was doing any community based monitoring?</p> <p>DK: When researchers want to do work they go to the HTO board to receive a letter to go ahead. DQ: No community based monitoring going on presently.</p> <p>EP: We could delegate tasks to the HTO, hunters can provide information on the whereabouts of animals, and how far we have to get to them. Seals are moving further away from community. A harvesting program where they marked hunting seasons in their calendars was done before the Project started.</p> <p>JH: Alaskan hunters have done monitoring, any information on that? PR: Impact in Alaska has been affected by seismic activity for a lot longer (50 years), they do have programs similar to Baffinland.</p> <p>JH: We can also ask for feedback from Ocean North they had a community based monitoring workshop in Cambridge Bay. I also developed a draft program for the QIA but it was never implemented.</p> <p>LB: Suggested Mary River Community Group and other HTO's in North Baffin be invited for participation on the sub-committee</p> <p>KH was interested in participating. BP said he would check with GN.</p> <p>Sub-committee on community based monitoring formed with GGi, LB, FM, PR, KH, WM. ECCC student, Frankie Jean-Gagnon, expressed interest in participating.</p>
6.	<p>Round Table Updates</p> <p>Makivik</p> <p>GG: No direct interest in the study area. Makivik interested when Steensby was proposed. Current research focus is on the stock identification of beluga whales in Hudson Strait. This is collaborative research with ECCC, DFO and GN. Currently gathering community input on the study design.</p> <p>Parks Canada</p>

	<p>FM: Interest is the proposed Lancaster Sound National Conservation Marine Area. The feasibility study has been submitted to QIA, CCME and Minister of the Environment.</p> <p>HTO</p> <p>EP: Updated everyone on HTO interests. This includes harvesting of fish, specifically Halibut, and the building of a new office space and community freezer. EP participated in the April 2017 caribou survey near Mary River, there were small animals like fox, ptarmigan, but no caribou. Trying to negotiate more requests for research because environmental impact is significant, especially to the animals.</p> <p>QIA</p> <p>LB: Involved in multiple committees, will get back to NIRB on Project Certificate and monitoring framework. We need to look at our commitments included in the IIBA, and work on community based monitoring.</p> <p>DFO</p> <p>KH: We are involved in multiple parts of the program. Doing work on Greenland halibut and Arctic Char in Pond Inlet area. Invasive species research on ports across the arctic – Churchill, Deception Bay and Iqaluit.</p> <p>MQ: There were two people that used a machine underwater, the sounds scared the narwhal away. Uncertainty on who it was and what study but could locate on a map because he was helping. The machine was meant to prevent ships from running over narwhal and seal, but MQ has not seen narwhal or seals get that close to a boat. General: uncertainty on what the system was. PR: It could've been a system that is used to test waves and broadcasts in high frequencies. We would need to confirm the location and timeframe. JH: We heard these comments in 2012 when we were consulting, Baffinland didn't know anything about it in summer of 2011 or 2012. MQ: The testing was to see if Narwhals would get run over by ships.</p> <p>No updates on marine programs from GN.</p> <p>LB: Could we get a video on the operation focussed on shipping? MLH: We have one available on the website.</p>
--	---

	Action Items	Action By	Date Completed
1.	HTO meeting in May/June to discuss	Baffinland and Golder	June 11 and 12 2017
2.	Coordinate meeting in November on site	Baffinland	
3.	Create sub-committee for Community-Based Monitoring	Baffinland to kick start	
4	Create sub-committee for Ship Board Observer Program	Baffinland	
4.	Look into potential systems in 2012 that would have created underwater noise	Golder	
5.	Jean Francois to provide snow goose survey information next fall		Next fall

Feedback on draft minutes provided by Environment Canada on June 29th and QIA on July 11th 2017. No other comments received.



Marine Environment Working Group Meeting

Date: September 13, 2017, 1 – 2:30 pm

Location: Conference Call

Participants	
Member Organization	Attendees
Baffinland Iron Mines (Baffinland)	Megan Lord-Hoyle (MLH)
	Joe Krimmerdjuar (JK)
Qikiqtani Inuit Association (QIA)	David Qamaniq (DQ)
	Jeff Higdon (JH)
Mittimatalik Hunters and Trappers Organization (MHTO)	Elijah Panipackchoo (EP)
Department of Fisheries and Oceans (DFO)	Kim Howland (KH)
	Véronique D'Amours-Gauthier (VDG)
	Marianne Marcoux (MM)
Government of Nunavut (GN)	Brad Pirie (BP)
Environment Canada (ECCC)	Grant Gilchrist (GP)
Wild World Fund Canada (WWF)	Andrew Dumbrille (AD)
	Amanda Hanson-Main (AHM)

*** Golder is not able to participate in this call due to the demobilizing from the field.

Agenda	
1.	Welcome and introductions
	1. 2017 Field Marine Program Update – Status of programs
	2. General Baffinland Update and re-cap of proposed ice management in August
	3. Shipboard Observer update
	4. Community-Based Monitoring Update
	5. Confirmation of dates and location of Fall face to face meeting – proposing the week of November 27
	6. Review of Scheduling for meetings and document release and review by working group members
	7. Round Table

Discussion and Comments
Field Program Status (MLH): <u>Marine Environment Effects Monitoring – August 9 – September 14, 2017</u> All activities have been completed as planned except the dive program to observe fouling on vessels, due to safety reasons. Under water cameras were used to observe for fouling. Field Techs: 5 Inuit hired for the program

Bruce Head – July 23 – August 23, 2017

All activities have been completed as planned.

Marine Mammal Observers/Polar Bear Monitors: 6 Inuit hired for the program

Tremblay DFO Tagging Program – Early August – September 14, 2017 – (Update as of Sept 9)

All activities have been completed as planned. Successfully deployed all 10 Baffinland FaslocOGPS satellite tags on animals, as well as all 5 MiniPAT dive tags and 6 Acousonde deployments (and counting). 16 whales have been live captured and tagged with 4 more to be tagged under the permit. Most of the whales have spent the majority of their time in the shipping lanes. Post Call Update: 20 whales were live captured and tagged which was the maximum allowable on the permit.

Field Techs: 2 Inuit hired to participate in the program.

Inuit hires:

Successful coordination with the HTO, all Inuit hired through the HTO, which posted the jobs and provided initial screening. 15 individual positions originally posted, 14 people participated in the training day in July in Pond Inlet. We had a number of challenges with obtaining medical information in time and some who decided not to participate at the last minute. In the end, 13 positions were filled. This model seemed to work really well. Intention to return to Pond Inlet this fall and follow-up with those who are willing to engage more in the reporting during the off season and debrief on the programs as a whole.

Comments:

JH: Were the 13 hires from Pond Inlet?

MLH: yes, they were all from Pond Inlet;

JH: How effective was the camera to replace the drive program?

MLH: no information at this moment; it would be better to consult with Golder in November;

DQ: Will you be using cameras in the future?

MLH: it will come down to how successful the program was; Golder will have more information;

DQ: Were there any fatalities when tagging narwhals?

MLH: no fatalities reported; all tagged whales continue to transmit their daily locations/movements via satellite - all data suggests animals are behaving normally

KH: Did you end up doing sampling at Ragged Island for marine based monitoring?

MLH: yes, I think it was two days spent doing sampling in that area;

DFO – Kim Howland Aquatic Invasive Species – August 10-23 (KH)

- We started out in Pond inlet and hosted a two day work shop: explained work we are doing and discussed how local knowledge and science could work together;
- Worked mainly on the baseline species (small organisms);
- Collected samples in Pond Inlet; mainly cruise ships traffic;
- Worked with Ikaarvik group in Pond Inlet and someone from Salluit, Nunavik - experience working on project in Deception Bay;
- Chartered the Nuliajuk (GN research vessel);
- Environmental DNA – involved youth in collecting samples from the water;

- We are interested in seasonal effect; community will continue collecting samples for the next several months; identify how well this method works – will help to learn if it makes sense to collect samples during different seasons;
- Good field season at Milne Port: sampled 16 sites

There was concern about ships being staged around Ragged Island – interest whether program could be extended around that area for the near future; will be reviewing funding within the community, governmental funds and BIM in kind support;

Ballast water sampling – was not feasible at that time; spoke with the Port Master and his suggestion would be to follow up with MLH and Jared Gardner (Head of Shipping, Baffinland Iron Mines).

Comments:

AD: It sounds like you are starting from scratch. There seems to be some work done in the past. Are you building a new program?

KH: Our program is a bit more extensive in terms of how large of an area we are sampling. Samples preserved in ethanol (versus formalin) as this allows future analyses.

For example, environmental DNA – something BIM might consider for their field monitoring program. We are quite interested in accessing the species list; it would be nice to get a spreadsheet from SEMs work; it will help when running genetic samples in the future;

AD: It sounds like you will be integrating work done in the past.

KH: Yes. Certainly the work builds on past work.

MLH: It is my understanding that Golder and Kim have been in discussions around data sharing, as Golder was running an aquatic invasive species monitoring program as well.

KW: Yes, Golder was also running a program, but some of the sampling methods were different; it will be interesting to see what species were picked up by Golder

Shipboard Observer Update (MLH)

- Discussed with sub-group
- Agreed that a subcommittee would be useful
- Agreed that implementing the shipboard observer program would be difficult until custom ore carriers are built
- Formal update to MEWG in November

Community-Based Monitoring Update (MLH)

- Baffinland delayed in developing formal sub-group outline – will have for discussion in November at the latest
- Successful use of community members in this year's program will provide a solid basis/process to build on
- Baffinland completed a research paper over the summer on best-practices

Comments:

JH: Did you commission this paper?

MLH: Not externally. Summer student was working on this research as part of her summer placement; final version will be reviewed and distributed to the group in the near future.

General Updates (MLH)

- NPC is currently reviewing the proposal for an amendment to the NBRLUP which requests that the rail line be considered as part of the transportation corridor and includes the use of ice

breaking to allow winter re-supply sea lifts in December through February. Comments are requested by October 2, 2017. More information is available on the NPC website. This amendment will receive a determination before the Phase 2 proposal will be assessed.

Comments:

AD: If anyone is interested in the copy of the proposal he could send it out. It was a difficult process of obtaining this documentation from NPC.

MLH: Please free to also reach out to me, and I could distribute this documentation;

AD: You don't intend to ship ore during December?

MHL: This is correct. We are only looking to bring sealift of supplies if required;

AD: Has something change for the need in this request?

MLH: No, this is more of a planning ahead in case urgent items are required, for example, additional equipment for the operations (trucks, parts, etc.);

AD: You decided not to include March, April and May because of the community concerns related to seal?

MHL: Yes, this is correct.

- Ice Management: In order to decrease operational variability, Baffinland began investigating the option of bringing in an ice class vessel to provide ice management services at the beginning of the shipping season. The reason for this was that although land fast ice break-up occurred within seasonal variability, there were pockets of gathered ice at the mouth of Eclipse Sound and the mouth of Milne Inlet, which prevented the ore carriers from transiting. The ice management vessel was intended to come in and move the ice to allow for safe passage.
 - Baffinland is exploring options to bring in an ice management vessel again for the completion of the 2017 Shipping Season through October. If Baffinland will be proceeding with this option a formal written notification will go out as more details become available. Once again we will coordinate with the HTO to ensure that they are aware of what is happening and can share any feedback on the proposed approach.

No comments on ice management

Face to Face Meeting – week of November 27th in Iqaluit (MLH)

Due to accommodation needs on-site there is no option to hold the fall meeting on site. We will only be able to explore this option again, upon completion of a new camp to extend accommodations.

