

***Independent Environmental Monitoring Agency  
21<sup>st</sup> Meeting of the Board of Directors  
Yellowknife, Northwest Territories  
November 10<sup>th</sup> – 12<sup>th</sup>, 2000***

***Summary of Discussion***

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**Directors**

Red Pedersen	Marc Stevenson
Peter McCart	Bill Ross
Tony Pearse	François Messier

**Staff**

Zabey Nevitt	Robin Staples
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**Friday November 10<sup>th</sup>, 2000**

Meeting called to order by chair at 8:30 am

Introduction of the new director and communications assistant.

Agenda reviewed and accepted.

**Information updates**

Chair: Red noted that his meeting with Scott Williams (BHP) regarding the Agency's workplan went well and that Scott appeared receptive to changes proposed by the Agency, including relocation of the chair to Yellowknife and a possible staff addition. The chair also noted that he has found a place to live in Yellowknife for part of the year and is in the process of finalizing the details.

Pete: Has started to review the aquatic effects management plan in the OEMP.

Marc: Noted that he is still learning about his position on the board, and gave a brief description of past work that he has been involved in. Marc also met with Clem Paul and Bob Turner of the North Slave Metis Alliance (NSMA) who had a number of concerns regarding the addition of Sable, Pigeon and Beartooth pipes at the BHP site.

*Issues brought forward from NSMA:*

1. The NSMA believes that the Mackenzie Valley Environmental Impact Review Board's review process and method of community consultation is not appropriate. The NSMA is trying to work with the MVEIRB on these issues.

2. There is a lack of IRMA funding to participate in the review of the BHP expansion assessment. The NSMA doesn't want to wait for government funding, as it will slow the process further. The NSMA is thus encouraging industry to help with this funding.
3. It is felt by the NSMA that Aboriginal groups and not the department of fisheries and oceans (DFO) should determine compensation for loss of fish habitat by BHP.
4. The NSMA is interested in the Independent Environmental Monitoring Agency (Agency) taking a larger role with regards to cumulative impact assessment and management.
5. The NSMA is unhappy that the traditional ecological knowledge of its members has not been accessed or used by BHP to date.

Tony: Prepared a written transcription of Kevin Morin's presentation at the seepage survey meeting and copied the original videos onto one VHS tape. He reviewed portions of the Operation Environmental Management Plan (OEMP) including the A&R, Waste Rock, Waste Water and Tailings management plans in addition to Janet Kidd's report on revegetation. He also reviewed copper values in Long Lake.

Bill: Reviewed the expansion environmental assessment (EA). He reported now, as he was not present at the last Board meeting. Bill also noted that he presented at the cumulative effects conference in Calgary in early November. In addition, he represented the Agency for an interview regarding cumulative effects assessment and management in the Northwest Territories (conducted in Calgary at the conference).

Bill also noted that he has applied for a 6 month sabbatical from January to June 2002 from the University of Calgary, but said that this leave would include work with the Agency and would not interfere with his duties at the Agency.

### **Staff updates**

Zabey: Briefly summarized the detailed staff activity report that was provided to the directors, which described the weekly activities of the staff (e.g. follow up actions from the last board meeting, presentation to the MVEIRB on the BHP extension, review of resource documents, tracking system, drafting of the newsletter, website update, organizing website training, drafting of the workplan & budget, attending IACT meetings and a site visit to BHP with Darren Unrau the DIAND inspector).

Robin: Briefly described his activities since starting as the communication assistant (e.g. collecting photos for the newsletter, IACT minutes, updates to the filing system and resource centre, and preparation of board packages).

### **Business arising from last board meeting**

Directors reviewed action items.

Directors' comments on the OEMP were discussed, as was the correspondence log. It was expressed that a second correspondence log or table of contents was required for the correspondence that is entered in the public incoming and outgoing correspondence binders.

***Action Item #1***

Robin to create table of contents for public incoming and outgoing correspondence binders.

***Action Item #2***

Staff to obtain a copy of the CARC report on Aboriginal Title and Mining Regimes in Northern Canada...(Bankes & Sharvit)

**Meeting with Darren Unrau (DIAND Inspector)**

Darren provided an update on the various developments at the Ekati™ mine site.

