

# Meeting Notes

## Dominion Diamond Ekati Mine

### Jay Project WEMP and Caribou Mitigation Plan

#### Yellowknife, NT

June 25, 2015 9:00am to 4:30pm – Tungsten Room, Yellowknife

#### Participants

**In Attendance:** Richard Bargery(DDEC), Claudine Lee (DDEC), Charles Klengenberg (DDEC), Nick Ballantyne (DDEC), Harry O’Keefe (DDEC), Eric Denholm (EDenholm Consulting), Shin Shiga (NSMA), Kate Witherly (GNWT), Michael Birlea (Tlicho Government), James Rebesca (Tlicho Government), Chuck Hubert (MVEIRB), Kate Mansfield (MVEIRB), Sachi De Souza (MVEIRB), Emily Nichol (Golder), Damian Panayi (Golder), Margaret Kralt (Dillon), Andrea Cleland (Dillon), Kevin O’Reilly (IEMA), Tee Lim (IEMA), Melissa Pink (GNWT), Stanley Louine (DKFN), Andrea Patenaude (GNWT), Marc d’Entremont (DKFN), Peter Unger (LKDFN), Brian Sanderson (LKDFN), Berna Martin (YKDFN), Morris Martin(YKDFN), Fred Sangris (YKDFN), Patrick Simon (DKFN), Loyld Cardinal (FRMC), Dean Cluff (ENR), Sarah-Lacey McMillan (EC), Boyan Tracz (WRRB), Joanne Black (YKDFN),

**By Phone:** Anne Gun (MVEIRB), Steve Strawson (Golder), Kristine Manson (Golder), Kim Poole (IEMA), Tannis Bolt (KIA)

#### Opening and Welcoming (Facilitator)

The Jay Project conceptual WEMP and Caribou Road Mitigation Plan workshop began at 9:00 am; the Facilitator, Margaret Kralt with Dillon Consulting (Dillon), opened the meeting by introducing herself and inviting participants to introduce themselves and state the organization they represented.

Rick Bargery, of Dominion Diamond Ekati Corporation (DDEC) provided an overview of the purpose of the workshop stating that DDRC has presented conceptual management plans for discussion. The workshop is not intended to discuss the details of the plans, but to gauge from participants if the plans are including the right information and is anything missing. There will be opportunity to assess and discuss these reports in more detail through the regulatory and permitting process. DDEC will try to present something by July 3<sup>rd</sup>, 2015 but that will be dependent on how the workshop goes and what is presented/requested.

#### Jay Project Conceptual Wildlife Effects Monitoring Plan – Overview Presentation

Harry O’Keefe of DDEC gave an overview presentation of the Jay Project Wildlife Effects Monitoring Plan (WEMP). The presentation reviewed purpose of the Conceptual WEMP, and the effects identified through the Jay Project Environmental Review Process. The document is not a final plan, but is intended to engage interested parties and solicit feedback. The intention of this current discussion is to engage parties to determine if this is a good starting point. Subsequent versions will be prepared with more detail. The presentation outlined the applicable Environmental Acts Legislation, the requirements for a WEMP and the corresponding agencies responsible for ensuring the Plans are complete and followed. The presentation also stated that the WEMP and the Wildlife and Wildlife Habitation Protection Plan (WWHPP) are combined into one (1) Plan. The WEMP addresses monitoring of indirect effects that will take place outside of the Mine and the WWHPP addresses mitigation and direct effects within in the Mine. DDEC feels that the combined Plan will satisfy the guidelines, currently being

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developed by ENR.

A description of the effects to each species addressed in the WEMP was provided with discussion and questions from participants.

### **Wolves Overview and Discussion**

Wolves depend on caribou as one of their main sources of prey. Potential risks include habitat removal and human disturbance. They have a very specific habitat required for their den, their quality of den site is essential to their success in reproducing and raising their young. The objective of this component of the WEMP is to: “determine the presence, distribution, and productivity of active wolf dens throughout the study area.

#### ***Discussion:***

A general discussion was held immediately following the presentation slides that discussed wolves. Participants were asked if there were any comments or needed clarification about the WEMP objective or supporting information. A summary of the questions and comments are (paraphrased) below.

**Andrea Patenaude:** The most recent surveys completed are not included in the WEMP. Ekati has more up to date information, as does ENR and it is available. Please include more up to date data.

**Dean Cluff:** You mentioned different types of surveys-complete surveys and partial surveys. When you say complete vs. partial clarification in the text is needed on what that means specifically. What is considered a partial survey vs. a complete?

**Harry O’Keefe:** Targeted survey is a better use of words than complete and incomplete. This is a wording issue that can be cleaned up and revised in the text of the document. Approximately three (3) years ago, there was a switch in the survey method, more targeted surveys were adopted.

**Kim Poole:** The wolf den surveys-are they going to be part of what ENR is doing for the misery road or will people be going to all the sites and having more surveying? Is Ekati providing some of the team members for the survey?

**Harry:** Ideally more comprehensive survey for the wolf population will be developed. Employees with the Ekati Environment group will participate in the regional program for the sites within the mine sites.

**Kim Poole:** There are about 20 known sites that weren’t covered in last year’s WEMP, why?

**Harry:** That is something that has been discussed. DDEC trusts ENR will be doing another survey.

**Dean Cluff:** In 2006 ENR designed a comprehensive survey of the larger summer range, this survey ended in 2012. A summer student looked at collar wolves and used this data for his master’s thesis, the research question was looking at den sites to determine why there is a decline in wolf abundance and pup survival. Den surveying was put on hold until the individual completed his work. It was completed this year and will be reviewed this fall on whether ENR will continue with this survey.

**Chuck Hubert:** A challenge of combining WEMP and WWHPP is that a land use permit (regulatory function) isn’t involved. One (1) option is to have a WWHPP as part of the land use permit so that it can be an actual regulatory document.

**Harry O’Keefe:** The WEMP is regulated by the NWT Wildlife Act. If the WWHPP is included in the land use permit, then two (2) levels of government will be responsible for the same document, Federal and Territorial. DDEC stayed with just 1 document so the responsibility stays with ENR.