We had discussed the week of November 27th for the meeting and I did not receive any conflicts. We will move forward with these dates to take place in Iqaluit.

Comments:

DQ: Are you confident additional accommodations will be built this or next year?

MLH: Requests have been submitted to NIRB; BIM is currently waiting for their approval;

JH: Will there be any issues with booking rooms in Iqaluit given the current capacity there?

MLH: We will do our best to secure a block of rooms for the upcoming meeting. Alternative would be a meeting in Ottawa.

JH: What will the dates be?

MLH: Dates will be November 28 and 29 to conduct both working group meetings.

AD: What is the intention of the face to face meeting?

MLH: November meeting will be used as an opportunity to present a draft of results; discuss what worked and what did not work; intention will be to incorporate comments from that into the draft reports which will be available for review as well following the meeting; spring meeting will be more of a forward looking meeting for planning of the upcoming summer season;

JH: 2016 Aerial survey performed by DFO – will the Golder analysis be available for review?

MLH: I will follow up on this and provide an update to the group.

GG: I will be providing a presentation during November meeting; had a successful summer season – into reporting now and currently working with EDI to prepare final reports.

DQ: Glad we were able to work with HTO to employ Inuit to participate in the summer field work; Looking forward to seeing the final reports, especially the use of the tags. Glad everything went well.

MLH: Very happy how this summer turned out; all the Inuit hired have been great

Schedule of Report Review Timelines

Baffinland is expecting four main reports for the marine environment. Have to confirm feasibility of dates with Golder, these are approximate timeframes. Asking for no longer than a three week review turnaround to have all reports finalized and posted by March 31st.

Marine Environment Effects Monitoring Report

1. Proposing draft to MEWG **February 15, 2018. Comments back from MEWG March 2, 2018 – two week review.**

DFO Habitat Offset Report

1. Due to DFO on January 1 of each year. **No comment period – regulatory report. Will be circulated to MEWG for records**

Bruce Head

1. Proposing draft to MEWG **Jan 15th and comments back from MEWG by Feb 5th or Jan 1 with Comments back from MEWG Jan 19. Post Call Update:** Draft to MEWG Jan 15, 2018 – comments to be received by MEWG Feb 5, 2018.

Narwhal Tagging

1. Proposing draft to MEWG **Jan 15th and comments back from MEWG by Feb 5th or Jan 1 with Comments back from MEWG Jan 19. Post Call Update:** Draft to MEWG February 15, 2018. Comments back from MEWG March 2, 2018 – **two week review.** Deadlines have been re-evaluated due to the extensive data analysis needs, and review by DFO.

Closure:

Round table updates/Comments - None

Proposed agenda items for the November meeting - None

	Action Items	Action By	Update
1.	Baffinland to confirm date and location of face to face meeting	Baffinland	Completed – Meeting set for November 28, 2017 in Iqaluit
2.	Provide update on 2016 Aerial Survey	Baffinland	Data to be submitted as part of the Marine Mammal EIS Addendum, deliverable scheduled for this fall.

Input on draft comments received by: Golder; QIA. No other parties provided comments.

Marine Environment Working Group Meeting

Date: November 29 & 30, 2017, 1pm-5pm and 8:30am-12pm

Location: Ilinniapaa Campus
775 Fred Coman Street, Box 989, Iqaluit NU

Member Organization	Participants		Member Organization	Participants	
Baffinland	Megan Lord-Hoyle (MLH)	I	Parks Canada	Francine Mercier (FM)	I
	Joe Tigullaraq (JT)	N	Makivik	Gregor Gilbert	N
Qikiqtani Inuit Association and Consultants	Stephen Williamson Bathory (SB)	N	Mittimatalik Hunters and Trappers Organization	Mathias Quanaq (MQ)	I
	Luc Brisebois (LB)	I		Elijah Panipakoocho (EP)	I
	Jeff Higdon (JH)	I		Daisy Koono (DK)	N
	David Qamaniq (DQ)	I	Observer Organization	Participants	
	Nadine Shillet (NS)	I			
Fisheries and Oceans Canada	Veronique D'Amours-Gauthier (VDG)	N	World Wildlife Fund – Canada	Andrew Dumbrille (AD)	I
	Kim Howland (KH)	I		Amanda Hanson Main (AHM)	N
				Brandon LaForest (BL)	I
Environment and Climate Change Canada	Grant Gilchrist (GG)	I	Oceans North Canada	Chris Debicki (CD)	N
	Anne Wilson (AW)	P		Kristin Westdal (KW)	I
Government of Nunavut	Brad Pirie (BP)	I	Baffinland Consultants	Participants	
	Lauren Perrin (LP)	N	Golder	Phil Rouget (PR)	P
	Jon Neely (JN)	N	Golder	Erin Linn (EL)	I
	Mike Harte (MH)	I	Environmental Dynamics Inc.	Mike Settrington (MS)	I
	Amy Robinson (AR)	I			

P-phone in participation, I – In person, N- Not attending

Agenda
Welcome and introductions
1. Baffinland Update and Meeting Objectives <ul style="list-style-type: none"> a. Phase 2 Approval Process b. NIRB Monitoring Framework Appendix A Draft Release and Comments c. Ore Carrier Escort Services

2. Monitoring Program Planning <ul style="list-style-type: none"> a. Updates to Shipping and Marine Wildlife Management Plan b. Development of monitoring program frequency schedule c. Development of thresholds for adaptive management d. Aerial and Acoustic Surveys + Shipboard Observer Program
3. Shipboard Observer Committee Update
4. 2017 Seabird Monitoring Focus
5. 2017 Marine Environmental Effects Monitoring Program
6. 2017 Marine Mammal Monitoring Program
7. Round Table

Discussion and Comments
<p>Baffinland Project Update</p> <p>AD: Is there no winter sealift as part of Phase 2?</p> <p>MLH: Correct, all winter shipping is removed from Phase 2.</p> <p>AD: What is the proposed change in volume of ore mined?</p> <p>MLH: We are proposing to increase the production level of 4.2 MT to 12 MT per annum.</p> <p>AD and KW: How many shipping trips will be required with the increased level of production and what is the route?</p> <p>MLH: There will be approximately 140 voyages out of Milne Port through Eclipse Sound.</p> <p>GG: Are there any safety concerns related to grade of topography on proposed rail route?</p> <p>MS: The design will minimize the steep grades to Milne Port.</p>
EWG Role, Responsibility and Decision-Making Authority
<p>MLH: The proposal to shift the MEWG from an advisory committee to a decision-making body will negatively impact Baffinland's capacity to make decisions and changes regarding the Project. Presently the MEWG is able to provide effective and valuable feedback and thereby inherently has important agency in the Project's decision-making process. Significant efforts have been made over the last year to increase communication including adding two more meetings per year, developing a schedule for circulation of draft reporting and when comments are expected back by and providing regular updates when any changes to Project monitoring or operations related to the marine environment are occurring.</p> <p>LB: The working group does have considerable power in that any member may write to the NIRB if they feel that the group is not functioning as it should. Further, over the last year, Baffinland has made considerable effort to ensure consistent communication and providing information to inform discussions. The QIA doesn't feel that the group needs to have decision making power and that the group is functioning already.</p> <p>AD: Our frustration relates to the fact that Baffinland made a decision to cancel a monitoring program before consulting the MEWG. Not that we wanted this to be a decision making body, but that the group wasn't doing the work that it was tasked to do. We do not feel that the MEWG has been effective, but recognizes that Baffinland is re-affirming its commitment.</p> <p>KW: Baffinland has not provided all information or some reports in the past which would be useful for the group to provide advice on the monitoring programs.</p>

GG: The group does function and can provide feedback in this forum. There may have been mis-communications in the past which have led to the current issues. Moving to a decision-making body is not necessary to ensure the group is functioning.

MLH: Baffinland acknowledges some of the challenges that the MEWG has experienced in the past, but our position remains that transitioning the MEWG from an advisory group to a decision-making body is problematic. Baffinland will send out all past reports to the group to ensure that the information is disseminated. All reports from 2013-2015 are available on the NIRB site through the annual report. All 2016 reports are publicly available on the Baffinland website and have been circulated for input from the group before they were finalized. All commentary on the Draft NIRB monitoring framework is available on NIRBs website. This discussion is to ensure transparency and to discuss Baffinlands position with the group. Baffinland will continue to ensure transparency in our reporting and decision-making with this MEWG.

All: General agreement that the group does not need to move to a decision making body, but that significant efforts to ensure transparency in reporting and changes to monitoring programs are made and recorded.

Adaptive Management

AD: There is a lot of scientific work being done and we are seeing impacts on the environment, however we are not seeing the application of effective adaptive management. The MEWG is yet to see any of the results from monitoring.

MLH: Adaptive management has been put in place. e.g., speed of all ships, including re-supply. We are putting in operational procedures in response to comments from the group. We have also adapted some of our monitoring programs to better respond to gaps in answering the questions the group is trying to get at.

Cumulative Effects

MS: We need to consider the long-term effects of the way project conditions are written. The Baffinland terms and conditions are very prescriptive and do not allow for flexibility over the Project life to adapt to changes.

JH: The volume of material being shipped will have an effect on marine life.

AD: DFO should be assessing the cumulative effects of the Project with proposal for increased shipping.

KH: We have had our own review processes and collaboratively developed programs have come out of those efforts. Cumulative effects assessment needs to be a request for Canadian Science Advisory Secretariat (CSAS) process

KH provide an overview of the CSAS process and it was noted that Transport Canada requests a CSAS as well. It was discussed that the MEWG should request additional participation and input from DFO.

EP: It's a bit confusing, especially in the early stages of the monitoring program. It seems like we are doing ok. This summer was different with the number of killer whales and that they were there all summer. The cruise ships can discharge grey water without penalization, and they can have impacts. We still need to strengthen our wording of the mandate as a monitoring committee. We need to strengthen our spill response. Again, we're in the early stages of the monitoring program, but we need to be in agreement moving forward.

Aerial Surveys and Shipboard Observers

MLH provided an overview of the planned shipping activities for 2018.

MLH presented a discussion on the requirement of aerial surveys annually. Is there a more effective use of resources to answer the same questions/intent of the aerial surveys without conducting them annually?

GG: At the next meeting, it would help the group to see the number of ship transits on a seasonal basis, and variability on a year-to-year basis. That might influence how frequently the aerial surveys will need to occur.

LB: In absence of ship-board monitoring, perhaps we should consider more land-based survey points, and the impact of not conducting aerial surveys. If DFO does them one year, then fine, but if we don't do them, then we have no data on distribution and abundance from that year.

PR: The key question is narwhal response to shipping. If the question was determining exact abundance of narwhal, then do aerial surveys, but that's not the objective. The aerial surveys will not tell us anything about narwhal response to shipping. We would not pick up a change in response to Baffinland unless it was a huge change. So, we propose reducing those surveys, and focusing on things that are directly related to the question of interest. Even if we design the surveys as they have been in the past, they don't have statistical power to detect small level changes – they will only tell us at the level of the stock. There is so much variability that it's clear that the surveys won't pick up the difference.

GG: So, what are the alternatives?

PR: Looking at a number of lines of evidence, rather than just focusing on aerial surveys. Instead we have designed programs at the level of individual or group to better understand the response to disturbance, in terms of both vertical and horizontal movement.

JH: How do you scale individual response up to the level of the stock?

