

ERM Forum Meeting – November 14, 2016, 1-4pm

Participants:

1. Gordon Yakeleya, Tulít'a Renewable Resources Council
2. Frederick Andrew, Sahtú Renewable Resources Board
3. Michael Neyelle, Sahtú Renewable Resources Board, Chair
4. Jimmy Dillon, Délıne Renewable Resources Council
5. Deb Simmons, Sahtú Renewable Resources Board Executive Director
6. Ed Reeve, Délıne Renewable Resources Council Manager
7. Christine Wenman, Technical and Administrative Support to the Forum
8. Jimmy Caesar, Fort Good Hope Renewable Resources Council
9. Roger Odgaard, Norman Wells Renewable Resources Council
10. Stephanie Behrens, Environment and Natural Resources, GNWT
11. Leon Andrew, Sahtú Renewable Resources Board
12. Lise Dolen, Education, Culture and Employment, GNWT
13. Mary-Ann Neal
14. Alana Fletcher, Environment and Climate Change Canada
15. Kirsty Gurney, Environment and Climate Change Canada
16. Jenica von Kuster, Husky Energy
17. Andrea Hansen, Conoco Phillips
18. Brian Laird, University of Ottawa
19. Bruce Hanna, Environment and Natural Resources, GNWT
20. James Hodson, Environment and Natural Resources, GNWT
21. Cindy Gilday, Sahtu Secretariat
22. Ian Butters, Petroleum Resources, Industry Tourism and Investment, GNWT
23. Ceilidh Stubbs, Sahtú Renewable Resources Board, staff member

1. Research and program updates

a. Jenica von Kuster, Husky Energy – 2016 summer monitoring program update

Although Husky Energy has halted its exploration program, the company continues to do some baseline monitoring. The surface water hydrological program includes sampling from 19 locations. Samples were taken this summer and submitted for analysis. These planned monitoring programs were submitted to the Sahtú Land and Water Board for comment and for approval.

Husky also has an ongoing wildlife monitoring program with 40 cameras installed. They have revisited all these locations this summer. Some were grown in quite a bit so they did general maintenance, replaced batteries, downloaded information.

Questions and answers:

Bruce Hanna – are any ground wells operational?

Jenica – They are not filled in but they are not operational because the ground is frozen solid. It would take a substantial amount of equipment and resources to warm them up and sample. However, they are left open so that should we come back in and propose a further exploration program in the future, then we could warm them up and continue to use them for baseline

James Hodson– How long are you planning to keep the wildlife cameras on?

Jenica – As long as we get funding, we apply within our organization on an annual basis. So far we haven't missed a year but we don't know how long the support within Husky will last. Hopefully the program will continue.

Michael – asked for clarification about a road name

Jenica – Slater River is the name of the program. The sampling takes place along our all season road that bisects the GNWT's winter road. It has a rock base so we need to monitor it to ensure that its integrity holds up.

Leon – Have you noticed any erosion on the road?

Jenica – No, there was some erosion because of a beaver but that was it.

Fredrick – Are there results? (Michael translated question for Frederick)

Jenica – Not yet. It will take about 2-3 months to compile a report. These reports are submitted annually so it will be submitted to the land and water board at that time. It takes a few months to get the results, analyze them and compile a report.

Stephanie – Is there any way to see the photos from the winter? We are looking for an opportunity to confirm the presence of a tick in moose.

Jenica – There are in excess of 800,000 photos that we have to go through which is why it takes so long to build a report and a story that the photos tell. We have thousands of pictures of moose but I could go back to the ones that we collected last year and send the photos along with a map with the locations. I can pull out some of the more suspect moose photos though it will take some time to do this. (Stephanie follow-up response) – that would be great because we want to know if there are ticks in the area and confirm locations.

b. Andrea Hansen, Conoco Phillips, Conoco updates

There is a report expected for our work in late December, early January. We were also working on placing signs to indicate the location of abandoned wells. We did some gas migration testing and were planting some willow to secure particular areas of land and protect from erosion. This was done in mid-August. We will return to one site next summer to do a fly over inspection as well. I have been moved to other files so I can only provide a very high level summary at this time but I am happy to answer any questions.