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**Chuck Hubert:** The guidelines are different under both the WEMP and WWHPP. There is an option to separate the two documents, one (1) would be more local, the other regional. The one that focuses on the local footprint could be the WWHPP and it could be added to the land use permit.

**Harry O'Keefe:** That is something that the Wek'eezhii Land and Water Board (WLWB) will have to consider during the permitting process.

**Kevin O'Reilly:** There is a list of subject areas in the Environmental Agreement that the mine owners are to prepare a wildlife monitoring program and a wildlife management plan that the Independent Environmental Monitoring Agency (IEMA) and others can review. The Monitoring plan prepared has not been updated since 2000. There is not a lot of substance in the Environmental Agreement; it would be better to place more weight on the guidelines that ENR are developing for the WEMP and the WWHPP. ENR is responsible for providing more direction on this. The company has clearly laid out its wildlife monitoring; it is up to ENR to establish where they see the WEMP and WWHPP going and provide more guidance.

**Harry O'Keefe:** ENR can address whether or not this is conceptually a good plan, the real meat of the document will happen once the Jay Road is approved. Once approved then the responsibility can be placed on the responsible parties (ENR and WLWB). On another note: while there was no updated wildlife monitoring plan in absence of the plan DDEC has listened to people and continued to modify our plan based on that.

**Andrea Patenaude:** In the WEMPS and WWHPPs ENR are okay with combining both into one document. The guidelines will be updated by the fall. Regarding the *Concordance Table*, instead of just citing the WEMP and WWHPP guidelines, perhaps it could be more explicit and indicate which part of the guidelines each topic addresses and which part of the regulatory agreements it covers.

**Harry O'Keefe:** Agreed, that is why there is one document but the presentation is broken up between the WWHPP and the WEMP. DDEC needs to do a little more work highlighting this in the future.

**Ann Gunn:** WWHPP and WEMP is legislation vs monitoring, might just be a question of organizing the document more clearly so the differences are laid out.

**Harry O'Keefe:** While the WEMP is monitoring at a regional scale WWHPP is the mitigation that occurs on site but also some monitoring is included in the mitigation as well so that DDEC operations reduce the impacts on the wildlife population.

### **Wolverines Overview and Discussion**

The wolverine is not listed as an at risk animal. DDEC is required to identify changes in the wolverine abundance over time. DNA based population assessments have been done, the most recent in 2015. The monitoring was done using hair snagging methods outlined in the GNWT hair snagging document. The objective of this component of the WEMP is to: "identify changes of wolverine abundance and distribution in the study area over time."

### **Discussion:**

**Andrea Patenaude:** Under the methods for section it discusses ENR's "protocols". ENR does not have a finalized protocol, please add the word *Draft* in there as it is just a working document.

**Harry O'Keefe:** This is just the methodology that we have followed but we will be sure to change the wording.

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## Grizzly Bear Overview and Discussion

The population of grizzly bears in Canada are classified as a species of Special Concern. The objective of this component of the WEMP is to: “provide estimates of grizzly bear abundance and distribution in the study area over time.” A hair snagging program is being used at all four of the diamond mines to monitor grizzly bears. This is a less impactful method of identifying bears than any other method. The objective

### *Discussion:*

**Fred Sangris:** What do you mean by scent lures? What is DDEC using?

**Harry O’Keefe:** DDEC’s study area was cut up into 12 km squares. DDEC set up a tripod in each square with a sweet lure made of fermented cows blood, beaver castor, and a several different lures to attract bears to the post. The lures are switched every time so it is different the next time the bear is in proximity to the lure.

## Raptors Overview and Discussion

Gyr falcon and peregrine falcon breeding activity is monitored as part of the WEMP because falcon species are legally protected under the NWT Wildlife Act; and because they are valuable indicators of environmental change. The objective of this component of the WEMP is to: “determine site occupancy and productivity of historic peregrine falcon nests in the study area to contribute to the Canadian Peregrine Falcon Survey. As part of the survey falcon nests are monitored by helicopter twice during the breeding season- once during the spring and once during the summer.

### *Discussion:*

**Dean Cluff:** What are DDEC’s efforts for monitoring nests in the pit walls?

**Harry O’Keefe:** That will be addressed later in the WWHPP.

**Andrea Pateanude:** The effectiveness of nest deterrent efforts, this is included under incidentals?

**Harry O’Keefe:** DDEC has deterrent efforts that will be reported in the WEMP. These deterrent methods have been negotiated with ENR and are set up in the pit walls.

## Caribou Overview and Discussion

Caribou can be influenced by industrial development including air craft activity, vehicle traffic, dust etc. Does caribou behaviour change with distance to the mine-this is the purpose of this monitoring. Scan samples give you a sample of caribou behaviour. The objective of this component of the WEMP is to: determine if caribou behaviour changes with distance from the Mine.

### *Discussion:*

**Peter Unger:** How will the caribou focal sample be conducted? Can you provide more details in the Plan?

**Harry O’Keefe:** Focal Surveys are done anytime caribou are reported on site. Part of that monitoring is to send the wildlife monitors out to complete a focal or scan sample. DDEC’s monitors go to a site and wait for the caribou to arrive, the survey is intended to look at time and responses. Scan sampling survey the caribou at intervals- pick a group of 20 caribou at predefined intervals you scan and see what they are doing at each time interval.

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**Peter Unger** How is this being done? What proximity?

**Harry O'Keefe:** This depends; usually the Environmental Monitor is in a car but sometimes in a helicopter depending on proximity to site. It should be noted that DDEC does not follow caribou if they are moving. If the caribou move out of the way, into the distance DDEC stops monitoring them. As long as they can be seen, DDEC will be monitoring them – The caribou are never followed. It was noticed that it took 17 seconds of stress for cows and 25 seconds for bulls-generally DDEC are not seeing them running away-if that changes mitigation will change.

**Ann Gunn:** The objective is “if caribou behaviour changes” does that account for change in distribution?

**Harry O'Keefe:** Not currently

**Ann Gunn:** Will the objective in the WEMP account for distribution?

**Harry O'Keefe:** DDEC understands your point and will take it away and consider it.

**Ann Gunn:** The objective should be modified or the objective is unattainable as there is not an adequate sample size.

**Harry O'Keefe:** Sample size is currently an issue for all types of monitoring

**Ann Gunn:** I think when the Bathurst herd was over 100 000 animals the objective could still not be met.

**Kim Poole:** Within the Caribou monitoring methods there is no attempt for monitoring ZOI, collars are not mentioned, road surveys are not mentioned, why are these various components not laid out in more detail in this WEMP?