PR: We're looking at satellite imagery. We might be able to generate raw counts of narwhal.

KW: I don't think Baffinland should be relying on aerial surveys, however I think we need the aerial surveys to continue while the shipping is ramping up.

PR: What is that going to tell us?

KW: I don't know. We still haven't seen the results from the original surveys? I am heated about this issue, because I've been asking for these data for over a year.

PR: May I suggest that we provide to MEWG members all previously completed aerial survey reports which show the high degree of variability present in annual survey data (abundance/density) which limits the ability to detect potential small to moderate changes in narwhal abundance (or behavior) from shipping using this survey method.

LB: From listening to Phil the other day (at meetings held with Pond Inlet HTO and participants from the field programs), having integrated data sets gives us lots of information. It adds to the level of knowledge we have on narwhal. We're just at the maximum point of shipping before we're suggesting increasing for Phase 2.

GG: Unless the previous data is reviewed, there is a reluctance to end surveys.

AD: The integration report provided a summary of surveys, it didn't tell us anything about the results. We only saw a Power Point presentation of the aerial survey results and that data revealed that after two ships, there was an impact. We are yet to see that detailed report.

MQ: We can also include the narwhal harvest data from the hunters in Pond Inlet. There is also the IQ – the migrations, the numbers, some will swing over to Admiralty Inlet... the timing of these population estimates are very critical [based on knowledge about narwhal movement].

KH: Some IQ might help explain some of the variance, using Bayesian methods to incorporate IQ to get closer to the truth. On the fish side we use that a lot. It sounds like there's a lot of uncertainty in these estimates.

MQ: Surveyors should consult with Inuit before coming to do survey work. If IQ is integrated during the fall, instead of expensive flying we could ask for oral studies from Inuit instead of flying.

MLH: All LGL reports have been included in the previous NIRB annual reports. Whatever LGL provided will be made available to the group again. Also, objectives of the aerial surveys have to be made clear.

FM: If you have the data, we need to get it out so people can do their analysis.

LB: Ship Board Observer – the training has stopped. It has to be replaced with something else. There were interesting things being learned, but it has been dropped.

PR: We are exploring a purchase of 30-cm resolution satellite imagery from Digital Globe (DG) which may allow for true (actual) counts of narwhal on a given survey day (eliminates spatial gaps that are present in standard distance sampling approaches such as line transect surveys). Satellite imagery has the advantage over transect surveys in that it allows for raw counts of animals (and therefore decreases the variability encountered using standard distance sampling methods). However, it is reliant on appropriate targeting of the study area of interest by the satellite swath (temporal and spatial), and being able to collect data in the full ‘study area’ during a period of clear weather (<15% cloud cover).

PR and KH: We shouldn’t cancel aerial survey program. We require five (5) years of data for aerial surveys to establish validated baseline.

MLH: The 2016 aerial photographic survey report is being finalized and will be shared with DFO before it is shared with the group, but will be available to the group before the NIRB annual report. This conversation will be revisited at our next meetings before any decisions are made.

DAY 2

Shipping and Mammal Monitoring

EP: We need to monitor ship traffic and the associated workforce of this Project component. If something goes wrong in the future we need to be clear and on the same page regarding the MEWGs mandate. We have seen an effect on the terrestrial environment and smaller habitat. We want to share this information.

GG: We will write a letter to DFO recommending that they attend MEWG meetings to help share this kind of information with NIRB and DFO.

KW: We have concerns about the number of ships increasing.

GG: We would like to see a graph showing the projection for increased number of ships.

KW: It would be useful to know the anticipated year-to-year variations in the number of ships.

KW provided a presentation to the group and noted the following:

- KW noted that she thinks the QIA will continue to support her project.
- Interested in participating in tripartite monitoring program for Milne / Tremblay with Scripps, QIA and HTO.
- Ship speeds from 8 knots to 10 knots.
- Cruise ships in Tremblay are not large ore carriers.
- AIS is not useful data for Oceans Norths.

EL provided a presentation related to the Marine Environmental Effects Monitoring Program. The MEWG had some questions about the mercury readings, but explained that this is not a source from the mining activity. There were also some questions about iron dust deposition in the marine environment. MLH talked about dust generated during ship loading, and the fact that Baffinland cannot water the stockpiles but operational changes to the shiploader have been made to reduce dust.

MQ: During marine sampling we noticed that when fish are moving back up the river, sometimes you see that death is occurring naturally. The fish on slide 27 had a stomach full of cod. Would like to see what the fish are that were taken from stomach contents during the sampling program. We were monitoring fish as they were going back up the river. We didn’t catch many.

MQ: would like some of the pictures from the marine program presentation to be shared with him.

EL: Stomach contents from the incidental mortality/dead fish have been sent to the lab and we will be able to share results for what those were in the spring MEWG meeting.

GG: I would suggest that contaminants assessment be made available to Northern Contaminants Program. LB asked whether there was any opposition to sending the information. MLH agreed to this request.

MK: The camera used for marine habitat surveys isn't very stable, it tends to move. It takes about 12 hours to do the camera survey, even though it's not a very long distance. Sometimes sediment is stirred up. The camera has no wings, so it's just trying to move along the bottom. Maybe modify it himself to get it working better. EL responded that this is something that we use along other coastlines and that the video is being analyzed. We will be able to report back to the MEWG at the next meeting to show the video that was taken and see if changes in the equipment are needed.

EL: The dive program could not be completed safely due to port activities. The Port has to be locked down for an extended period of time. An ROV can't be used because samples have to be collected.

LB: Wanted ballast water exchange explained. MLH explained.

BP: Is there a behaviour change as a result of tagging of marine mammals?

EL: The tags deployed on the animal also aid in understanding how the animal responds to tagging, particularly with the first 24 - 48 hours we know to watch for changes. The veterinarians on the team also conduct a health assessment of the animal during tagging.

BP: Have the orcas ever approached the capture nets?

EL: They have never been captured in the nets on the Tremblay tagging programs. if they did, they would go right through the nets or be immediately freed from the nets as per the same procedures used to quickly release narwhal from the nets. This year, the orcas did chase narwhal into the nets as they were fleeing from the orcas (in this case, the nets ripped under tension and animals went right through the net).

BP: There's never an issue with a narwhal swimming away with some net attached?

EL: Not that we are aware of on the Tremblay Program. DFO may be able to provide other input.

LB: Retrospective question about killer whales, can Baffinland have some type of effect on them?

GG: Orcas are stealthy, difficult to study. We know very little about them.

AD: Asked about the collaborative agreement for the tagging program and how results are shared/used. MLH responded.

Seabird Monitoring – Environment and Climate Change Canada

GG provided a presentation on seabird monitoring to the Group.

Oceans North Acoustic Monitoring Program - Presentation

KW: I am participating in a research program with the Scripps Institute. They have an acoustic monitoring station deployed at the floe edge. Passive acoustic monitoring presentation. Hydrophones can pick up sound from ships 20 km away, and narwhal up to 10 km. Based on data collected to-date, it appears that narwhals call more when there are less ships, however our analysis isn't yet complete.

LB: What is the primary analysis you'll be able to get from this research and provide to this group?

KW: We'll see if there is a relationship between presence of ships and narwhal calling behavior.

EP: Narwhals sound like a creaking door when they're sick. Sounds from narwhals increase as they move up and down near the surface. They are quiet when they are being hunted. They create a screeching noise when they are being disturbed and this can also be indicative of illness. Of course there are different sounds that they make. Harp seals make sounds like crying dogs... you can hear that sometimes when you're outside. Narwhals are not very close friends with harp seals, just because of the sounds. Bearded seals seem like a friendlier mammal. KW: We didn't pick up any bearded seals on hydrophone, however we did pick up a sperm whale in the past (2015).

DQ: You mentioned equipment at the floe edge. Is it anchored at the floe edge? KW: It is anchored at the bottom, year-round.

WWF presentation on their Lancaster Sound Mariners Guide.

AD distributed the Mariner's guide for Lancaster Sound distributed.

PK: Parks Canada is looking to be more involved in things like WWF's mariner's guide. The IIBA will be done by summer of 2019 however we have interim management plan at same time. The interim plan will be in effect until a full management plan is developed within 5 years of the signed IIBA. Project Manager for the National Marine Conservation Area (NMCA) started work yesterday who will likely attend the next MEWG meeting sitting in for FM.

AD: Increased shipping has created community concerns. We need to consider operational guidance and setback requirements. It would be useful to develop a month-by-month operational guidance program based on mammal migration patterns. The onset of the Project is a great opportunity to collect important wildlife data for the region.

AD: We are concerned that ship captains do not know what marine mammals look like, and are therefore unable to identify and avoid them. We should ensure a 7-10 knot limit for all vessels.

Invasive Species Monitoring

KH provided an update on invasive species monitoring.

KH: There has been one invasive seaweed species recorded in the Arctic (Goldsmith et al. 2017). Pond Inlet not showing as being at risk for the next 30 species currently being examined. Ice will provide a buffer for invasive species.

Aquatic Invasive Species Research (2015-2018). eDNA techniques are picking up a few more species than are being found in the more traditional sampling. In Milne Inlet, looked at tidal effects on eDNA species composition and recovery.

2017 Milne Inlet Survey:

- N=14 subtidal
- N=3 intertidal

DQ: Are you going to do some more work in Milne?

KH: Good question. We have some concerns related to the Ragged Island area... they may be offloading some ballast there before proceeding to Milne. We don't have funding earmarked to complete this research, but there may be an opportunity in the future.

MLH: Next steps in terms of MEWG - Draft reports are going to start rolling out in January. We outlined the timelines in our last meeting minutes.

	Action Items	Action By	Update
	Send letter to DFO requesting input and participation?	EWG	
	Include replacement for Francine from Parks Canada on future EWG correspondence?	Parks Canada	
	Distribute LGL Reports to MEWG	Baffinland	Complete – All Marine Monitoring reports from LGL and SEM from 2013-2015 sent on Dec 18, 2017.
	Include a graph of shipping activities and projections to inform aerial survey discussion	Baffinland	

	Update Terms of Reference (ToR) for the MEWG to further clarify roles of participants and of the Working Group.	Baffinland	
--	---	------------	--

APPENDIX C2

2017 TEWG MEETING RECORDS



Terrestrial Environment Working Group Meeting

Date: March 16, 2017

Location: Teleconference at 13:00 – 15:30 pm

Remote: 1-866-251-3220 ID: 6861183#

Participants		
Member Organization	Attendees	
Baffinland Iron Mines (Baffinland)	Megan Lord-Hoyle (MLH)	P
	Bill Bowden (BB)	P
Qikiqtani Inuit Association (QIA)	David Qamaniq (DQ)	P
	Luc Brisebois (LB)	P
	Kim Poole (KP)	P
Environment and Climate Change Canada (ECCC)	Jean Francois Dufour (JFD)	N
	Paul Smith (PS)	N
Government of Nunavut (GN)	Brad Pirie (BP)	N
	Amy Robinson (AR)	N
	Lauren Perrin (LP)	P
Mittimatalik Hunters and Trappers Organization (MHTO)	Mathias Qaunaq (MQ)	P
	Elijah Panipakoocho (EP)	P
Observer Organization		
World Wildlife Fund – Canada (WWF)	Andrew Dumbrille	N
	Amanda Hanson Main (AHM)	N
Baffinland Consultants		
Environmental Dynamics Inc. (EDI)	Mike Settingington (MS)	P
Additional Recipients		
Qikiqtani Inuit Association (QIA)	Stephen Williamson Bathory	N