*Misery:*

- BHP has begun stripping at the Misery site.
- At Misery Lake, the waste rock is being managed by having alternating lifts of granite and schist with a base and cap of granite. The layering is proposed to increase freezing & permafrost development.
- BHP has also indicated to Darren that it will be doing more intensive geo-chemical testing on waste rock at Misery, with more sampling on schist than granite.
- BHP has an engineering company doing some modeling with temperatures of the waste rock dump at Misery.
- Seepage settlement ponds to the east are probably not going to be built this spring. As this raises some concerns regarding seepage, BHP is looking at an extensive and tighter monitoring plan for the area.
- Report on waste rock and the vegetation by BHP will be coming out in the New Year.

*King Pond / Cujo Lake:*

- Darren and the directors discussed the high natural metal concentrations at Cujo Lake.
- Dewatering of King pond is occurring and BHP is dumping water from King pond on a slope which then travels approximately 150 m to Cujo Lake.

*Long Lake:*

- It has been determined that there has been some excess water movement through dyke B, so BHP is discharging into cell C instead.
- Darren also noted that the over use of water out of Long Lake, is largely a fees, not an environmental, issue.

*Other:*

- Five management plans required under the water licence (i.e. A&R, spill contingency, waste rock, waste water and QA/QC) still require approval by the Mackenzie Valley Land and Water Board (MVLWB), yet work is ongoing at the site using the unapproved plans.
- Koala is being worked on for pre-stripping and a separate sediment pile is being made for Koala.
- BHP has done some decommissioning of the old Koala camp.
- Culvert covers have been put on the Panda diversion channel.
- The land use permit for exploration will expire next summer and will have to go through the MVLWB and this may require some form of environmental assessment.
- Darren also noted that he is unsure on what exploration is going to occur this winter.

Darren feels that, although he hasn't been up to the site very much recently, he is trying to pick and choose when he goes (i.e. crucial times). He still feels that because there is a great deal of construction and development that there is still a need for frequent inspections. He hopes to cut down on inspections in the future when most of the plans are in place. Members of the Agency suggested that his consistent presence there might contribute to better environmental management at the Mine site.

General discussion regarding the A&R plan and revegetation work at the site. The directors and Darren both agreed that communication on existing studies is not as good as it should be.

**Conference Call with Pete Cott from the Department of Fisheries and Oceans (DFO)**

Discussion began by Pete Cott giving an update on King Pond

- Pete noted that an environmental screening was triggered when BHP applied for a fisheries authorization for King Pond. When the authorization was issued, it was conditional upon a number of mitigation and compensation measures.
- Compensation for the pond includes rehabilitation of the pond after mining the Misery pit is completed. This rehabilitation includes stream, depth and rearing habitat enhancement. A security deposit has been required of BHP to ensure that satisfactory rehabilitation occurs.
- There is no consistent inflow into King pond and fish can enter only in years of high water levels.
- In determining the level of compensation for King Pond, a time factor was incorporated in the compensation model, as there will be a loss of habitat over approximately 13 years. After reclamation, the net habitat will be increased sufficiently, according to DFO, to compensate for the 13 year loss of habitat.

General discussion on the compensation model and the implications for fish habitat.

Directors expressed an interest in obtaining correspondence regarding applicability of fisheries act on King Pond between BHP and DFO in addition to the compensation model. Pete Cott agreed to provide this correspondence.

***Action Item #3***

Follow up with Pete Cott on correspondence between BHP and DFO on applicability of the Fisheries act on King Pond (and DFO response).

Pete Cott also briefly noted the timing of the DFO legal action with BHP.

***Action Item #4***

Staff to attend BHP – DFO court meetings and report on proceedings.

The meeting with Pete Cott was adjourned.

General discussion regarding the fisheries compensation fund and the concern over the issue of compensating for a temporary loss of fish habitat. The issue of aboriginal involvement in the process was also raised during the discussion.

**Meeting with BHP (Helen Butler, Chris Hanks & Derek Chubb)**

Helen Butler made a presentation to the directors on the topic of reclamation.

Ongoing reclamation projects:

*a) Long lake containment facility – cell B*

- Vegetation plots: experiments with fertilizers (e.g. ammonia nitrate, calcium, peat)
  - o Seeding annual and perennial grasses and now legumes. Grasses act as a soil stabilizer and natural fertilizer
  - o Kimberlite soil very similar to a serpentine soil and researchers are attempting to use local kimberlite soils in the tests.
  - o Testing various Calcium - Magnesium ratios in the vegetation plots to determine differences in vegetation growth.

*b) Panda diversion channel*

*c) Airport esker*

- South end of esker
  - o Researchers attempting to start vegetation islands that will spread over time.
- Culvert camp
  - o Stabilize channel banks with rock cover and eventually vegetation.