**Harry O'Keefe:** this is a conceptual document, describing detailed methods for each survey is not necessary at this time. DDEC can incorporate some changes, but the time to get down into the details is really in the permitting process. DDEC is not going to get into solving all of the methodology for each method until the Jay road has been approved.

**Kim Pool:** There is not even a discussion of what a road survey is, these are critical on how the monitoring and mitigation works.

**Ann Gunn:** As a conceptual document it seems to be completely lacking between the three levels of mitigation-*avoidance*, *minimize* and *offsetting*. The ZOI monitoring shows there is a large scale effect-conceptual thinking there is a need to intensify the linkage between monitoring and mitigation. What is needed is an appendix to what changes in monitoring have led to changes in mitigation.

**Harry O'Keefe:** I will direct you to section 4.1-DDEC can make that more clear in this section. To Kim Poole's point, DDEC can look into beefing the discussion on survey methodology when reviewing and revising the plan.

**Andrea Patenaude:** Approval from the Minister of Environment of these plans is not tied to the permitting process. Therefore the details of the WEMP cannot be ironed out during the permitting process. The lack of description for key components and protocols in the conceptual plan is something that needs to be changed as it is needed in order for it to be approved by ENR.

**Harry O'Keefe:** If the Jay project does not get approved then the plans will not be required. This is an idea of what DDEC thinks the WEMP should look like, we have a process in place, and a program currently running.

**Margaret Kralt:** Can you inform the audience by what you mean by conceptual plan?

**Harry O'Keefe:** Conceptual plan: An idea of what the WEMP for the Jay Project will look like-it is an idea of something that could be happening. This is what DDEC feels the plan should include, this is not the final product. All that we can do today is take the comments and consider them.

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**Kim Poole:** Is this WEMP plan essentially a wildlife management plan? Is that what it would have been called in 2000?

**Harry O'Keefe:** It would have been called a Wildlife Monitoring Program. This WEMP is more regional focused. Monitoring will still continue at the local scale within the food print of the mine. The road monitoring survey is not described but should be described in the WWHPP.

**Kim Poole:** The WWHPP and WEMP description confuses the issue. Document is supposed to outline details outlining monitoring and mitigation and how they would relate to an adaptive monitoring framework.

**Harry O'Keefe:** There was a section (3.2) that describes this. But it has become clear that there is work to be done on this and beef it up. This is a suggestion that DDEC can take away and consider. However, this is not the sole purpose, it has combined everything.

**Kim Poole:** This document that we are reviewing it is going to incorporate both scales of mine site plus regional scale?

**Harry O'Keefe:** We are trying to get all the information in one (1) report, and every portion of the document of how it relates back to the WWHPP and the WEMP.

**Kim Poole:** It was just discussed that if the Jay Project doesn't get approved then this will get thrown out-is that true? I am worried that if Jay doesn't go ahead, the whole process will fall apart. There are still major points of this work that should be implemented.

**Harry O'Keefe:** This will be looked into and DDEC will address this with or without the Jay Project.

**Mark d'Entremont:** How will the monitoring data be analyzed and interpreted to meet the stated objectives within the WEMP for the various species? How is that data being collected according to the protocols? This is covered well in the Aquatic Monitoring Program- this should be looked at and some of that program should be implemented into the Wildlife Monitoring Program.

**Harry O'Keefe:** Good idea, thank you.

**Andrea Patenaude:** That is a really good point. In section 1.4 the objectives need to be more clear of what are the objectives of the overall document.

**Harry O'Keefe:** Section 1.4 is just highlighting the environmental agreements that need to be incorporated moving forward. DDEC is trying to give you the highlights of changes that need to be incorporated into the WEMP in addition to what is currently being completed in the WEMP. The objectives provided are not the only of the WEMP but they are specific to Jay Project and what needs to be changed.

**Andrea Patenaude:** I still think there would be value in putting all of the objectives of the overall WEMP into one document, not just specific to Jay Project and the changes being made. What I did like was the past scope: what has changed and why.

**Harry:** Thanks, that is something DDEC will look into.

**Peter Unger:** Is there anywhere I can get more details on the methodology?

**Harry O'Keefe:** The intent is to have the operating procedures as an appendix to the report.

**Mark d'Entremont:** In section 1.4 you have the objectives and in section 1.2 you also have objectives, clarity is needed at the beginning of the WEMP.

**Harry O'Keefe:** Noted and agreed.

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**Fred Sangris:** I see the map where the Jay Project is going to go, it seems that the project is getting larger and larger and starting to move over more land. I was told they were going to open one pit and close another. I used to trap there; we used to come all the way up with sled dogs. It is right in here where the caribou used to spend a lot of time. The new Jay project is where the caribou migrate. This is an important migration route; we don't get a lot of reports in the community on caribou monitoring which needs to change. The Jay road is really going to affect caribou, the caribou usually go NW of Lac du Sauvage, and this is where they safe guard themselves with their young ones. The Jay pipe is right in the middle of their path they have used for thousands of years for migration. We were promised that the company would hire our people and you haven't done that. If a plan is going to come in place, you might have to change the plan, your land mass is huge. I truly believe that this project has had a huge effect on the caribou application. Develop a better plan, this one is not working. The herd must be diverted, DDEC needs to come up with a more progressive plan. The winter road should be a part of a mine plan (north of Gordon Lake) it is built on our family's trap line. We have filmed trucks going 80 -90 km an hour. The plow killed 5 caribou when clearing snow-this was not been reported. I truly feel the mine is the problem the herd population went down.

**Rick Bargery:** Thank-you Fred. If there are things that DDEC can improve in our communication we are open to discuss that with the YKDFN. There are also visits to site that can be arranged so that the YKDFN can see what DDEC does. In terms of the number of pits that are being mined, the Jay Project would be the only pit being mined, the rest of the site will be part of a progressive reclamation plan. This afternoon you will see what we are proposing-you will see some of your suggestions have been implemented into our program. We are open to ways to improve it further.