I – In person, P-phone in participation, N- Not attending

Agenda	
1.	Welcome and introductions (Megan Lord-Hoyle)
2.	Technical presentation provided by Mike Settingington
3.	Discuss next face-to-face meeting proposal (Megan Lord-Hoyle)

Terrestrial Monitoring Studies for 2017	
Comments	
	<p>Dust and Vegetation:</p> <p>General discussion around what thresholds are being used - Canadian Council of Ministers of the Environment (CCME), site-specific or other where CCME do not exist. MS: For the most part CCME are used, other sources are used when CCME (federal guidelines) do not exist.</p> <p>MHTO: Are all samples below the threshold?</p>

	<p>MS: Yes. Although there have been individual samples above threshold levels due to lab errors, etc. – these areas were resampled again to ensure they are below thresholds.</p> <p>KP: Are pH levels monitored?</p> <p>MS: Not looking at soil pH levels. Good question to follow up given the dust level generated from the project. pH levels (acidity of the soil) are recorded during the lab testing, but are not included in the final reports.</p> <p>MHTO: If/when the rail is constructed, will the amount of dust change?</p> <p>MS: I believe there will be less dust generated from the train.</p>
	<p>Caribou Survey:</p> <p>JH: Clarification on the viewing shed area for the height of land surveys - a helicopter was used to try and test what might be feasible from the distance and then you did a GIS exercise to see from the vantage points how far you can actually see?</p> <p>MS: The GIS gave us the viewable limits, so it gave us the extended view while standing on the hillside. The helicopter is used to bring the observer to different distances with a radio and radio back until eyesight was lost. That approach got us out to 5 km, but we have limited the viewing shed to 4 km. The GIS work helped to pull out areas we cannot see due to the height of land (hills, valleys, etc.).</p> <p>JH: That sounds good, but again on the next page you have those four photos and you said the one the bottom right was at about 2 km. Are you comfortable or confident that given reasonable visibility that an animal at almost 4 km would be detected by your observers?</p> <p>MS: I think this will take some more testing for sure to find out and again we need more animals to really put this to the test. We are making our best estimates right now. I would like some local observers, the hunters that have done this through living on the land to see if we can get some better information.</p> <p>MHTO: One of the hunters has participated in this study in 2013 and is confident in his knowledge of this study and would be willing to participate again.</p>
	<p>Roads:</p> <p>MHTO: Comment about road crossings and snow banks: looking at the map of the Tote road at station 3 hunters use that area and it would be helpful to have less snow there; there is also an area between stations 9 and 10 that hunters use as crossing – will appreciate if that area is also kept clean of snow banks.</p> <p>MLH/BB: Thank you for pointing this out Elijah – I took note of that and that’s definitely something Bill and I, and others can follow up with and see what can be done with it. If we get the particular locations we can incorporate this into our snow bank management plan. We do our best to keep snow banks to a minimum, but is a constant challenge.</p>
	<p>Birds:</p>

	<p>MLH: this year we are talking about development of Baffinland document portal - web portal; this means 2016 Annual report will be available on BIM website as well as on the NIRB website.</p> <p>MHTO: Are you aware of Snow Buntings and Gyrfalcons arriving early April.</p> <p>MS: Yes, thank you very much. The Gyrfalcons are early arrivers for sure, and they are residents in the north, but maybe not that high north. Snow Buntings we see earlier in the season and they nest in piles of rocks along the shoreline.</p> <p>We have only found about 6 gyrfalcon nesting sites across the entire region of study area, including down south to Steensby Inlet. Part of our monitoring program was supposed to include monitoring gyrfalcons which would have meant surveys earlier in the year. We do our cliff nesting occupancy surveys right now in early June. We would have been doing these late April or early May for gyrfalcons, but we do not have enough nest sites. This is something the working group decided was not necessary balancing the level of effort required and the minimal impacts present – sample size is so small, it would tell us very little about project’s effects.</p> <p>MHTO: Are there studies on snow or Canada geese?</p> <p>MS: We are not doing anything specific on monitoring snow or Canada geese as they are not an indicator species for the Project, but we do conduct studies opportunistically when the biologists are on site and view geese.</p> <p>There are restrictions on helicopter over flights over an area south west from the project which ECCC has identified as an important molting area for geese (season is around late June – August:, so we are not flying low during that period).</p>
	<p>Monitoring Frequency:</p> <p>MLH: Over the next year Baffinland is looking to establish the monitoring frameworks for future planning - logistics, budget, feasibility, staffing etc. We are really looking at getting these frameworks consistent for both the Terrestrial and Marine side; and ensuring that we have a good monitoring plan going forward that we can present to our regulators and to the Nunavut Impact Review Board. We are really interested in the feedback from this as a group and certainly welcoming feedback now, but would like to address this again in the next face to face meeting and have this type of information settled or at least a way forward for how we can address this in the coming year.</p> <p>MS: There are programs that do not have a scientifically valid reason to run annually, so outlining a framework will help to eliminate confusion, where comments have been made on the cancellation of programs, no programs have been cancelled they are just not required every year.</p> <p>MLH: We welcome feedback now if there is any, but definitely something we would like to address at the next meeting.</p> <p>KP: Suggestion that this would be more appropriate for the face to face meeting. Suggested that for vegetation, running the program three years consistently before establishing a monitoring schedule would be beneficial. MS:</p>

	<p>MLH: For the 2017 Field Monitoring the majority of the program focus on Caribou monitoring this summer; these programs have had members of the communities participate and provide valuable knowledge and input; Baffinland would like to reach to out to HTO members on how best we can incorporate community involvement (hunters, elders and community members);</p> <p>If there are any other opportunities in any of these programs and people have ideas – we are definitely open to further conversations.</p> <p>MHTO: Confirmed their interest in participation.</p>
	<p>Face to face meeting (MLH):</p> <ul style="list-style-type: none"> • First week of May to be held in Ottawa • If there are any objections – to let me know • November meeting – planning to hold it at site

No action Items Noted.



Terrestrial Environment Working Group

Thursday May 4, 2017

9:00 am – 5:00 pm

Ottawa Delta City Centre

101 Lyon Street North, Ottawa ON K1R 5T9 Canada

Conference Call In Details: 1 866 251-3220 ID: 29299503#

Member Organization	Participants		Member Organization	Participants	
Baffinland	Wayne McPhee (WM)	I	Mittimatalik Hunters and Trappers Organization (MHTO)	Mathias Qaunaq (MQ)	I
	Megan Lord-Hoyle (MLH)	I		Elijah Panipakoocho (EP)	I
	Joe Tigullaraq (JT)	I		Daisy Koono (DK)	N
Qikiqtani Inuit Association (QIA)	Stephen Williamson Bathory (SWB)	N		Patrick Innuaq (PI)	N
	Kim Poole (KP)	I	Observer Organization	Participants	
	Luc Brisebois (LB)	I	World Wildlife Fund – Canada (WWF)	Andrew Dumbrille (AD)	N
	David Qamaniq (DQ)	I		Amanda Hanson Main (AHM)	N
Environment and Climate Change Canada (ECCC)	Jean Francois Dufour (JF)	P	Baffinland Consultants	Participants	
	Paul Smith (PS)	N	Environmental Dynamics Inc. (EDI)	Mike Settingerton (MS)	I
Government of Nunavut (GN)	Brad Pirie (BP)	I			
	Amy Robinson (AR)	N			
	Krista Johnson (KJ)	I			

P-phone in participation, I – In person, N- Not attending

Agenda

Time	Activity
9:00 am - 9:30 am	Welcome and introductions (Megan Lord-Hoyle, All)
9:30 am – 9:45 am	Baffinland Update (Megan Lord-Hoyle)
9:45 am – 10:00 am	Meeting Objectives (Megan Lord-Hoyle)
10:00 am – 10:30 am	Health Break
10:30 am – 12:00pm	2017 Field Monitoring Programs (Mike Settingerton)
12:00 pm – 1:00 pm	Lunch (provided)
1:00 pm – 3:00 pm	Monitoring Framework and Scheduling Workshop (Megan Lord-Hoyle, All) Discussion on: <ul style="list-style-type: none"> Field programs and alignment with Project objectives Thresholds for adaptive management Requirements to develop a monitoring framework and schedule
3:00 – 3:30 pm	Health Break
3:30 – 5:00pm	Roundtable updates on relevant research projects; Next Steps

2275 Upper Middle Road East, Suite 300 | Oakville, ON, Canada L6H 0C3

Main: 416.364.8820 | Fax: 416.364.0193 | www.baffinland.com

Reference Material:



EDI
TEWG_Presentation_



Final Presentation
for TEWG May 4 Me

Comments

1. **Baffinland Update**

MLH presented Baffinland update and Phase 2 proposal summary focussed on the terrestrial environment.

General discussion on dust levels at the site and options for mitigation.

BP: Questioned if moving the crusher and screener to the port will reduce the dust levels given the stockpiles will remain uncovered.

WM: The stockpiles will continue to be a challenge and ways to manage the dust will be continually explored. There are two stockpile types – lumps and fines. Fines contribute higher dust levels. Moving the crushing and screening equipment indoors will mitigate a large amount of the dust issues. In addition, more efficient crushing produces less fines.

LB: Were screens for the stockpiles installed? WM: Yes this past winter. They were not effective, looking at other options.

MQ: What is the equipment at the port that creates a lot of dust. WM: The stacker reclaimer. In the summer we can use water to mitigate dust but we can't do this in the winter so investigating other options including a 'shroud' that can be installed. Other technology which is similar to a snow making machine is also being investigated.

DQ: Are there lessons learned from Voiseys Bay that can be applied? WM: Yes, although we have significantly higher volumes of material to work with so the applications are not the same.

MQ: The road creates a lot of dust, similar to our trails. Can you decrease the dust by putting gravel down? Seeing dust on the lakes where people get water is of concern. WM: We can try to put more gravel instead of sand on the road to decrease dust. The move to a rail line will significantly cut down on road traffic and decrease overall dust levels. KJ: What volumes of water are you using and where is it sourced from? WM: Water is managed under the water license, the volumes and sources are in the terrestrial annual report for reference.

LB: What in the dust should we be worried about? MS: The issue of dust is universal. There are two things to consider – 1) finer dust settling vegetation (caribou forage) and changing the taste of the forage and 2) larger areas of settlement smothering vegetation. The potential uptake of iron is not a concern, but we continue to monitor for metals.

2. **2017 Terrestrial Monitoring**

MS provided a summary of the Terrestrial Annual Report and the 2017 field programs.