*d) Paul Lake lay down (storage site for rock used to construct the eastern half of the Misery Road)*

- o Removing rock cover to allow exposure of vegetation and soils.

*e) Koala and Misery topsoil salvage.*

- o Salvaging topsoil (1 metre to 1.5 metres) for Koala and Misery and other pits in the future.
- o Storing soils and maintaining their viability (i.e. through vegetation).
- o It was also noted that topsoil has a higher level of nutrients than lake sediments.

Future reclamation projects:

- Old camp
  - o Old bulk sampling plant still needs to be recovered.
- Panda and Koala North lake sediments and Koala top soil storage sites.
  - o Vegetate for stabilization.

Following the reclamation presentation a general discussion took place regarding time scale and criteria for when reclamation is deemed successful. BHP was asked what it thought should be suitable criteria for successful reclamation.

In response to a question from the directors, BHP noted that its ecological study on plants is indeed looking at metal uptake by plants, specifically the concentrations of metals in plants.

Other issues:

*Fox amendment*

- BHP is still working on getting additional information concerning the amendment to the MVLWB (hopefully by early December).
- BHP's report will include consultant's information regarding land treatment in addition to water quality requirements.

*Wildlife and aquatic workshops*

- John Witteman is attempting to get the reports finished and distributed by mid January.
- BHP is trying to format its reports more consistently and to have them be more stand-alone.
- It was also mentioned that BHP intends to improve wildlife and aquatic winter monitoring.

The directors expressed an interest in having the raw data for the pre-workshop reports available and if possible before the reports themselves are completed to determine trends on their own.

The directors also expressed that they wish to see the data and analysis of the snow survey. BHP committed to provide the data from the snow surveys.

***Action Item #5***

Follow up on BHP's commitment to include snow survey results in addition to data and analysis for reports proceeding workshops.

The directors noted that the inclusion of data in BHP reports is as important as the analysis.

Derek Chubb committed to including all data in the reports.

*Waste Rock monitoring / Waste Rock seepage survey*

- Derek Chubb will question Jim Millard on waste rock seepage and monitoring.

*Treaty 8 Appointee*

- Chris Hanks noted that BHP responded to a letter from Lutsel K'e but still no success in getting a Treaty 8 appointee.

*Traditional knowledge study*

- Chris noted that work is still ongoing with the Dogrib TK study and mentioned that some information is useable.
- BHP is continuing to cooperate with the Dogrib on the TK study as BHP desires to get TK documents that are useful for environmental management but which also maintain integrity for the aboriginal authors.

General discussion on the value of TK studies and TK working groups.

Director's comments:

- One of the values of TK is that it may help BHP to direct studies and experiments.
- There are problems with applying the TK that comes out of the studies. It would be a useful exercise for BHP to document what can be and has been extracted from TK reports and use those as examples for integrating TK knowledge into environmental management at the mine site.

Chris: Noted that he is trying to get a working group together but has not been successful as of yet. A working group on specific topics (e.g., caribou) may be a better starting point.

The directors expressed to BHP that they are interested in being active and are willing to help out to make this process more effective. Lists of areas that BHP and aboriginal groups are most interested in may be most useful for focusing research. Directors requested such information from BHP.

***Action Item #6***

Director Marc Stevenson to meet with Chris Hanks and discuss TK working groups and potential short lists for focusing TK research.

### *Sable, Pigeon and Beartooth extension*

- Chris noted that BHP has documents and materials for licences ready for the MVLWB, when the MVEIRB finishes its report, hopefully in early December.
- The Echo Bay Winter Road land use permit expires in December and Echo Bay, and possibly a consortium of mines including BHP, is looking for an extension of the permit to match the term of the present licence of occupation. It is anticipated that this will lead to an environmental assessment, so BHP has advised Echo Bay on aboriginal consultation for the new permit.
- BHP will be applying for a type A licence for Sable, Pigeon and Beartooth development.
- Continuing talks with regulators

A general discussion then took place on cumulative effects management.

Meeting with BHP was adjourned.

### **Meeting with Ray Case and Anne Gunn from RWED**

Ray spoke of the Bathurst Caribou Management Planning Agreement that was approved last April by government agencies; he presented a copy to the Agency.

A workplan for implementation was developed by the Bathurst Caribou Management Planning Committee in July, and finalized in a recent conference call. A workshop is planned on December 14<sup>th</sup> & 15<sup>th</sup> in Rae to look at scoping of issues relating to herd management (including human activities).