### **Jay Project Conceptual Wildlife Effects Monitoring Plan – CRMP Overview Presentation**

Damian Panayi of Golder and Associates (Golder) gave an overview presentation of the Caribou Road Mitigation Plan(CRMP), formally titled the Wildlife Road Mitigation Plan. A draft version of the Jay Road Mitigation Plan was provided in May; the second draft of the document incorporates the comments received at the May 22<sup>nd</sup> workshop. The CRMP will eventually be an appendix to the WEMP. Key points of the presentation include:

- plan is adaptive and will continue to be updated as it is implemented;
- the triggers in this document are caribou sightings,
- the colours on the Decision Tree have been changed as suggested;
- the number of caribou seen on the side of the road and triggering a response have been decreased;
- clarified how the outcome of this document will be recorded;
- collect information, compare the information to a trigger or threshold and have a response based on this;
- Blue-operation level-it is in place at all times, regardless whether there are caribou. The design of caribou crossings will be implemented.
- employee education on this topic will be included from an operational perspective, speed limits will be posted, and enforced;
- wildlife has the ROW-traffic must stop if there is any sightings.
- all of the vehicles have radios and everyone reports when a caribou has been seen on site. DDEC has a culture of communication. This is very helpful in mitigating effects on caribou casualties.
- *Level 1 (Yellow)* – the trigger is one or more collared caribou within 30 km of the mine, at this point we have to implement mitigation-site wide notifications of caribou on site, signage indicating caribou

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- *Level 2 (Orange)* – the trigger is one or more caribou within 14 km of the mine, caribou sightings on Misery or Jay road, signage will be deployed, speed limits are decreased by 20 km, daily road surveys and environmental technicians are going to be dispatched to the site where caribou were reported.
- *Level 3 (Red)*- the triggers are 1% of total cows in the Bathurst herd are within 200 m of the Jay and Misery roads, one or more caribou groups observed within 500m of the Jay or Misery roads during the northern migration (May), one or more caribou crossing the road.

### **Discussion:**

**Dean Cluff:** It says in the CRMP that wildlife carcasses found on or near the road will be moved. How far will they be moved?

**Harry O'Keefe:** How far the carcasses are moved depends on the size of the carcasses. If it is large ~10-30 km.

**Dean Cluff:** The distance seems to be a quite far.

**Harry O'Keefe:** It is important that we do not scare any animal away, if the animal is feeding on the carcass, it is DDEC practices to let them finish feeding. It is only if the carcass is found unattended or in scraps the scraps, that is what we move.

**Peter Unger:** How long will this mitigation activities in Level 2 last?

**Damian Panayi:** As long as they are in range.

**Mark d'Entremont:** In Level 2 triggers, should you say near the road or have an actual number?

**Harry O'Keefe:** Ideally DDEC will be increasing the survey efforts so that when spotted the mitigation methods can be initiated. Picking an actual number is difficult and can be hard for DDEC to live up to. The trigger is based on sighting the caribou - this depends on the visibility of the road and surrounding area.

**Mark d'Entremont:** QAQC would help this?

**Harry O'Keefe:** How would you like to see it reported?

**Mark d'Entremont:** When you get to *Action Level 2* versus *Action Level 3*, if the mitigation method is triggered to *Level 2* but *Level 3* is not triggered it would be valuable and good practice to state why.

**Harry O'Keefe:** What you would like to see is if there is a sighting and level two was implemented but not level three-discuss why in the QAQC?

**Mark d'Entremont:** Yes

**Harry O'Keefe:** That is something that we can consider.

**Kate Mansfield:** The speed decrease for vehicles, does this apply to all vehicles? Some vehicles may not be able to make it up hill at low speeds.

**Harry O'Keefe:** The protection is of the caribou, so if the vehicle cannot meet that speed then the vehicle will not move until caribou has moved on and no longer on the road, or approaching the road.

**Peter Unger:** How do you calculate the number of calves in the herd?

**Damian Panayi:** ENR spends a lot of time and energy calculating this, DDEC uses the information that they prepare. If the accepted number of the herd is to be adjusted, the appropriate time to increase the number of survey's is when there is an increase in sightings.

**Harry O'Keefe:** The question was asked, "How long can DDEC sustain a long closure?" DDEC will close



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the road for as long as it takes the caribou to move off the road and the behaviour is no longer triggering the threshold.

**Kim Poole:** Could you clarify what you mean by freight trucks? (Document page 1-1 3<sup>rd</sup> Paragraph)

**Rick Bargery:** The appropriate term to be used should be "haul trucks". This needs to be changed in the document.

**Kim Poole:** Is there data available that can be used to calculate the distance between each truck?

**Rick Bargery:** There is data available, DDEC provided this during the technical sessions. It may have been seen by participants at the technical session but it can be retrieved and presented to you.

**Kevin O'Reilly:** Are the current caribou crossings shown on this map? It will be helpful if that information could be added. DDEC could also include incidental observations, collared data, aerial data of where the caribou have been seen and what that information means for caribou crossings? If there was a map that showed where crossings have been noted that would help to educate the drivers. There is a section in here that is good-just some thoughts on how to improve the background information that contributes to preparing the Plan.

**Ann Gunn:** When Damian introduced this Plan during the presentation, he called it a mitigation plan-not monitoring, it would be nice to be called an adaptive management plan that would include both monitoring and mitigation.

**Harry O'Keefe:** this is CRMP is produced as a standalone document and includes the mitigation DDEC is doing for caribou on roads. The WWHPP includes the monitoring.

**Ann Gunn:** The mitigation only discusses traffic management there is no mention of the crossings and road construction-this should be included.

**Harry O'Keefe:** That confusion still relates back to this as a standalone program. This is a specific detailed component of the WEMP not a complete monitoring and mitigation plan. It is just meant to directly address issues related to caribou.

**Kim Poole:** It is a bit confusing because the title does not reflect what the topic is about. It does seem like a management plan not a mitigation plan.