Christine – can you explain gas migration testing?

Andrea – from what I understand, once a well has been abandoned it needs to be monitored to see if there has been any gas trapped in parts of the well.

Ian Butters – This is a very standard practice that is done across Canada to monitor wells.

Roger Odgaard – I have worked on reclamation near Colville Lake. We found that one of the key indicators of a problem is how well vegetation is growing back. You are looking to make sure that there is growth on the well site. If there is no growth, the ground is contaminated. How are your well sites?

Andrea – this summer is the first summer that we were back to clean up. Most of what we did was clean up. We will check next year for re-growth.

Leon Andrew – will you be up doing this every summer?

Andrea – no, this time it was a clean up effort. We will be back in the summer, but we will be checking for re-growth.

c. Ian Butters, Industry Tourism and Investment, Petroleum Resources updates

ITI is not responsible for environment research and monitoring but we do issue petroleum licences and land tenure. GNWT has had some recent staff reductions and budget cuts so we are working to ensure that we fulfill our role with a staff contingent of 7 people from the 13 that we had in the past. These are based in Hay River and Inuvik.

In the past we have called on industry to call for bids on land. Instead of doing this, we are now letting industry know we are always open for business; any interested party can submit a letter of interest through our open call for expressions. We met with all land corporations and didn't receive any concern about this new process. All the vetting processes will continue – but will happen after an oil company approaches us. We then do our due diligence to determine if the interested area is available for posting.

We have a research fund for environmental studies and socio-economic research. I will defer to Bruce Hannah for that.

Bruce: We currently have two research priorities. One is ground water in the region of the canol shale. We have spoken in the past about the compilation that Golder did to compile the data that was available. We then contracted University of Waterloo to do an analysis and next steps. Now we have gone directly to some partners at Wilfrid Laurier, University of Waterloo and the Geological survey to look at groundwater gaps in knowledge and to better understand springs.

There is also a call open right now for research related to Boreal Caribou. This call ends November 30th and we hope to fastrack responses and have funds approved before Christmas.

Jimmy Caesar – when the call for proposals went out was there any expression of interest?

Ian – no we haven't received any expression of interest to date. In fact, as soon as we have an expression of interest we will be speaking with all land corporations.

James – who is on the distribution list in FGH?

Ian – K'asho Got'ine Land Corporation – they consult with others in the area. We also consult with the SSI.

Bruce – James were you talking about the expressions of interest for oil and gas leases or for the ESRF caribou funds?

James – Yes both.

Bruce – That tender is out and closes end of the month so we don't know yet.

Ian – and these processes are distinct and separate

Roger Odgaard – Great to hear your voice again Ian. Are you in Inuvik?

Ian – yes we are in Inuvik

Roger – I think everything should be halted and there should be no new discovery licences given out. Imperial and Shell still haven't done any work. They haven't met their requirements to work. Imperial and Shell don't want to do that work, they just want to hold onto their licences.

Ian – If the companies don't drill by December 2016 their licences will expire. They can pay 1 million dollars in December 2016 to extend for a year. If they don't fulfill 25% of their work commitment, then 25% of their work agreement goes to GNWT and Aboriginal governments as per the devolution agreement for sharing those funds. If they don't do any work for 9 years then they lose their licence.

Roger – Last year when I raised this issue I was told that industry is holding onto the land and we can't force them to work. We need to make this transparent. We need to make sure everyone knows what is going on.

Ian – I would be willing to talk with you and discuss this more.

Roger – Bruce, is there any information from Golder on the report?

Bruce – yes, they are available online on the ESRF site. <https://www.nwt-esrf.org> (Note that the call for proposals and past research publications, including the Golder report can be found at <https://www.nwt-esrf.org/publications>)

Mike – Ian, you said you were going to come visit the communities. I was just wondering which organization you were planning on visiting?

Ian – whichever organization has taken over the Délı̨ne Land Corporation. (Walter suggested that Ian can speak to him first as the Lands person with the new government and he and Ian can go from there).

d. Brian Laird, Human Biomonitoring Project Update

We are bringing the project to Délı̨nę. FGH has also expressed interest in taking part next year. We are looking for contaminant exposure.