Anne began by giving a brief description on the Bathurst caribou monitoring project.

- RWED and DIAND have a joint project to investigate an approach to describing cumulative effects based on the concept of resilience (i.e. how much the caribou can withstand).
- The project will require data to run the models that are currently part of mine monitoring programs and thus the GNWT, BHP and others will need to form partnerships that work towards standardized caribou observations.
- One of the main tools that the concept of resilience uses for identifying cumulative effects on caribou is energetic and population models. A third model that also has potential is a spatial model.
- These models will be used to estimate potential thresholds of impacts that the caribou can withstand. They are attempting to ensure that these models are calibrated to the Bathurst herd.

General discussion on wildlife monitoring and cumulative effects.

Anne: In response to a question posed by the directors, she noted that she would provide to the Agency suggestions on monitoring programs and reporting to BHP. This would be

done by mid January in time to assist development of next year's monitoring program at BHP' February monitoring workshops.

Tony: How is the energetic model linked to the population model and has any consideration has been given to the friction model?

Anne: Responded by noting that the models are hierarchical. The energetic model addresses effects at the individual level and the population model addresses effects at the herd level. The spatial model would not necessarily be linked to population model. These models are essentially sustainable models that include impacts from harvest. In regards to the friction model, she noted that it has value but not necessarily in this particular habitat landscape.

Bill: Questioned Ray and Anne if the GNWT accepted the recommendation made by the agency regarding implementation of a cumulative effects monitoring program for the Bathurst Caribou herd.

Ray: Noted that the planning committee will address this recommendation and is moving in that direction.

Bill: Asked if the recent grizzly kill at the misery camp was a result of poor food waste management.

Ray: Noted that poor food handling was a factor as it provided an attractant to the cub. Although the bear likely would not have survived the winter, as it was very skinny. He is unsure what changes BHP has implemented as a result of this incident.

***Action Item #7***

Informal question to BHP regarding what changes it has made as a result of Grizzly cub kill on site.

Anne: In response to a question by the directors regarding the number of caribou that are collared, she believes that the 10 that are collared is still a reasonable number to determine the location of the herd, but noted that additional collars would provide more precision. She also mentioned that although the information RWED receives from the collars is very useful, the collars are very expensive and the number the researchers can afford is limited.

Meeting with GNWT was adjourned.

**Cadmium in Ptarmigan**

The directors had a general discussion on the "cadmium in ptarmigan" article in the journal 'Nature' and its potential application to Ekati.

- Cadmium moving through the food chain. Vegetation takes up the metal and it is transferred to other animals when the vegetation is eaten.
- This example of cadmium raises the concern of impacts from other heavy metals.
- Ensure that BHP is considering this and looking at heavy metal monitoring and effects on other animals (e.g. land treatment – heavy metals being taken up by vegetation).

***Action Item #8***

Acquire Nature journal article on cadmium in Ptarmigan and review vegetation data in either Impact 2000 report or BHP annual report.

Meeting adjourned for the day

**Saturday November 11<sup>th</sup>, 2000**

Meeting called to order at 8:30 am

**Cumulative Effects Assessment and Management Framework (CEAMF)**

A general discussion took place by the directors on what would be the most important and effective mandate, principles and structure for a monitoring agency that could deal with both specific development effects and cumulative effects. The Diavik monitoring agency model was also discussed. The following points are those raised during the discussion.

*Mandate / Focus of monitoring*

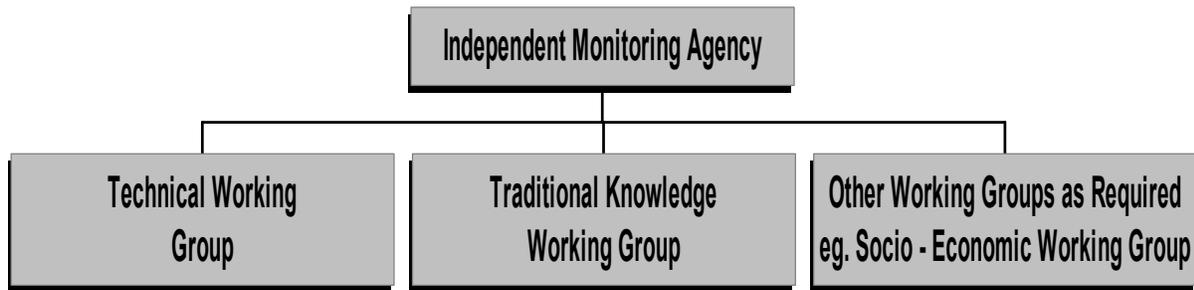
- Independence in the sense that our Agency is independent is essential
- Coordination of monitoring activities to lead to consistent and compatible information is essential.
- It is believed that aboriginal groups desire an agency be set up to protect their traditional lands, and thus monitoring should take place with a focus on resources and not just specific projects.
- As there is a need for interaction and focus with the major players, the board should have cumulative effects mandate that is somewhat project specific (i.e., it should deal with projects causing major impacts).
- One role of the agency should be as a public watchdog over both the project operators and the regulators of those projects.