**Rick Bargery:** To note - you (Kim Poole) suggested it be a caribou mitigation plan. We will review the title.

**Ann Gunn:** The objectives of the CRMP should include quantitative threshold criteria. The objectives in the CRMP need to be more quantitative and more detailed.

**Harry O'Keefe:** Thank-you for that suggestion DDEC has made a note of this.

**Ann Gunn:** It would be nice to have a sense on how the traffic frequency data is measured? The proposed level of traffic exceeds what has historically occurred at site; this needs to be addressed.

**Rick Bargery:** DDEC recognizes the traffic is increasing, we think we are taking a precautionary approach. The traffic data was provided as undertaking #25 of the technical sessions. If you would like the traffic data information it can be found and provided.

**Ann Gunn:** The frequency of traffic is going to reach a point where the exposure and disturbance of caribou will be constant. The cameras should catch frequency as well as approach and retreating traffic.

**Harry O'Keefe:** Operational cameras are not the best way to capture the volumes of traffic. DDEC is looking into a more effective way (better technology) to capture how traffic is affecting Caribou.

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**Andrea Patenaud:** Where can the results of DDEC's investigation for better more effective technologies for capturing how traffic is affecting the Caribou be found?

**Harry O'Keefe:** In regards to Jay Project sometime after it is permitted. We are looking at compiling a report this fall-the traffic and camera data will be part of that report.

**Kate Mansfield:** Was it deliberate to combine the traffic assessment of both the Jay and Misery roads?

**Harry O'Keefe:** DDEC is trying to combine the infrastructure as the Misery Pit will eventually be closed the road will just become the Jay Road. However, regardless of the name the segments will have different traffic estimates given their different uses.

**Peter Unger:** You will be providing your drivers with maps as to where caribou have been sighted; can the LKDFN have those maps as well?

**Harry O'Keefe:** Yes, that will be something that DDEC can add to the document.

**Tanis Bolt:** Is there some type of notification provided to DDEC with the collar data? Or does DDEC check the data provided by ENR on a regular basis?

**Harry O'Keefe:** DDEC can check the collared data as often as four (4) days; it is dependant on when information is provided by ENR.

**Dean Cluff:** DDEC can't rely on the collar data. It is probable that the caribou will be seen before the data is obtained from ENR. It helps with the monitoring but cannot be relied on to trigger these levels.

**Harry O'Keefe:** The collar data is helpful but it is not the only mechanism DDEC uses for monitoring the caribou. This should be in the details of the standard methods.

**Dean Cluff:** There is no substitute for the constant local monitoring.

**Ann Gunn:** It would be useful to look at the number of times there is caribou sightings compared to the collar data. This would add validity to the collared data. The most sensitive time for caribou is not only pre-calving migration, the tendency is now also in September, when caribou are replenishing their reserves. I suggest your section acknowledges the importance of this time as well. It would also be useful to use your historical data; it would allow you to show zones of greater likelihood where drivers can expect to see more caribou.

**Harry:** That is something that DDEC currently does, there are seasonal encounter rates. I can forward you this document (Harry to forward to Ann Gunn).

**Ann Gunn:** It is important to include as background information to link this to the document. There is a section at the end of the document on adaptive management, I suggest it be brought into the introduction instead of dropped at the end. The whole plan is an "adaptive management plan". In the *Level 3* it needs to be clear whether these thresholds are and/or or just or. In *Level 3* they should not be restricted to just the month of May. What happens in September and October should be included so I suggest the reference to just pre-calving May should be removed.

**Harry O'Keefe:** Thank DDEC will do that, it was mentioned earlier and it is noted. The triggers are just based on caribou near the road, but seasons may be a good idea including what the mitigation measures will be depending on the season and caribou behaviour.

**Ann Gunn:** Regards to mitigation-the use of convoys has not been used. I would like to see a statement relating to when convoys rather than speed restrictions may be used.

**Harry O'Keefe:** This is a valuable, DDEC has taken note of this.

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**Ann Gunn:** It is a sliding scale, speed of traffic will trigger the need for convoy. The 1% of the herd is unknown and could be a very large number depending on size of the herd

**Harry O'Keefe:** One group (as indicated in the CRMP) could refer to a group of bulls, this is a document for miners to know and understand. DDEC provides a number to the miners but also drivers also need to understand the environmental document. DDEC needs two (2) separate numbers, drivers needs an actual number, environmental document need to be provided to the miners as well but they will have more determined numbers when on site.

**Ann Gunn:** There is no reference to dust and dust management. This should be included, it is a long standing concern for traffic management and road management planning.

**Harry O'Keefe:** Yes absolutely, DDEC can look at referencing the linkage between dust and traffic and road management.

**Ann Gunn:** If distance is going to be included in triggers it should include a time scale.

**Harry O'Keefe:** 30 km is equivalent of 1-2 days that would be the time scale for movement. That is to trigger DDEC to be on the road when the caribou arrive on site.

**Ann:** 50 % of the time collars are reliable 50% using the collared data for comparison would help with coming up with this information.

**Andrea Patenaude:** There is some confusion about the triggers for the action *Level 3*. How will the 1% change if the herd size increases? It seems like triggers are conflicting.

**Harry O'Keefe:** There was a request for different triggers for pre and post calving, this is again some rules for drivers. Seeing a caribou significantly further from 200 m is difficult, the drivers need to be paying attention to the road. The distance of 200 m was chosen because it is based on the distance it takes for a haul truck stop safely. It also helps balance the difference between in responsibility between the drivers and wildlife technicians.

**Kim Pool:** According to the triggers in *Level 3*, there could potentially be 1000 cows 400 metres off the road in post-calving and this would not stop traffic?

**Harry O'Keefe:** Correct, unless there is a change in their behaviour.

**Kim Pool:** That 200 m should be pushed out; so that even more than 200 m there should be Environmental Monitors on site to eliminate deflection.

**Harry O'Keefe:** That depends on the season and the amount of caribou. Pushing it outside the distance the driver can see brings its own issues. Point taken-it is hard to accommodate all scenarios.

**Kim Pool:** In the operational section it states that if the caribou has left sight and is at 100 m distance from the road, drivers can begin to drive at 20 km an hour. At 200 m drivers can increase speed to 40 km. But the Trigger, 500 m and speed reduction will be triggered (this is assumed there is a wildlife monitor)?