Any questions? – no

Brian – we have had people ask us to look at other contaminants

Bruce – Are you talking to the Department of Health and Social Services?

Brian – Yes we have been working really closely with them. Working on this project we have become advocates of good nutrition and health and country foods.

(unknown) – ENR is developing a country foods initiative.

Roger – I am glad you are looking for other contaminants. We need to look into POP, acid rain. It is important to look at ourselves. I know some of this is reason animals are going extinct.

Brian – yes, it is important to set up a baseline. This monitoring is done every 2 years in the rest of Canada. We are trying to fill the gap in the NWT. We have secured funding for other contaminants for the rest of the project.

Cindy – I want our people to take advantage of this program. I'm suggesting that everyone work hard to support this program.

Deb – Yes, I would also like to say how hard this groups works.

Brian – the other thing I want to mention is that we have money to hire local research coordinators.

Michael – can you send us a job description?

Brian – yes. I'll send that on to Délı̨nę right away.

Christine – Brian called into the meeting in Fort Good Hope a couple of weeks ago with representatives from the Fort Good Hope RRC and also some other representatives of leadership organizations including the land corporation and the First Nation. The RRC was able to sign off on some paperwork to indicate that consultation had occurred and that they will continue to work on the project. There seemed to be a lot of interest from all of the Fort Good Hope leadership organizations as well so please remind me to send you the paperwork signed by the RRC and also connect you with the other leadership organizations.

e. James Hodson – ENR snowtracks survey.

We are looking to increase the number of tracks done in Tulı́t'a and start work in Norman Wells. This work started because of concern over the Shale Oil play. There was a need to monitor wildlife. We do track surveys on seismic lines to assess wildlife. I won't have results by the face-to-face meeting in February but may have results by the cross-cultural research camp.

f. Mary Ann Neil

I am a consultant in self-directed education (hired by the Band Leaders in Colville Lake and FGH). A goal of the project is to re-imagine the education system, improve academic

standards and promote learning. Dene Heroes Project – working on improving writing and reading skills and taking pride in Dene heritage. Young people were invited to choose a Dene person to write a story about. A book of the Dene heroes will be published. The first proof will be ready next week. This project is intended to be ongoing. I have sent Christine a powerpoint that may be of some interest from a project that I presented at.

Cindy – You should also look at the book: how the raven stole the sun and brought it back to the people

Mary – We will launch the book in January. Each participant will get two copies of the book. They will not be for sale right now because the stories are really personal and that is what has been decided. There may be some opportunities for distribution in the future.

Cindy – You can distribute them through the schools. (Cindy provided an example of another similar project that did this). This way the material is in the hands of the youth.

Roger – We need to think about colonialism and putting Aboriginal content into the schools

Mary – yes I agree

Mary – I am also working on self-directed and personalized projects with youth who are interested in creating their own project to work on. FGH leaders will also be coming to Victoria to do some work in January.

Deb – Daniel T'Seleie has been doing work with youth in Fort Good Hope and the school has been doing some other related initiatives with youth. The SRRB has been working to develop an on-the land leadership camp and we also do work with youth through the Forum and as part of our annual cross-cultural research camp on the land.

Mary – we can also make connections with Royal Roads. There are several people working on contaminants who may be interested.

Christine – Ken Caine and Diane Conrad (both with the University of Alberta) are people doing work with Sahtú communities on intersecting topics who communicate frequently with the Forum,. Diane Conrad has been working with the school in Fort Good Hope and works closely with Betty Barnaby. It is probably a good idea to connect with them as there are likely synergies between your work.

g. Kirsty Gurney, Environment and Climate Change Canada

I am a water quality researcher with Environment Canada. Submitted a letter of intent to the cumulative impacts program working closely with James Caesar and Dakota Erutse (currently working for SSI based out of Fort Good Hope) with the goal of supporting community prioritized questions around water quality. I am a new researcher with Environment Canada and looking to set up my research programs with a focus on wetland and waterfowl. We haven't received funding yet, everything is in its preliminary stages. I have been focusing on speaking with community members and other researchers and

government folks to understand priorities, questions and the work that has been done to date.