Caribou Monitoring:

EP: Provided summary of participation in the caribou monitoring at Mary River in April 2016. Monitored snow bank height, presence of caribou and animal tracks. Dust could be seen on the snow banks, this is from the dozers while clearing the snow dust gets mixed in. When the snow melts you see more dust similarly to our community. No caribou were seen. Tracks of foxes, hare and ptarmigan could be seen. The hare were not dirty at all, only one fox at Mary River was dirty. During the 70's wolves were killed to control Caribou population leading to peak populations. Based on oral history from elders the Caribou

	<p>move around in North Baffin, from Igloolik to Arctic Bay. They travel north and they are usually seen by Mary River area. Killing more wolves helps to increase the number of caribou.</p> <p>MQ: During the summer, caribou will travel to Nunavik to have their young. EP: When calves are able to walk they travel to the middle of Baffin. In between Pond Inlet and Clyde River there is a river where elders would hunt for caribou. When there is snow they travel back towards Mary River.</p> <p>LB: The caribou on Baffin are down in general, but there are sightings near Iqaluit. Is it possible that the mine site activity is keeping the caribou away from the area? MS: Biologists agree that the populations are down in the area. In 2012, a helicopter survey of the area identified 12 caribou. IQ workshops have indicated that since the 1990s the numbers have been declining, possibly from eating all of the forage. This seems to be a 70 year cycle based on IQ. KP: Clarified that the 70 year cycle is peak to peak so caribou numbers will increase slowly throughout that time. Referenced a 100 year cycle in Greenland caribou populations which is tied to vegetation abundance. LB: All science seems to be showing that the decline of caribou is universal and is not tied to the Mine site.</p> <p>JT: Asked MHTO about caribou's diet and stomach contents right before they left Pond Inlet. MQ: Stomach contents were darker than Caribou from Arctic Bay. Stomach contents are green but get blacker around Pond Inlet. EP: In the mountains around Pond Inlet vegetation on the rocks (lichen) is black.</p> <p>JT: Learned that forage in low areas is often green, so when low area vegetation is gone they eat rock lichen which makes stomach contents very dark. This change could predict a population decline if food supply is also declining. From early 2000's Igloolik and Hall Beach residents saw less Caribou because they moved to mainland for food but recently they have been moving back to Clyde River area.</p> <p>LB: Noted that EP's (MHTO) participation in monitoring was positive and encouraged more people from the MHTO to participate to increase knowledge. MLH: Baffinland would like to provide opportunities to others, and it is up to the MHTO to identify those who participate in the working groups and/or those whose skills match the field monitoring requirements. EP: We would like to continue to work together. Younger people need to be engaged to train and spread the skills. Hunters have really good knowledge of the land that can be shared with younger people and scientists to train them.</p> <p>Transportation/Dust:</p> <p>KP: Noted that 2016 average traffic was below the predicted traffic but for only 3.3 mtpa so, traffic/dust may increase and exceed predicted levels. MS: The largest impact the traffic levels have is on dust. KP: Noted that sensory impacts could also be an issue. WM: Moving to rail transport would decrease possible animal interactions and dust levels. In 2017 new larger ore trucks were delivered to site, this will reduce the number of trucks needed to move 4.2 mtpa.</p> <p>KP: It would be interesting to compare the areas of dust level exceedances to areas where the calcium chloride and water are being applied. The Golder 2016 report was good, what is missing is a best practices guide and the QIA is looking for a document with performance indicators and thresholds for action. WM: Last year active management was hindered by issues with the trucks for application. This year we have more resources and people to continue to address and expecting better results. The actions are started by visual observations, we can't wait for monitoring to tell us action is needed. The road maintenance crew is there every day so are acutely aware of changes.</p> <p>General:</p>
--	---

	<p>KP: Agnico Eagle is developing a TEWG for Meadowbank with support of GN, etc. based on the model of this group and the benefits it provides.</p> <p>Helicopter overflights: KP, JF, and BP raise issue of non-compliance of helicopter over flight. WM: There were actions taken this year to put conditions in helicopter contracts, document non-compliance, and check the status of the flights more regularly. KP: Is the snow goose protected area polygon accurate? JF: Originally surveyed in the 80s, identified as important through the land use plan process, but we can look at old survey data to see distribution of snow geese in the area. It's important to note that the disturbance appears limited to one area rather than across the whole sensitive area (i.e. flight corridor). MS: The snow goose area was removed from the DLUP. JF: It was removed from the most recent ECCC submission to NPC as it didn't fit the criteria for categorizing areas as highly/moderately risk intolerant, likely because snow geese are an over abundant species and it was based on old survey data.</p> <p>Bird nest surveys: Required survey of the land prior to construction. PRISM surveys contribute to ECCC regional and international shorebird monitoring program. DQ: Asked about shoreline bird studies. MS: Looked at surveys in Milne Inlet and birds have finished nesting when the ice goes out so no potential impacts on bird nests. MQ: Noted that fish in the lake between km 60-80 should be tested. WM: We do have studies that test fish in freshwater but they are not discussed in this working group. We are organizing a workshop this summer/fall to review the programs and results.</p> <p>Vegetation survey: KH: The Dust fall on lichen condition (58c) is not being met. MS: The vegetation survey can cover this condition but difficult to collect enough data. Would take a long time to gather trends, so can't be answered annually. KP: Looking for more frequent data collection for soil metals. Suggested sampling every two years (so in 2018) instead of waiting until 2019. MS: We could consider in 2018, but need to look at geo-statistics to understand natural variability.</p> <p>DQ: People in the community make tea with snow, should they be worried about using snow near the site? MS: I personally would avoid using snow near buildings and the road, this is where the highest levels are seen.</p> <p>Community-Based Monitoring BP: GN would like to see a written proposal. WM: Will put this together.</p>
--	---

3.	<p>Round Table Updates</p> <p>ECCC JF: Paul Smith will be setting up long term camp on Prince Charles Island related to PRISM and other migratory bird studies. Parks Canada is planning PRISM surveys south of Pond Inlet this summer. University of Laval will be doing PRISM surveys on Bylot Island as well. ECCC will be conducting PRISM surveys on North Baffin Island in 2018, as part of ECCC Arctic-wide PRISM surveys.</p> <p>HTO EP: Nothing planned for caribou. Quotas are already set and the government has put tags on the caribou. After 5 years there will be a report. People also still sell fox hides and seal skins. MQ: Iron ore is not to blame for the loss of caribou. This started in the mid 90's when caribou. KP: What is the caribou limit for Baffin island? MQ: 25 per community for the next 4 years. EP: 250 for all of Baffin, 25 allocated for Pond Inlet. DQ: Only Bull caribou can be hunted. EP: There was an agreement between Baffinland and HTO for caribou monitoring before QIA got involved.</p> <p>QIA LB: Will be a part of the upcoming Baffinland community tour. QIA has prepared a slide deck on community based monitoring. Has become more comfortable with attending the working group meetings, that there hasn't been much impact from the mine operations. We are going in the right direction. DQ agreed with this statement.</p> <p>GN BP: Difficult to get update from biologists in the field. North Baffin regional biologist position needs to be filled. BP is changing roles so will not sit on the WG, but will continue the regional caribou monitoring program. Continued interest in the community based monitoring initiatives.</p>
----	--

Action Items		Action By	Date Completed
1.	Set up sub-committee for Community Based Monitoring and provide a summary memo on the structure and intent of the CBM sub-committee	Baffinland	
2.	GN to provide updates on caribou program	BP	
3.	JF will look into snow goose boundaries for helicopter compliance	ECCC	
4.	Organize TEWG meeting at mine site in late November	Baffinland	

Feedback on draft minutes provided by QIA on July 11th 2017. No other parties provided comments.



Terrestrial Environment Working Group Meeting

Date: October 3, 2017, 1 – 2:30 pm

Location: Conference Call

Participants	
Member Organization	Attendees
Baffinland Iron Mines (Baffinland)	Megan Lord-Hoyle (MLH)
Qikiqtani Inuit Association (QIA)	Luc Brisebois (LB)
Government of Nunavut (GN)	Brad Pirie (BP)
	Lauren Perrin (LP)
	Jean-Francois Dufour (JFD)
Environment Canada (ECCC)	Brandon Laforest (BL)
Wild World Fund Canada (WWF)	Mike Settrington (MS)
Environmental Dynamics Inc.	

Agenda	
1.	Welcome and introductions
	1. General Baffinland Update
	2. 2017 Field Program Update – Status of programs (Mike Settrington)
	3. Round Table
	4. Confirmation of dates and location of Fall face to face meeting – proposing the week of November 27 th
	5. Review of Scheduling for meetings and document release and review by working group members

Discussion and Comments
Baffinland Update (MLH): <ul style="list-style-type: none">Baffinland submitted a proposal to amend the North Baffin Regional Land Use Plan to the Nunavut Planning Commission (NPC) in August 2017. NPC requested public comments which closed on Oct 2, 2017. Baffinland is in the process of providing a response.The Nunavut Impact Review Board has approved Baffinland to build an 800 man camp at Mary River, a 300 man camp at Milne Port and to bring in two fuel tanks (Capacities of 3 million litre and 0.75 million litre respectively) to Milne Port, under the existing Project Certificate No. 005.Wayne McPhee, former Director of Sustainability is no longer with Baffinland. MLH will be lead on working group related matters. Field Program Status (MS): <p>All field programs have been completed successfully.</p> <u>Caribou Surveys:</u>

- Height of Land Survey: there were two programs conducted – one in April and second in the middle of June. Snow track surveys were also conducted in April.
- Elijah P. (HTO) member of the working group assisted in the field work during these programs

Raptors Study:

- Occupancy was studied in mid-June
- Productivity was conducted in August

Vegetation Monitoring:

- Completed this survey after QIA suggested to continue the survey for an extra year. Data will be analyzed for inter-annual variability and repeatability.

Metal Sampling:

- Resampling questionable sites from 2016
- Data for the reports is coming in
- No particular issues with dust monitoring program this year;

Comments:

None

MLH: BIM is supporting Government of Nunavut who is currently up at site right now performing Caribou Survey;

MS: this would be the 3rd survey Government of Nunavut is performing. It will be interesting to see the results.

Roundtable

LB: Possibility of meeting in Pond Inlet; meetings would be open to the public;

MLH:

- BIM is not opposed to holding a meeting in Pond Inlet but because it is a deviation from the agreed locations in the Terms of Reference it will have to be agreed to by all members of the working group as it may require additional resources from each organization;
- Working group meetings will remain closed door - will not be a public meeting as they have been designed to conduct technical conversations;
- If the intent is to broaden the communication of environmental programs and results this can be achieved in other ways such as holding meetings directly with the HTOs and/or others to focus specifically on the environment.
- Two organization have responded that the preference to maximize resources is to continue to hold the meetings in Iqaluit or Ottawa.

LB:

- This is a thought for when we are having meetings – it might be a great idea to invite guests and open it to the public but I understand the concerns and agree;
- We are not quite ready at this point, but something to re-visit.

MLH:

- We need to be very cognizant of how group resources are spent and what is the best use of those resources to maximize the intent of these meetings;

<ul style="list-style-type: none"> • Holding the groups open to the public would require a re-structuring of the meeting, would inherently require more time and would not allow for the very focused technical discussions that are required to address the analysis of results of development of mitigation measures; • BIM is currently working on setting up a strategy on how to share environmental information with the communities – conduct a community tour focusing on the field programs/gather input; this information can then be brought back to the working group for discussion; the working group meetings will remain closed with member and observer organizations participating as is consistent with the terms of reference; • Comments from any other organization? - None
Face to Face Meeting – week of November in Iqaluit (MLH)
<ul style="list-style-type: none"> • Intention of the face to face meeting is to thoroughly go through the results we have to date; • Prepare Final terrestrial annual report for January – mid February; • Draft report will be coming out at the end of October for comment and discussion at the November meeting; written comments to be submitted by December 15th, 2017. The Draft report will have data gaps that come out at the end of the year (dustfall and traffic data), but will be complete enough to analyze trends and discuss; • We will continue to plan logistics for the working group meeting in November in Iqaluit unless I hear unanimously otherwise by Friday October 6.
Closure:
Proposed agenda items for the November meeting - None

	Action Items	Action By	Status
1.	Baffinland to confirm date and location of face to face meeting	Baffinland	Complete – Nov 30, 2017 Iqaluit

No comments received by any parties before Finalization.