**Harry O'Keefe:** If caribou are approaching the trigger is 500 m if caribou have crossed and passed road this is the restart of traffic at 100m 20 km then 200 m 40 km.

**Ann Gunn:** Have you considered making it clear in table 3.1 which triggers are for the drivers training and instruction and which are for the wildlife personal?

**Harry O'Keefe:** Good point, DDEC will consider adding this information.

**Kim Poole:** There has not been any clarity on how often the collar data updates will come. How effective will this be for monitoring in practical grounds?

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**Harry O'Keefe:** Good point

**Kim Poole:** Why would Ekati choose to maintain the snow berm at 1.6 metres? Why wouldn't they choose a height lower so that it deflects less?

**Harry O'Keefe:** Without knowing the exact model of grader, DDEC said it would not be higher than 1.6 but the snow plough is directly related to snow blowing on road, it is usually around 1 m high.

**Kim Poole:** To clarify expected height and how it is determined in the document that would be useful.

**Mark d'Entremont:** How are you measuring boundary effect?

**Harry O'Keefe:** The cameras are a large portion of this measurement, as well as behavioural monitoring. One thing that doesn't get mentioned enough is when caribou are spotted; the Environmental Monitor will be there from the moment of sight.

**Mark d'Entremont:** If there are observations of caribou approaching the road, are the Environmental Monitors observing why they are deflecting/crossing / what are they doing?

**Harry O'Keefe:** The Environmental Monitors have to consider all things before determining if there is a deflection. The season (calving) and use all observations. If they change direction there has most likely been deflection.

**Fred:** The mine operation is 24 hours. In the winter-time 500m beyond the road is not visible, because it will be dark. When the trucks are moving the caribou will not cross, I have witnessed caribou waiting until the appropriate time to cross. The caribou have an urge to move away to protect themselves from wolves etc. The road in the winter-time with trucks on it and the darkness will deflect the caribou. The bulls will cross the road, some of the smaller herds will be afraid to cross. How would the driver or anyone detect them at 500 m trying to cross the road? Some drivers say the herd will try and cross the road. Caribou sleep in the afternoon they don't sleep at night; this is important to note. How will these triggers be effective in the dark? The caribou act differently in each season, the behaviour is completely different.

**Harry O'Keefe:** DDEC does have thermal cameras but we do need to work on when to expect from the caribou at night.

**Ann Gunn:** What I would like to see in the text is that the monitoring is different for the Misery and Jay road as the Jay road has been labelled as a crossing zone. I think it should be acknowledge that the caribou behaviour for Jay and Misery may not be identical.

**Harry O'Keefe:** We will take this into consideration.

**Ann Gunn:** The operational plan includes an operational time for blizzards of 15 days. How much time is allotted for caribou closures?

**Harry:** We have established that we will close the road for as long as necessary.

**Ann Gunn:** So there will be no consideration for caribou herding?

**Harry O'Keefe:** No

### Jay Project Conceptual Wildlife Effects Monitoring Plan – WWHPP Overview Presentation

Damian Panayi of Golder gave an overview presentation of the Wildlife and Wildlife Habitat Protection Plan. DDEC has produced a single conceptual document titled the Jay Project Conceptual Wildlife Effects Monitoring Plan. The plan addresses the Wildlife and Wildlife Habitat Protection Plan as well as the Wildlife Effects Monitoring Plan. The WWHPP applies to wildlife mitigation and monitoring of direct

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effects within the Mine (including Jay Project) development area. The Ekati Mine follows a hierarchical approach to mitigation, avoid impacts, minimize impacts and then reclamation of the area. The effects to wildlife habitats, stated within the footring of the Ekati Mine, are monitored and will continue to be monitored, looking at the footprint of the mine each year and comparing it to the habitats and landscape features. Incidental observations are one component for collecting and analyzing this information. Key points on species

- Raptors- find a balance between finding the birds from what they need to do and the risk of them injuring themselves. Objectives came out of regional discussions/meetings in 2008-2010.
- Caribou- Camera tracking this is a way of giving us more eyes on the ground, which wouldn't be possible with just technicians on the ground. The objectives are to determine the level of caribou activity along the Jay Road.

### **Discussion:**

**Mark d'Entremont:** Is the Jay Project realizing the predicted impact of the road?

**Harry O'Keefe:** This comparison will be something that will be inputted into the document.

**Mark d'Entremont:** I think it is a big gap; there is not a large analytical component if you start looking at the number of incidences and the number of incidents being reported. Another thing is looking at what type of incidental observations are being made; look at the historical data. Example, more sightings are happening because more people are on site.

**Harry O'Keefe:** I agree-some data at Ekati is currently be used to look at this.

**Kate Mansfield:** You mention that as part of the reclamation research plans, there would be a study on metal uptakes in the caribou (sec 4.1.7).

**Claudine:** That is work that is related to the Cell B pilot project, that work is for collection an analysis further on in the year.

**Chuck Hubert.** In the event of Sable Project moves ahead would camera monitoring be extended?

**Harry O'Keefe:** Yes, it is likely that it would.

**Kevin O'Reilly:** The 4 km of the Sable Road, is it already monitored by cameras?

**Harry O'Keefe:** Yes.

**Dean Cluff:** DDEC has gone to great lakes to deter Raptors from nesting. Do you have enough information to publish?

**Harry O'Keefe:** Not at this time; Falcons are really hard to deter from nesting. Most of our pits have one or more active nests. The only true effective method is physical barriers. They very quickly adapt to all other techniques of deterrence.

**Dean Cluff:** It would be helpful to provide a document for other mines that may be going through the same thing. A "Lessons Learned or Best Practices" specific to that would be helpful rather than having to go through all of the documentation.

**Mark d'Entremont:** With regards to the active pits, is the first action is to deter nesting?

**Harry O'Keefe:** Yes

**Mark d'Entremont:** In reference to the buffer distances, is this something that will be in the next version of the plan?

**Harry O'Keefe:** We will revisit when we have a nest, just to monitor the nests we have six people

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monitoring. It is hard to predict and report consistently.