*Funding & Membership*

- There is a fundamental problem with our funding formula, as funding by industry only begins once mining has started. This does not allow for initial monitoring of effects from exploration among other things.
- Those that are most affected by development (e.g. aboriginal groups) should have the most appointed members on the board.
- Affected aboriginal groups, government and industry directly appoint the board members.

- Regulators may primarily determine the regional coverage of the agency but it should not be restricted. The region in which the agency has influence can change and should probably be partially defined by those groups who appoint members.

*Structure*



- The top advisory body (i.e. “Independent Monitoring Agency”) includes appointees who have a stronger policy background while those in the working panels should have more specialized technical knowledge.

Working panels:

- Somewhat independent working panels for traditional knowledge and environmental issues, in addition to other working groups (e.g. socio-economic), are essential.
- There was some concern regarding the strength of the linkages between the panels and if they should be allowed to publish independently to ensure that their recommendations are heard.
- It was agreed that these panels should be closely knit and be able to work together but also be able to work separately so that they can effectively work with communities and aboriginal groups.
- Attempt to ensure balance in the working groups by having a variety of people with different expertise.

During the discussion there was also some concern raised on how other human activities (e.g., Lupin winter road) could be integrated into this model.

**Action Item #9**

Draft discussion paper on the Agency’s recommendations for a Monitoring Agency that can effectively deal with development effects as well as cumulative effects.

Other discussion took place regarding the Bathurst caribou monitoring management plan and the major role of government and industry for large scale data collection. It was noted that we (the Independent Environmental Monitoring Agency) should try to assist other agencies (e.g. GNWT) to ensure that the data collection of BHP is consistent and compatible with theirs.

It was decided that the directors would come back to this topic of cumulative effects when time permitted.

**Extension EA update (Sable, Pigeon, Beartooth):**

Zabey: MVEIRB is well into the process of reviewing the extension and is planning to have its decision made by the beginning of December. The public registry is closed and we have not heard any updates since.

Tony: we may want to review government comments on the extension and note observations for our annual report.

***Action Item #10***

Directors and staff are to review technical comments made by government and others regarding the Sable, Pigeon and Beartooth extension.

Zabey: Also noted that BHP has stated its intention to apply for a type A, and not a Type B, water licence due to the water requirements at Beartooth.

**Office Location update:**

Zabey: Dale Sooley from BHP and Chris Bromley (current landlord) are negotiating the new office location that the Agency is interested in.

***Action Item #11***

Follow up with Dale Sooley of BHP to determine the progress of negotiations.

**Tracking System**

Zabey: Discussed the stage of the tracking system for the EA, fisheries authorization and water licence requirements of BHP. Lease agreements have yet to be incorporated, but they are apart of the EA. The staff is interested in putting this information on a white board in the future for themselves and the public to view.

Directors: expressed that they would like the tracking system to have more of a focus on requirements for monitoring, documents that the agency should comment on, and a follow up on recommendations made by the Agency.

***Action Item #12***

Manager to continue to develop tracking system, for review by the directors for the next meeting.

## **Workplan and Budget**

General discussion on budget changes and overall edits to the workplan (e.g. staff changes & additional presence of chair in YK).

Red: Noted that he would like to visit each community at least once per year and focus on meeting with land and environment committees or equivalent. He expressed that the workplan should emphasize this commitment.

Bill: The workplan and budget should be modified to account for more community consultations in response to the society members and the McLeod Institute's recommendations.

### ***Action Item #13***

Manager to make changes to workplan and budget as discussed.

## **Treasures report**

As per end of November it is predicted that 58% of the budget will be spent. We are mostly on target other than the outside service contract to GeoNorth for staffing in August.

GIC fund is operating without any problems at this time.