Cindy – A major emphasis has been trying to ensure that CIMP supports community-drive priorities and not projects that are conceived of by outside researchers to this approach is great. It is important to get baseline data on the wetlands

Kristy – yes, I agree baseline data is very important

Cindy – the other link is Imperial is proposing to wash the hydro contaminants from the islands down the river. FGH is on the receiving end of this. It is very important in consideration of this to have this research.

Jimmy – FGH has a long history around water quality issues. Our water intake storage is treated with chemicals and filtration but it still doesn't measure up to standards. There are many questions around water quality. There are different species in the water and on the land as well as a disappearance of other species. I want to know what is happening to all these fish.

Roger – are you thinking about tracking down the POP?

Kristy – there has been lots of work done on POPs, I sent Jimmy a draft document earlier today and we considered looking at POPs. I have no background in human health – this is all wildlife related. In Nunavut we observed loons with bill deformities. In Alaska they linked this to PCBs. It is important to look at interactions between climate and contaminants.

Christine – We will shift the agenda to ensure that we hear from all those who have made the time to be here. It probably means we have to have a special meeting focusing on planning for the in-person meeting and updating on Forum initiatives. So we'll plan a meeting without any research presentations to make sure we have time. In the meantime, we'll move Lise Dolen up and hear from her next about the work towards monitoring certification in the Sahtú.

2. Environmental Monitoring – Lise Education, Culture and Employment GNWT,

We have three people in Fort Good Hope and one in Norman Wells who did the environmental monitoring training at Drum Lake a couple of years ago and who have now completed the required number of practical hours to receive full certification. There was confusion about this because people thought that they would do the training and then come away with certification but the program is a GNWT standard that requires a lot of practical hours before someone is fully certified so we are looking to work with people to ensure that they get their full certification. I had planned to go to Fort Good Hope for follow-up but will postpone that now for a week or so.

Roger – I'm glad to see that certification is happening. I know Joe is doing some work on this as well – you should look at working with them.

Lise – Yes we are working with Joe – those hours and training that happened at the cross-cultural research camp is included in hours. The last requirement is a 70 question multiple choice test. The test includes basic knowledge learned through their hours. It is set up for people to succeed. By next week we will have a good start on certifications in FGH.

Christine – we had rich discussions on monitoring and research in FGH last week. A number of issues were raised by members of the RRC and we also had three monitors present who took the training at Drum Lake and who have been working with the RRC and towards certification so it was really valuable to hear about their experiences and issues that they are encountering. A few items stood out that I can summarize. One is that as they are doing practical work (in Fort Good Hope a lot of the practical work has been through a monitoring agreement that the RRC has with LedCor, the company that is laying the fiberoptic line) they don't feel very supported when they have technical questions that arise. So it will be interesting to discuss how on-going training can be supported and setting up opportunities for mentorship or resources where they can go when they have questions.

Lise – great and I'm appreciative of the feedback and connections.

Christine – The monitors also mentioned that they work for the RRC but have an inspection role in terms of inspecting the work of the company. It isn't always clear to them if an issue arises, how they can report on it and who they can report to. They flagged that there is a need to develop good policy and procedures as tools that the RRCs can use for these kinds of programs.

James – the monitors learn on their own and we should make an effort to support them in the planning and compliance issues. We should look at doing a workshop.

Jenica – Those practical hours that Jimmy talks about are so important. For Husky, we had specific hands on training to go over the equipment, protocols and the specific requirements of the land use permits and water licenses.

Christine – a final theme that was discussed was how RRCs and other partners (like the Forum) can recognize, celebrate and reward people once they've got their full certification. So that is another conversation that needs to be on-going. There aren't easy answers to some of these but we hope to flag these as issues that need to be addressed in the Sahtú Environmental Research and Monitoring Strategy and that way partners can work on these issues over time.

Deb – SRRB and RRCs can work toward developing procedures and protocols to address these gaps.

Lise – we've heard the challenge elsewhere too about the monitors not having any teeth so it is a challenge that we are looking at.