Terrestrial Environment Working Group Meeting

Date: November 30, 2017, 9:00 am – 5:00 pm

Location: Ilinniapaa Campus
775 Fred Coman Street, Box 989, Iqaluit NU

Member Organization	Participants		Member Organization	Participants	
Baffinland	Megan Lord-Hoyle	I	Mittimatalik Hunters and Trappers Organization	Mathias Quanaq (MQ)	I
	Joe Tigullaraq	N		Elijah Panipakoocho	I
Qikiqtani Inuit Association	Stephen Williamson Bathory	N		Daisy Koono	N
	Jeff Higdon	I	Observer Organization	Participants	
	Luc Brisebois	I	World Wildlife Fund – Canada	Andrew Dumbrille	I
	Nadine Shillet (NS)	I			
	Jeff Higdon (JH)	I			
	David Qamaniq	N		Amanda Hanson Main	N
Environment and Climate Change Canada	Jean Francois Dufour	I	Baffinland Consultants	Brandon Laforest	I
	Anne Wilson	P		Participants	
Government of Nunavut	Brad Pirie	I	Environmental Dynamics Inc.	Mike Settingington	I
	Lauren Perrin	N			
	Jon Neely	N			
	Mike Harte	I			
	Amy Robinson	I			

P-phone in participation, I – In person, N- Not attending

Agenda
Welcome and introductions
Baffinland Update and Meeting Objectives
1. Phase 2 Approvals Process
a. NIRB Monitoring Framework Appendix A Draft Release and Comments
2. 2017 Field Monitoring Programs Draft Results
3. 2018 Monitoring Program Planning
4. Roundtable updates on relevant research projects:
a. ECCC – PRISM Surveys
b. Conclusions and Action Items

Discussion and Comments
General Discussion
<p>LB: commented on lack of overall reporting of a review of environmental incidents on site for the year. Will it be possible to include in terrestrial group a summary reporting at the meeting about key environmental issues such as spills, accidents, etc?</p> <p>MLH: We can consider providing that as an overview in future meetings [action]</p>
Dust fall Monitoring
<p>LB: How tall are the dust fall collectors, and does that mean you're only collecting dust at that height?</p> <p>MS: Dust is collected in jars at about 6 feet. It is a standard sampling method and is representative of dust fall on ground.</p> <p>LB: Is calcium chloride approved for use? Is it safe?</p> <p>MLH: It is approved for use in Nunavut, and was identified as such in regulations, and in the FEIS.</p> <p>BP: It would be helpful to see suppression maps overlaid with dust fall collector stations.</p> <p>MS: This will be provided in final version of report (and was part of the presentation) [action].</p> <p>BP: It would help clarify whether or not the mitigation measures are effective.</p> <p>MS: The current design of the monitoring program is sufficient for understanding the Project-related dust fall and effectiveness of associated mitigation measures. Previous annual reports have shown this through statistical analyses, power of detecting trends, revisions to programs, etc.</p> <p>MQ: As a hunter, we see the most dust at the mid-point of the road.</p> <p>BP: Based on information presented in the NIRB report, we understand that there are dust-related mitigations in place, yet these are not identified and described in the Draft Report – so there is a gap there. What is the status of development of mitigation measures for non-H2O options for stockpiles? We are yet to see update on this in 2017. This is concerning given that there are nine (9) stockpiles proposed in the Phase 2 plan.</p> <p>MLH: We do not apply dust suppression to ore stock piles (it will degrade the ore and add moisture content). Dust suppression is used on roads. Updates to dust suppression measures used in 2017 and a more detailed discussion will be included in the final report [action]</p>
Vegetation
<p>LB: Is high-level imagery available to get an indication of the greenery?</p> <p>MS: Yes, this is something we are continuing to look at using, but right now the technology isn't advanced enough for our purposes.</p> <p>LB: Why is iron not considered a contaminant of potential concern?</p> <p>MS: There are no CCME (Canadian Council Ministers of Environment) guidelines, and has not been considered in any levels of concern to the environment. Iron is considered an inert substance. A more thorough answer is likely available in original reports (risk assessment) for FEIS, and likely described in FEIS.</p>
Air Traffic
<p>LB: Why are there so many helicopter flights to Steensby?</p> <p>MLH: Baffinland engages in active exploration activities. Other reasons could be regular inspection of site, and access to fuel. Further, Baffinland does not have a restriction on the number of flights to Steensby or other areas.</p> <p>LB (question to EP): Do you think that the helicopter's flying so low is the reason why we aren't seeing caribou? Do you think this is having a disturbance on wildlife?</p> <p>EP: No, I don't think this would have an effect on animal migratory patterns.</p>
Caribou and other Wildlife Species Monitoring

BP: We have completed two (2) caribou surveys in 2017. The data have not been summarized, but we can share preliminary results – 254 caribou were spotted during the March 26th survey. We do not yet have the data for the September 30 – October 4 survey. Current management measures will continue until we can determine if the population rebound has stabilized.

MS: Elijah can we use your name in the final report, as the knowledge you contributed to the caribou surveys conducted by Baffinland with your assistance was very valuable.

EP: Yes, you have my permission.

EP: Community members are starting to see caribou where they weren't previously seen. I also participated in the Government of Nunavut (GN) survey in the springtime. We noticed that caribou towards Clyde River appear to be migrating towards the Mine site. We are seeing calves.

MLH: The NIRB has requested that Baffinland work with the GN to determine or evaluate the relevance of the GN survey work to the Mary River Project. I would like to discuss that with representatives from the GN.

GN: We have no response on that at this time **[action]**.

JH: (reviewing notes provided by Kim Poole). Good report, improvements made based on previous feedback from other annual reports. Definitions well defined in the raptor section. Can you provide weather conditions prior to snow track surveys in this report?

MS: We will try to improve on weather condition reporting for conditions prior to survey, however, they have always been general, and rely on personnel observations that use the road **[action]**.

LB: Was the fox that was killed for aggressive behavior tested for rabies?

MLH: Baffinland will check on that **[action]**.

JF: How does the reported area disturbed in 2017 where the Active Migratory Bird Nest surveys were completed compare to the overall footprint for this year?

MS: This value is in the NIRB report. I will also include it in the final terrestrial report for 2017.

Roundtable Discussions

JF: Presented an overview of PRISM work. In 2018 the Baffin region will be included in surveys. JF proposed an approach of surveying in higher probability Red Knot breeding habitat, and leaving some remote song/call recorders.

MLH: We can follow up on this, regarding Baffinland support, after this meeting. **[action]**

BP: There is a best practice guidance document for wildlife deterrents, dust mitigations, wildlife-road interaction mitigation and blasting mitigations that will be released in the first quarter of 2018. The guidance includes recommendations on mitigation for wildlife.

In regards to the draft terrestrial annual report, if we have any additional recommendations we would like to see we will send them to MS for consideration and incorporation, where possible.

The GN also has two (2) new regional biologists, one based out of Pond Inlet and one in Igloolik starting in January of 2018.

LB: Nadine will be attending TEWG meetings and Luc is moving departments. Kim Poole will not be part of TEWG. QIA is in the process of looking to bring in a new expert. David will remain on the TEWG as a representative for QIA. We have been working in Pond Inlet with the community to review all of the submissions to the NPC in advance of the hearing.

LB: Have you determined if the raccoon (invasive species) was brought in from the ships?

DQ: Pictures of the raccoon were taken at the Port. What kind of ship was it on? We are concerned what would happen if raccoons come onto land and if there will be more invasive species as a result of the Project.

MLH: We will provide an update on investigation to confirm the story, at next TEWG meeting **[action]**.

WWF: No update

HTO: HTO election is upcoming so members may change.

	Action Items	Action By	Update
1	High-level overview of environmental incidents to be included in BIM update.	Baffinland	
2	Include a discussion of dust-suppression techniques in final terrestrial report.	EDI	
3	Provide details on spring and fall 2017 caribou surveys conducted from Mary River Site. Provide long-term strategy for continued surveys.	GN	
4	Weather conditions prior to tracks survey	EDI	
5	Records on fox that was dispatched on site, was it sent for rabies test?	Baffinland	
6	Confirm report of raccoon on site.	Baffinland	
7	Follow up with JF (ECCC) to discuss PRISM work in 2018 and study support for Red Knot	Baffinland /ECCC	

APPENDIX C3

2017 SEMWG MEETING RECORDS



Meeting Notes
Mary River Socio-Economic Monitoring Working Group (SEMWG) Meeting
February 2, 2017 (300pm – 445pm)
By Teleconference

Attendees:

Baffinland Iron Mines Corporation (Baffinland):

Mary Hatherly
Adam Grzegorzcyk
Jason Prno (consultant)
Richard Cook (consultant)

Government of Nunavut (GN):

Lou Kamermans
Chantelle Masson
Erika Zell
Arielle Stockdale

Qikiqtani Inuit Association (QIA):

Rebecca Mearns
Shane Cameron (consultant)

Indigenous and Northern Affairs Canada (INAC)

David Abernethy
Rachel Theoret-Gosselin

Other Information:

Jason Prno facilitated the meeting. Richard Cook took meeting notes.

Meeting Notes:

- 1. Introductions (All)**
- 2. Update on the 2016 Socio-Economic Monitoring Report (Baffinland)**
 - a. In preparation, to be submitted with NIRB Annual Report
 - b. Similar in structure and content to 2015 report, which was a significant departure from previous reports. Now much more comprehensive, with additional indicators added.

This was done to bring the report better in line with EIS indicators and PC conditions. The report has been improved further for 2016.

- c. 2015 report – Issued in draft to get feedback from the SEMWG, so we’ve taken that feedback and have incorporated it into the 2016 report.
- d. A new addition to the 2016 report – Revamp of employee information survey. This will be an addition to the 2016 report.
- e. Baffinland is considering the inclusion of a trends analysis in the 2016 report; similar to the NWT Communities and Diamonds report and more recently the Meadowbank monitoring report. Looking forward to obtaining SEMWG feedback on the approach, when people review the 2016 report.
- f. Currently have most of the government data we need for the 2016 report, just waiting on company data for 2016.
- g. Inuit employment was lower than Baffinland would like in 2016, and Inuit turnover was higher than they would like. Baffinland is taking active steps to address this. An Inuit HR Strategy and Inuit Procurement Strategy are in the final stages of preparation.
- h. Baffinland will table the draft Inuit HR Strategy with QIA for discussion. It includes high level commitments which are intended to assist Baffinland/contractors in meeting or exceeding the MIEG. First goal is to strengthen stakeholder engagement and collaboration. Second goal is to strengthen data collection processes. Want to see employee skills and match that with upcoming needs, to be able to identify training initiatives required. Want to roll out a revamped Work Readiness Program, which will be run as a pilot in 2017 with the intention to deliver 2x/year in each community in subsequent years.
- i. Want to improve recruitment, and develop a process to catch issues in first 8 weeks following site employment to identify and address employee concerns. A number of initiatives are being looked at with regards to youth fairs, scholarships, and developing programs for youth and women to gain experience/exposure on-site. What has been lacking is a process of monitoring and an evaluation framework. Some initiatives to discuss with QIA in the future include joint training for BCLOs/CLOs, HR career information tour, and an on-site apprenticeship program. New instructions to contractors are also envisioned (want to improve contractor reporting of Inuit employment), with incentive and penalty schemes attached. Baffinland is revising its onboarding and retention programs. Baffinland would like to create a mechanism to track employee concerns, including complaints/grievances. Voluntary employee survey is also being looked at.
- j. Inuit HR Strategy is a companion piece to Inuit Procurement Strategy.
- k. Company takes Inuit employment very seriously, and we acknowledge Baffinland has not met targets. Want to encourage Inuit employment but equally important is retention and advancement of Inuit through the workforce. Baffinland will be developing 3 to 5 year goals to address training, recruitment, advancement and retention.
- l. RE: 2016 monitoring program data - Some data remains only available at the territorial level. Where data is lacking, Baffinland will continue to track issues through the QSEMC process and Baffinland’s community engagement program.