**Andrea Patenaude:** Deterrent commentary is the Plan is very general, is there not specific way to deter a species?

**Harry O'Keefe:** There is not species specific ways to deter different birds. It doesn't matter if it is a hawk or a raven

**Andrea Patenaude:** I meant more deterrents not for specific birds, but different species-Bears, wolves, birds etc.

**Harry:** Yes, though the guidelines are laid out by ENR.

**Mark d'Entremont:** I notice in the current plan there is mention of mitigation, at the LLCF. Is this not seen as an attraction?

**Harry O'Keefe:** Point taken DDEC explored some barriers, the orange barriers, snow fence, does not provide an entanglement risk.

**Ann Gunn:** It is quite confusing-WWHPP versus WEMP. The presentation was all about monitoring and not about thresholds and mitigation. There was no description of the mitigation.

**Harry O'Keefe:** Mitigation and monitoring are part of both. However, it is the responsibility of ENR to address whether DDEC's interpretation of the WWHPP and WEMP are correct. At this time ENR is still working on the *draft guidelines* for the WWHPP and WEMP.

**Andrea Patenaude:** I would say that DDEC's interpretation is correct. ENR is considering the scale effects and how they differ between the two (2) plans. We will come back to this.

**Chuck Hubert:** With the ENR there has been an evolution with the documentation, but I am wondering if there is a way to clarify the WWHPPs and WEMPs?

**Andrea Patenaude:** There are some lines that are blurry however companies need to outline the impacts of their projects, they must also outline how to mitigate those impacts at the site level and a regional level. There must also be a description of how the data being collected during the monitoring manages possible effects and how it triggers action. Guidance it is really about the content of the plan. In this document there are some places it is clearer on how the mitigation/monitoring methods are working and improving. I do like that in terms of the impacts, the list that has come up in the past, what they predict may happen.

**Chuck Hubert:** As far as the Wildlife Act, is public review an opportunity in that document (WEMP)? Under the act is there a requirement for public consultation?

**Andrea Patenaude:** Under the Wildlife Act there is no requirement for consultation. In the guidelines there is an engagement section.

### Traditional Knowledge-Inclusion into Monitoring Programs

DDEC provided an overview of how Traditional Knowledge (TK) is incorporated into their monitoring Programs. Key highlights include:

- an example of one of the most effective TK methods that comes to mind, is the placement of our caribou crossings. This was done with community members to ensure DDEC hadn't missed a big area due to this TK.
- As the WEMP and the Jay project moves forward DDEC will continue engagement with local communities and continue to seek opportunities for the inclusion of TK.
- DDEC is doing construction on Misery road for the installation of a power line, monitors have been hired to provide knowledge and guidance on the road;

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- Community members have been involved in the design and implementation of bear hair snagging etc. projects.
- There are other examples that are similar.
- Grizzly bears: Elders and land users participated in the hair snagging program and had members of the communities to point out where the best grizzly bear locations for habitats are and where to place the posts based on that.
- TK informed Mitigation: There is some work to do on barriers; snow fence isn't very effect which is current strategy.

The discussion and feedback DDEC would like to receive from participants is what are other opportunities that TK can be included.

### **Discussion:**

**Peter Unger:** The LDKFN really appreciates elders and youth being brought on site, there are lots of people who like to contribute to how you do your monitoring. Have you done any consultations as your TK holders of your monitoring technique?

**Harry O'Keefe:** Yes DDEC has, since 2011, been including them in our monitoring program and techniques and asking for suggestions.

**Peter Unger:** A specific example, focal sampling, have you consulted with any traditional knowledge holders on caribou behaviours and how to read them in the focal sampling?

**Charles Klengenburg:** Yes, DDEC has included them in many aspects, we are trying to incorporate some of the shared information in these monitoring programs (such as reading hoof prints etc.).

**Harry O'Keefe:** It is a lifetime of knowledge that we are trying to gain so it will take time to gather all of this information.

**Peter Unger:** some people in Lustl'ke feel TK is not taken as serious as western science. Is it possible to incorporate specific methodology into the monitoring program?

**Johanne Black:** TK is important to us (YKDFN), for us to give it up, we fear that DDEC is not listening and using the information. Any TK that provided by the YKDFN, have you used it? If it was not used why? Is this documented?

**Rick Bargery:** DDEC has done workshops, there are documents. DDEC also does various site visits to bring elders up and we have tried to incorporate TK in a numbers of ways. I cannot speak to where TK information has not been used. It is incorporated as much as possible.

**Charles Klengenburg:** A good example used, the Kuguktuk elders recommended Inokhoks (Inukshuks in their dialect) to deter caribou from airstrip, the way the Inokhoks are built right now they are clumped together. This method has not been so we are now moving it to a line. What is really effective is a higher fence built out at Misery the snow fence breaks and the caribou can jump over it.

**Fred Sangris:** Information collected from government and non-government entities is treated differently-Aboriginal communities are still considered non-government-this needs to change. As part of the IBA we were supposed to have a five (5) year review but it has been ten years since our last review. It is important that DDEC respect the agreement. We were assured that TK would be incorporated with mining information-this was in 1995, it is 2015 and TK is still not incorporated. If you need help on TK and need help for monitoring programs then incorporate. If you are committed to working with the communities as you say you are then do it. Incorporating TK doesn't give you the right to use our intellectual property rights. The TK information on caribou we know from past history that the caribou

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love EKati, the caribou really love their feet, they won't go to a rocky place, they are going to where it is good on their feet. We talk a lot about saving the caribou but nothing is mentioned about the muskox, this is a large part of our heritage. Muskox today is expanding all over, the muskox needs to start being monitored and looked after. Wolves, timber wolves are moving north-the arctic wolves are being pushed out because the timber wolves are larger and more aggressive or they are mating. The wolf behaviour is changing, the populations are changing, and their reaction to humans are changing. This is how TK is used within our communities, this is how we know the movement of wild life on the land. The wolverine-nothing you can do about him, he is lazy he doesn't make a home, he lives in the rocks. There is changing in wolverines also, size type etc. The wolverines, you are doing DNA testing as well, these kinds of reports should come back to us. I have had wolverines come into my tent when I am done dinner. Wolverines are a survivor-they can go ten days without food. It is good to have a study of all this information. The grizzly bear population went down in the 60s but they are populating again-the elders tell us there is a place that grizzly bears go. It is between McKay lake and Glacier rock and a place called Mohog Lake this is where there is a high wolf and grizzly population. Every spring there is a gathering place for wolves in the (name of the place?). The younger generations are starting to pay more respect to wildlife, instead of trapping they want to protect. If you incorporate TK you can gather a lot of information that talks about the wildlife and habitat and how to monitor them. It is important to get the right people that are giving TK. The problem is that TK and hunters are not being used. I do support the TK, if the company does incorporate TK this could be a model for all other industries and do something spectacular. There has been 45 recommendations that Yellowknife Dene made to Ekati but we don't know if it was incorporated. There has been a lot of good suggestions by the companies to do good will but there has been no follow through. I hope that the incorporation of traditional knowledge is done quickly, so step up