Staff benefits and VTA have been agreed upon.

## **Date for Next Meetings**

Meeting 1: Feb 3, 4 & 7

Meeting 2 (if required): March 2, 3&4

Meeting 3: March 30, 31 & April 1

## **Operating Environmental Management Plan (OEMP)**

Tony: There is no specific clause in the environmental agreement that the minister must approve the OEMP, although changes that the minister sees fit have to be addressed by BHP. He also mentioned that the five plans required under the water licence (i.e. A&R, Spill contingency, Waste Rock, Waste Water and QA/QC) have been folded into the OEMP.

### ***Action Item #14***

Pete McCart to review Aquatics section of the OEMP.

### ***Action Item #15***

Directors and staff to review the OEMP to ensure consistency with what was said in the workshops.

General discussion by the directors (lead by Tony) on the abandonment & restoration (A&R), Waste Rock, and Waste Water & tailings plans. Issues and concerns raised are seen below.

*A&R plan:*

- The directors discussed changes made between the current plan and previous plans.
- BHP has still not submitted a cost variance and progress report, which would describe any changes from the approved A&R plan.
- The directors noted their interest in the role of revegetation in regards to reclamation.
- It appears that the A&R plan does not meet the requirements of the water licence and an adequate research program needs to be in place to deal with these concerns.
- Possible meeting or workshop with BHP to discuss the research program.

*Wastewater & Tailings management plan:*

- This plan has to be updated with the approval of Sable, Pigeon and Beartooth.
- Discussed recommendations for follow up action.

***Action item #16***

Informally ask BHP for the follow up report from EBA fields tailing characterization and lab data.

*Waste Rock Management Plan:*

- The removal of the targets for geochemistry work in the pit is of concern.
- Concerned with Misery waste management plan.

Meeting adjourned for the day

**Sunday November 12<sup>th</sup>, 2000**

Meeting called to order at 8:30am

**OEMP continued...**

*Waste Rock Management plan:*

- Still need long term testing to determine how to manage the waste rock.
- There is still no report on the geo-chemical testing for the Panda and Misery pits.
- Plan does not address Agency annual report recommendation #15 (geo-chemical testing).
- Geo-chemical testing program is not consistent with the recommendation we made in our annual report.
- Recommend to the MVLWB that the waste rock management plan should not be approved.

***Action Item #17***

Letter to BHP or DIAND re: Consolidated comments on the OEMP containing comments from the directors.

***Action Item #18***

Letter to MVLWB re: recommendation that the waste rock management plan is not adequate because of the removal of a targeted in pit geochemistry program.

**Annual Report Recommendations Follow-up**

General discussion and follow up on agency recommendations listed in the annual report.

- Informal comments from BHP on the annual report appeared to be favorable but no formal response as of yet.
- If recommendation #1 is accepted we will see a change in the Aquatic and Wildlife workshops and the reports that are associated with it.
- In regards to TK working groups, it would be useful for BHP to consistently use the same elders from each community in addition to experienced land users of the area.
- It appears unclear whether BHP accepted recommendation #15 (i.e. implementation of the operating geo-chemical program).
- Tracking system should include a follow up on annual report recommendations and other letters of recommendation (e.g. recommendations to MVEIRB).

**Communications: Newsletter and Website.**

General discussion on the 1<sup>st</sup> proof of the newsletter and website.

*Newsletter:*

Directors were pleased with the initial proof of the newsletter and discussed a few edits that were required.

***Action Item #19***

Robin to make edits to newsletter and have final proof put to the printers.

*Website:*

- Links to include our members, MVLWB, MVEIRB...
- Discussed other changes to the website (e.g. additional information, tracking system for number of visitors).

***Action Item #20***

Robin to update website considering recommendations above and discussion.

**Communications strategy:**

Robin: asked for clarification on communications strategy and present status.

General discussion on what we are doing for increasing communication and ensuring one voice for the agency.

***Action Item #21***

Robin to update Agency brochure

**Administration Issues:**

Zabey: Brought up issue of a read only Internet banking account to track banking activities.

The directors approved the idea.

***Action Item #22***

Manager to set up read-only Internet banking account.

Zabey: Introduced idea of Christmas Office closure and the directors approved.

**Other business**

Directors returned to discussion on the principles, structure, reporting, and funding arrangement for an independent environmental agency / body that could effectively deal with development and cumulative effects.

Board meeting adjourned at 2:30pm

Approved by

Red Pedersen, Chair