Questions and comments on 2016 Socio-Economic Monitoring Report (All)

LK – Will we follow the same process as last year of circulating a draft to the SEMWG before the annual report?

JP - Won't be able to get a draft report out before annual report, because of when data becomes available. The purpose of the draft last year was to provide an opportunity to get comments on the new reporting format.

LK – It's a practice we advocate for. Meadowbank has provided early drafts, but has latency in their reporting. TMAC has provided us with a draft before. Maybe we can have communication with Baffinland before the annual report is submitted so we don't have to go through NIRB process with formal comments.

JP – That's what we were looking at, and part of why we wanted to have this call, because one face-to-face meeting a year makes continuity difficult. Perhaps more regular teleconferences with the SEMG would address this concern.

RM – We can be available more often for these types of calls.

JP – Richard is taking notes and we'll circulate them to the SEMWG.

DA – How will the trends analysis be different from what you are already doing?

JP – This is something we looking at for 2016, but wanted to talk to the group before moving too much farther ahead. We haven't done this before, but are considering analyzing trends before/after development and year over year. We're interested in a dashboard approach.

DA - Will this be presented in bar charts, etc.?

JP – To be determined. But, It would be nice to agree on common indicators so we can compare projects across the territory.

DA – We'll wait and see what you produce; we're looking forward to seeing what is done.

AG – We are still a young project and therefore have only ~2 years of operational data. So, we are just now getting to the point where we can do trends analyses. It will depend on available data and length of the dataset.

3. Obtain working group feedback on the new Baffinland Employee Information Survey

JP – Baffinland decided to revamp is survey to achieve PC condition requirements. A draft of the survey documents were distributed to the SEMWG members prior to this call. One PC condition specifically

asked us to work with QSEMC in developing the survey, so this is why we asked this group (which is a subset of the QSEMC) for feedback. Baffinland will issue the survey to all new employees as part of the onboarding process. Survey will be voluntary. Inuit employees living within and outside of Nunavut will be asked to complete the survey, in addition to non-Inuit employees living in Nunavut. Wouldn't be administered to contractors. One of the PC conditions focuses on migration, and we have tailored our questions as such. We are hoping to generate initial data in Q1-2017 for the 2016 monitoring report. Afterward, survey results will be reported by calendar year. Hope to get information out for the 2016 report, but results may need to be presented at a later date if this is not possible. Feedback on the survey from the SEMWG is requested.

AS – We added a number of suggested questions on the survey. Does everyone have them with track changes?

JP – They were only issued to Baffinland.

AS – There were two subsets of questions we added. The first were questions on respondents' current housing situation. Overcrowding is a very important topic. For the people finding employment, what is their current situation, and will employment affect their housing situation? The majority of Nunavummiut live in public housing. With increased income, will different options be available to them? We want to take advantage of employment by bringing people out of public housing, if it is possible. If the survey is for incoming employees only, the data we collect may be more limited. Or is it for outgoing employees too?

JP – The survey is planned to be administered only during the onboarding of new employees.

AS – So it may be premature to ask about home ownership, since new employees might not know what employment will mean for their housing. So maybe asking questions on their current housing situation is sufficient.

LK – The PC condition states an annual survey will be conducted.

JP – Survey results would be reported annually for new hires. Baffinland really struggled with obtaining survey responses before when on-site HR staff tried to survey employees. They received lots of push back. We thought best way to get feedback year after year was by integrating the survey into the new employee onboarding process.

LK – Voluntary surveys are hard to do. But seeing changes over time will be difficult if you're surveying each employee only once.

JP – Good point. We can talk about this further. But the poor reception of survey last year is why we are proposing what we are now.

LK – Getting that information right away is critical, but it needs to be followed up on to see changes over time.

JP – Comparability diminishes if a given employee fills it out once, and then doesn't fill it out, for example, until 5 years later, or never fills it out again. So the GN would prefer to have survey administered voluntarily every year?

LK/AS – From housing perspective, it would be difficult to figure out impact of the project over time otherwise. I like the idea that the survey can be anonymous, but it could be useful to analyze cohorts (e.g. what is the housing situation for new employees vs. employees after 5 years, etc.?). The data is a lot less valuable when it is not collected annually.

AG – From the proponent's perspective it is our preference to collect this data, but we had a strong pushback from our employees when we last tried. We can't make people do the survey, so that's why we proposed the approach we did.

JP – There is another point that we want to discuss – There are a number of housing questions added by the GN that divert from the essence of the PC condition. We want a survey that is focused on what is required to be collected, is simple and easy to complete, and reduces barrier to having people complete it.

LK – We took the approach that we weren't necessarily limited to what was specified in the PC. NIRB doesn't always incorporate all comments made by reviewing parties into their PCs. We ultimately want to know if the projects provide a benefit. I don't think the questions we added change the direction of the survey. The GN can provide more information / comments on why the questions are needed, if you like? Or could Baffinland highlight those that are not applicable?

JP – We can send you our comments if you like. Did INAC or QIA have any comments on the survey?

RM – We've looked at the survey and share concerns with the GN re: only conducting the survey on new employees. Is there way to look at trends? We do have some comments/suggestions we can provide in writing. We also have an upcoming JMC meeting in Oakville. One thing on the agenda for some time has been the development of a workplace conditions survey. This would be done with current employees at Baffinland, as a requirement of the IIBA. We have been discussing with Baffinland a survey with employees or employment coordinators. Is there a way to integrate the workplace conditions survey with this survey? And could you use Inuit employment coordinators to get participation? It's not clear how the previous survey was rolled out and communicated – It's worth looking into. Getting respondents to fill out a survey can be difficult. It's important to explain why the survey is being conducted and how it will benefit things.

JP – I wasn't aware of this other survey; it's worth considering combining them both.

MH – It's on the agenda for the JMC for next week, so we can talk about it then?

RM – Yes, combining the surveys would be much better, if possible. We will send comments on re-wording questions or with follow up questions. Is there a need to include the employee's names on the survey? Or can they remain anonymous?

RC – Have other companies conducted such surveys?

LK – Meadowbank conducted a survey several years back, and found it very helpful. I will look into whether or not the Meadowbank survey is shareable.

DA – Re: survey question 9 on community location – Are you trying to see what community they would want to relocate to?

JP – Community employment location would be specific to BCLOs or Baffinland Iqaluit staff.

DA – Regarding the need to complete the survey annually, I agree with the GN's interpretation of the Project Certificate.

[Unrecorded comments]

RTG – My comments on survey were already brought up. Re: confidentiality - Make it clear their name is optional as it currently appears mandatory. We need to read up PC Condition No. 133 and what its actual intention was. You should find a way to monitor change of status. Could you survey 1-year, 3-year, and 5-year employees?

4. Discuss Baffinland's plans for addressing the socio-economic impact assessment portion of the Phase 2 EIS.

[RC provided an update on the status of the Phase 2 review and EIS]

JP – For the Phase 2 baseline, the goal is to draw on and reference the considerable amount of baseline work that has already been prepared for the Project. The intention is not to present an updated baseline report. Plenty of monitoring data has been generated since the FEIS. We want to focus on what we're already monitoring and what's already been determined to be important to monitor. For the impact assessment, we want to focus only on the residual effects assessed in the FEIS (largely leaving aside subjects of note and other topics and information). We will discuss and provide summary information on how each of the residual effects will or will not change due to the Phase 2 Proposal. If any of these effects are expected to change significantly, a more detailed effects assessment discussion will be provided.

LK – From reviewing the ERP, it was very hard to see what was being studied and what numbers we were working with, because the document was flipping between the FEIS and ERP addendum. Nailing down how we are going to refer to the project, as it now includes the southern rail line, will be important.

[RC – Defined the 4 stages of Phase 2]

EZ – When will the proposal go to NPC?

AG – In the next couple of days.

RTG – Have you discussed with NIRB if there would be a screening phase?

RC – Baffinland already has amended guidelines, so the best case is that they proceed right to review. But we don't know what NIRB will decide in terms of next steps.

AG - Yes, we will be meeting with NIRB next week.

5. Other Matters

LK – The GN is contemplating a territorial socio-economic monitoring workshop, an idea which was borne out of the Kitikmeot SEMC. Realizing we will likely have projects in each region soon, we don't currently get a full perspective of how the industry is affecting the territory. We would like to see aggregated territorial reports. The workshop would bring industry and other players together to discuss indicators, processes, and how to approach socio-economic monitoring in the near future. We also want regional Inuit organization attendance and input, so will send details to you shortly. If we're all on the same page, we will start into the planning, logistics, and development of materials. We were at one point thinking April would be the best time for the workshop, but the earliest now is May.

[Meeting adjourned at 4:45 pm]



Meeting Notes

Mary River Socio-Economic Monitoring Working Group (SEMWG) Meeting

September 14, 2017 (5:00pm-6:00pm)

Frobisher Inn – Iqaluit, Nunavut

Attendees:

Baffinland Iron Mines Corporation (Baffinland):

Mary Hatherly (MH)

Andrew Moore (AM)

Jason Prno (consultant) (JP)

Government of Nunavut (GN):

Lou Kamermans (LK)

Chantelle Masson (CM)

Rhoda Katsak (RK)

Qikiqtani Inuit Association (QIA):

Rebecca Mearns (RM)

Shawn Harriman-Byrne (SHB)

Indigenous and Northern Affairs Canada (INAC)

David Abernethy (DA)

Julia Prokopick (JP-INAC)

Other Information:

Lou Kamermans chaired the meeting. Andrew Moore took meeting notes.

Meeting Notes:

1. Introductions (All)

2. NIRB Draft Appendix A

LK - Introduced the topic and began discussion. Indicated that the MRSEMWG is largely self-directed and should continue work as such.

MH - Indicated that BIM intends to provide comments to NIRB on Appendix A, but has not yet.

RK - Asked for more information about what is included in NIRB's Appendix A.

JP – Provided some initial comments about Appendix A and indicated that they will be elaborated on in a formal submission. Indicated that BIM has a desire to strengthen the role of this working group as it relates to socio-economic monitoring.

LK - Indicated that that GN has reviewed Appendix A, but not yet in enough detail to provide extensive comments. The GN intends to share their comments with members of the working group prior to submitting them to NIRB.

JP - Should include Megan Lord-Hoyle of Baffinland in conversations about this to ensure she is engaged on this work and all comments related to Appendix A.

LK - Next step is for GN to get in touch with Mary H. and provide comments, and to make a concerted effort to align comments provided by working group members to NIRB.

DA - Wants clarity on reporting/commenting approach.

LK - Provided clarification. Indicated that comments are due October 22

3. Role of Socio-Economic Monitoring in NIRB Community Information Sessions

LK - This was raised by Rhoda. Indicated that SEMC representative should be present at these meetings. Provided some clarity on what the NIRB community visits consist of and why an SEMC representative should attend.

JP - GN would be the SEMC representative on these community visits?