**Rick Bargery:** DDEC has a number of Communities that we deal with, a not all our First Nations, it wasn't meant as a sign of disrespect by not naming you as "First Nations". As a company DDEC is committed to meeting all of our agreements and we have that is later to be discussed with IBA. We can incorporate more TK and we will work to do that. We are trying to listen and work with communities and are open to new ways of doing that. With the inclusion of TK we are open to ideas, we want it to be an ongoing engagement that continues to improve our monitoring and mitigation. We recognize that we need to continue to strive to do it better.

**Peter Unger:** LKDFN highly values their TK, I agree to the privacy of personal information and intellectual property. Muskox is also very important to our community as well. Traditional knowledge is not mentioned in the design of the monitoring program. TK holders would have a lot of valuable input to contribute to this and should be incorporated in your monitoring program.

**Patrick Simon:** What is the process of TK as it comes into your company and how you utilize that information? How do you safe guard and protect TK? What are you doing with that knowledge, especially after the mine shut downs? How do you take all this information and begin to articulate it in a design and address a particular issue or a problem? I did see some of your examples and there seems to be something lacking between the TK input and the implementation. It seems that you interpret it the way you want, why aren't you bringing out TK holders to help with the design and placement of these things? TK challenges your engineers and scientists to go out of your box, but we are ready to help you guys when you decide to step out of that box. I think you are not trying hard enough when it comes to taking our information down when bringing it into a conceptual design.

**Rick Bargery:** Inokhoks was actually built with community and TK holder members (reference made by Patrick Simon about how the Inukshuk example was poorly implemented). We talked with the engineer



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and the TK holder present. The monitors and engineers are dealing directly with the TK holders.

**Claudine Lee:** DDEC has lots of different types of monitoring programs. DDEC does take the lead from the community groups, the caribou camps and other caribou monitoring programs has a strong background based on TK. You will see some programs have more TK included than others.

**Rick Bargery:** DDEC does host visits with community members.

**Patrick Simon:** Does DDEC have any type of process in terms of your employees when it comes to TK?

**Charles Klengenburg:** DDEC does not use it the information and say it is ours. We base it on the power of respect of the TK holders. The information that was gained from projects is more for community use.

**Rick Bargery:** If we have agreements to do specific TK projects, we will negotiate agreements for each particular projects on the protection of the knowledge.

**Patrick Simon:** There should be a little more guidance to procedures then just lumping them together and say we have respect. We want to know about these things or know that there is some sort of process in place so that the information that resides with you that we have shared and use and spoken to only for that and not found elsewhere where there is no relevance. We didn't give people that information for any other use then for the specific project, it should not be shared unless permission is granted. You will not get the 'good stuff' unless you prove yourself trustworthy.

**Rick Bargery:** Thank-you this is good feedback.

**Johanne Black:** We all know what data is and that certain data has ownership, we (YKDFN) want ownership of TK information we provide. We want to manage it but we can't without your help. We would like a running list of TK that you have obtained from each group. Otherwise we don't know if you are using what we have provided the way we want it to be used.

**Rick Bargery:** DDEC can look at this. I don't know how much work that entails but we will see if there is any way we can organize it in a way that it is useful.

**Johanne Black:** There is no way that we can check back, for example with Fred mentioned the graveyard, to see if the information provided was considered and incorporated.

**Rick Bargery:** It would probably be useful for us to have a separate discussion on this and how we can go about setting that up.

**Shin Shiga:** Does DDEC have method for systematic analysis of TK data? Is there a single data base or not?

**Harry O'Keefe:** Short answer of that-no. It was provided to me in a specific context and if I analysis it I might lose the context. TK is something that cannot be taken from someone, you have to work on it for something that can be given. However, DDEC can work on some way of storing.

**Shin Shiga:** We are offering the TK so there may need to be some analysis, is there any systematic way for you to sort out and document it.

**Harry O'Keefe:** It isn't easy to generalize and create a "systematic approach" that forces us to evaluate it like western science and it is not. What DDEC can try to look at is categorizing the TK information under species, habitat who provided the information and what was the context for providing it etc. This may be a more useful way to store and present the data.

**Charles Klengenburg:** When we are doing a fish sampling program an elder from Dettah, he was really upset about how the samples were being taken. So now coming back DDEC samples by taking a plug a sample from the fish to try and accommodate this concern.

**Shin Shiga:** I appreciate a lot of the engagement has occurred, but it seems that a lot of the TK has not been implemented. The concern that TK cannot be "systematically analyzed" is appreciated, but is one that can be resolved. For example, NSMA uses a database to manage TK. We address various issues associated with such method (reductionism, determinism, appropriation, and knowledge ownership etc)

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by continuously working with the TK holders, from gathering to TK, analyses, and writing of reports. TK can be “systematically analysed” as long as the researchers are diligent about consultation and engagement throughout.

**Charles:** If you listen long enough you will hear traditional knowledge.

### **Workshop Review and Wrap-up**

- After the discussion about TK was concluded Margaret Kralt (Dillon) provided a highlevel overview of the information covered.
- Rick Bargery of DDEC thanked everyone for participating, the input to the conceptual Wildlife Effects Management Plan is all very good. DDEC will try to assess how it can all be incorporated to the next version of the WEMP. At this time it was not clear when the revisions will be completed but we will try and get it out as quick as possible.
- The workshop ended at 4:27 pm.