LK - Asked for working group member opinions on this matter.

MH - We would need to discuss this internally first and see who would be the best representative to attend.

RK – NIRB typically talks about territorial and marine monitoring but not socio-economic issues at these meetings.

LK – We will talk to NIRB and see what opportunities exist for SEMC participation.

DA - Has the GN gone in the past? Believes that INAC has had people participate in the past.

LK - Will check with GN internally to see what works.

?? – There are lots of separate community visits, and lots of information is provided to communities. This is lots of duplication. Should we be collaborating?

DA - Thinks INAC does try to collaborate timing. But is not sure. Agrees that duplication is bad.

LK - Will follow-up with NIRB to see about collaboration.

RK - BIM does regular community update sessions. NIRB does it annually, but provides mostly environmental information. We need more socio-economic information in the communities. We need more public reporting.

JP – I've attended scoping sessions held by NIRB in the past. These kinds of sessions are managed and led by NIRB; they may be hesitant to have companies play too big a role in these sessions.

LK - Good point. Someone from the SEMC would good be a good representative to talk objectively.

4. Plans for 2017 Socio-Economic Monitoring Report - Incorporation of Workshop Deliverables

JP - Provided update on plans for 2017 report. Indicated that 2017 report will be similar to last year's layout. Some changes may occur, but they will not be significant.

LK - After the workshop, the working group should have a follow-up chat. Should we meet before a draft workshop report is issued or after?

MH/JP – If we meet following issuance of the draft report it would allow for substantive discussion.

JP – I know other companies have issued their annual socio-economic monitoring reports in draft previously. I'm not sure this is something Baffinland can do, because reports are due March 31st and all data may not be received until close to submission time.

LK - AEM submits in December. Allows for a draft report review process. This is not something that GN endorses or would necessarily like to implement elsewhere. Provided an explanation of history of how AEM reporting is structured and why.

JP/MH - Timing remains an issue for us to provide a draft report. However, we're happy to provide an update by phone to the working group like we did last year.

LK – It would be a good idea for a draft report to be issued, to allow for better incorporation of reviewer perspectives. Can Baffinland provide a basic draft report?

JP/BM – Our submission timeline is a NIRB timeline. We don't have much flexibility re: timing.

JP – Baffinland's NIRB Annual Report draws heavily on the Socio-Economic Monitoring Report so it is very important to get done by March 31st.

LK - If it's not possible, then Baffinland can expect more feedback on the final report.

JP – BIM is fine with that. However, our preference is to deal with these issues to the greatest degree possible at working group level, as this is the group that contains the monitoring experts.

LK - As a practice, we will work with deadlines given to produce NIRB comments. We can decide whether to address issues at the working group level or formally through NIRB.

JP - We should aim to have a teleconference ahead of formal submission to discuss comments.

DA - Agrees. This is also done in the water licensing process. Allows for a simple discussion to avoid any misconceptions.

5. Baffinland Phase 2 Proposal EIS Update

MH - Provided Phase 2 update. EIS is being worked on but no clear timeline for submission to NIRB yet as there are outside factors to consider such as the NPC review.

LK - How is Baffinland's relationship with NPC?

MH – We're concerned about the lengthy consideration of Phase 2. But our aim is to keep relationships amicable, which is in the best interest of all parties.

JP – I am part of the team working on the Phase 2 Proposal socio-economic impact assessment. BIM would like to use this working group to discuss socio economic issues related to Phase 2 impact assessment issues, if possible.

LK - Agrees. Thinks that is a great approach. GN will be consistent in where its socio-economic priorities are.

DA – Re: monitoring report in April. Can there be a meeting where the monitoring report is initially presented?

6. MRSEMWG Follow-up to Reviewer Comments - 2016 Socio-Economic Monitoring Report

JP - BIM is here to address working group comments/answer questions. We have replied to GN and QIA comments to NIRB already in writing. Would like to deal with future comments in this forum, where possible.

RK – There were lots of comments in the report about employment. Arctic Bay was the highest employment community. This is interesting, as Pond Inlet is a bigger community. What is Baffinland

doing to retain employees? This question was asked at a community meeting in the past. It was not followed-up on at the July meeting this year. Should we as a group proactively bring up these issues? JP - BIM has made new commitments in this area, such as those related to the IHRS, MIEG, and IPCS. They are all part of the response to this concern. We are happy to report back as additional concerns are heard.

MH/RK – We need to come up with a meaningful way to answer these questions.

DA - What about your work ready program? Please provide a summary.

MH – Summarized plans for revised work ready program.

RK/LH - SEMC should be addressing these concerns in its reports. Territorial monitoring may be the best way to address these concerns. This would just be a general good practice.

JP - Detailed records of SEMC meeting minutes are very important to maintain, even in the new territorial monitoring report format.

LK - As proposed, an appendix would contain a summary of meeting minutes.

7. Review and Update of SEMWG TOR

LK - Should the TOR be re-considered?

JP – We'll need to take this back and see where improvements can be made from a BIM perspective.

LK - Shared and explained org. chart that is being worked on with Agnico-Eagle (AEM). Open to looking at this for inclusion in BIM's TOR. Will seek AEM permission to share this with the Mary River working group.

JP - Maybe we should wait until the AEM chart is finalized?

LK - When we review the TOR we should be more explicit about appointing a Chair. Anyone have a different opinion?

Group - No objections.

JP - Asked clarifying questions about Chair responsibilities.

LK - Explained and shared GN's view on responsibilities (i.e. to organize and host working group meetings, facilitate meetings, take notes).

DA - As we go through the TOR it will be beneficial to clarify expectations. Create greater structure related to deliverables, and maybe have quarterly calls?

[Meeting adjourned at 5:54 pm]

APPENDIX C4

2017 QSEMC MEETING RECORDS

Qikiqtaaluk Socio-Economic Monitoring Committee Annual Meeting, July 5 & 6, 2017, Arctic Bay, Nunavut

The meeting began with participant introductions. The following communities and other stakeholders were represented:

- Arctic Bay
- Cape Dorset
- Pangnirtung
- Sinikiluaq
- Pond Inlet
- Hall Beach
- Iqaluit
- Grise Fiord
- Qikiqtarjuaq
- Igloolik
- GN Department of Health
- GN Department of ED&T
- INAC NGMP
- Nunavut Bureau of Statistics
- Baffinland
- QIA

The community roundtable proceeded with a few items of note including

- The need for community freezers in almost all communities
- The need for more public housing
- Grateful for the employment from Baffinland in the communities in the LSA
- Lots of fishery exploration that has the potential of a positive economic effect in communities
- New infrastructure including hotels, daycares and housing units
- The need for more child care in all communities
- The need for community hall infrastructure in a number of communities especially for youth
- Overall infrastructure maintenance in all communities

Following the community roundtable, the GN department of Health gave a presentation. Discussions that followed included:

- Contaminated sites and how it impacts health
 - QIA steering committees are dealing with contaminated sites with NTI
- Meat studies for walrus and country food takes too long

- NRI just finished construction of a lab for testing – staff are being trained to do testing in Iqaluit which should decrease wait time for results
- Using statistical data, is there strategic planning that the GN is going to use to actually start this upstream planning process?
 - The GN needs to work together in all departments to start working in a systematic way to improve Nunavut as a whole

The meeting continued with a presentation from INAC on the Nunavut General Monitoring Program. Conversations that took place surrounded topics such as:

- Whether the data from projects being funded is shared publicly and how INAC is looking at making this info public
- The Nunavut Association of Municipalities (NAM) and the information they can provide to researchers including what needs to be researched
- The need for data from all institutions at a municipality level

After the lunch break, the presentation that followed was on behalf of the Nunavut Bureau of Statistics. Items of discussion that followed were:

- The many factors that can contribute to data trends
- The difficulty in relating specific trends directly to the Mary River Project since it's been in operation for a short time
- Collecting data for the sake of collecting data vs using this data and doing something with the information to make changes in Nunavut

The day ended with the Baffinland presentation and the discussion that followed. Items discussed included:

- Safety training and emergency response on-site
- Rotational shift issues for staff with children
- How staff can learn to properly manage money for their two weeks off the mine site
- The need to recruit and keep Inuit staff
- Work readiness programs that are successful for other Nunavut projects
- The need for childcare in communities and who plays a role in delivering these resources (QIA/GN/GoC/Proponent)
- The training for heavy equipment operators is great but there needs to be training for mechanics
- Pension planning and financial planning
- Shipping routes for the Project
 - **Baffinland to send the map presented at the meeting**
- The communities outside of the local looking for more hiring and employment opportunities at the project

- It was noted that jobs are open to all Baffin communities so all Qikiqtaaluk communities are equally eligible to apply

The second day of the meeting started with a recap of the previous day. Participants were given a document with the Valued Socio-Economic Components (VSEC's) for the Mary River Project. These VSEC's are:

1. Population Demographics
2. Education and Training
3. Livelihood and Employment
4. Economic Development and Self-Reliance
5. Human Health and Well-Being
6. Community Infrastructure and Public Services
7. Contracting and Business Opportunities
8. Cultural Resources
9. Resources and Land Use
10. Cultural Well-Being
11. Benefits, Royalty and Taxation
12. Governance and Leadership

The committee was asked to decide and order these VSEC's in number of importance to them. Discussions then followed surrounding these VSEC's, as well as any other relevant items according to the Qikiqtaaluk communities and stakeholders. The conversation took up the entire morning, and it proved to be a valuable morning full of discussions surrounding what communities feel are the most important to them, the region and the territory as a whole. These topics covered areas such as:

- Infrastructure for country food processing plants to provide for a local economy and better healthy food opportunities
- Racism resulting in Inuit turnover
- Mental health initiatives on-site and in the communities
- Human health and well-being needs to be a priority
- Conflict management and cultural sensitivity
- Employment leading to an increase in self-esteem
- The need for translations in communities at stores
- Smaller communities (especially farther away from the Mary River Project site) are not benefiting from education and training
- Drop-out rates from schools
- Where community members can find work if they have an education
 - Finding a lack of employment opportunities in the small communities even when people are well educated
- The need for mental health programs in communities and health centres
- Parents need education and guidance on good parenting skills
- The opportunity for role model programs in communities

- The need for cultural and recreational programs on-site at Mary River
- The disincentive in finding employment if you live in social housing
 - The more money you make, the more you pay in rent in social housing so to keep affordable rent people stay unemployed
- The need for recording Traditional Knowledge and IQ so young people can learn and carry on this knowledge
- Issues of racism on-site for local employees
- Stories of employees being demoted instead of promoted
- Turnover due to lack of childcare, homesickness, racism, 12 hour shifts being too long – need some breaks to enjoy recreational time
- The Elder advisor program is a good idea but it doesn't work when the Elder is not from the same community as the staff
- Mental health workers in communities do not keep information confidential – deters community members from using that resource
- Would like to see a program on behalf of Baffinland to see Elders receiving country food
- Royalties need to be better managed so that communities see more money

Overall, most VSEC's were touched on, but some that came up multiple times were:

- Human Health and Well-Being
- Education and Training
- Cultural Well-Being
- Community Infrastructure and Public Services

The meeting concluded with a decision on where the next QSEMC will be held. All members voted, and the decision was to host the next annual meeting in Sanikiluaq. The date will be determined at a later time.

Action items for the next meeting and the time leading up to the meeting are:

- Baffinland to send the map of the Mary River shipping route
- Have the community profiles provided by Department of Health translated
- The possibility of reporting on cultural activities on site at the Mary River Project