3. Research licences applications (Christine and Deb)

It is the time of year when researchers are required to submit renewal applications. Even if they have a multi-year project, they have to submit each year so this gives community

organizations a chance to comment on the work done to date and address any issues that might have arisen.

Normally Joe goes through the research applications for the Board but he is on paternity leave – he and Jean had a baby boy named Tristan on November 1! So we aren't too familiar with all of the applications but what we can do is run through them now and flag where we might want to invite the lead researcher to join a Forum call to talk about their project. Some of them are likely of interest.

Two of the projects we are all quite familiar with - one is from Brian Laird and the human biomonitoring project and we just heard from them and he keeps us updated on a regular basis. The other, Deb Simmons is the lead on and it is the Délı̨ne Mapping, Language and Stories Project. There is also one from Conoco Phillips which appears to be the environmental studies program about which Andrea just updated us.

There are others that we aren't so familiar with; these are:

- a. Dr. Sharon Smith – Permafrost monitoring and collection of baseline terrain information in the Mackenzie Valley Corridor, NWT.

Deb – I am really interested to know how this project relates to GNWT research like the work that S. Kokelj is doing and also Krista Chin who looks at water and sediment quality related to permafrost thaw. It will be good to hear from them. In their communications section they talk about wanting to relate to regional land and water board and willing to disseminate information to communities so it sounds like they are waiting for an invitation from a group such as ours! They also talk about difficulty of involving community members because of the cost of helicopters but it sounds like there may be some opportunities. Action – Christine to contact to invite Principle Investigator to a future Forum teleconference meeting.

- b. Dr. Derek Schutt – The Mackenzie Mountains Earthscope Project

Deb – I believe he spoke to the Forum some time ago. They were interested in collaborating with interested parties to determine details of the project. It is part of a larger US array project and they are studying earthquakes. He was on the call speaking about how there are a lot of min-quakes in the mountains because the mountains are very active. It has been a while so probably an update would be good to know about how the project has been going. Action – Christine will contact about providing the Forum with an update.

- c. Mr. Jerry Budziak, Spirit Resource Management Ltd. – Phytoremediation Study on the CDN Forest et al Nota Creek C-17 Wellsite

Deb - There were contamination issues identified in 1998 at the Nota Creek Well Site. They did soil sampling in 2004 and 2006 and there were petroleum

hydrocarbon and salt impacted soils at the well site. So they are trying to figure out what to do because this kind of remediation is hugely expensive. They are trying phytoremediation which is a cutting edge technology so that is why it is set up as research. They are using plants and bacteria to clean-up the soil. So in 2016 they are planning to excavate the soils, put in the new soils, plant bacteria matter and they expect full remediation by 2019. They visit the site by chopper in September of each year to monitor progress. This is an industry funded project (ie. it is still a private liability, not a government jurisdiction contaminated site).

Gordon discussed additional concerns that they might be able to look into around a well site so Deb suggested that he save that comment and bring it up for discussion when they join the all.

Action – Christine will contact to invite presentation to the Forum.

- d. Dr. Steve Mamet - Long-term ecological and geomorphological investigations in the alpine tundra of the Mackenzie Mountains, NWT

Deb – this one will be of interest to Roger and other in the Forum; it looks at the long-term recover after Canol with a focus on the vegetation and permafrost. So Roger, you will want to compare notes with them in terms of what they are learning and what you see when you work out there every summer. Action 0- Christine to invite to Forum call.

- e. Dr. Elizabeth Turner – Early Paleozoic Earth-surface environments in NWT

Christine – Dr. Turner had been in touch with Joe about this project before and she just sent a brief interim update to him as per his early request. I will send it around with the notes but in short she describes the field work this summer, where they went and how they measure the rocks. They are looking at sedimentary formations. Joe had also asked about wildlife so she shared an update that in early August they saw Grizzly Bear tracks and encountered a muskox. Her e-mail and brief summary are included as an appendix to the meeting notes and will be sent around by e-mail to the Forum.

Alana Fletcher – one additional note: – we are compiling a database of Northern research projects. So please send me any information that you have or anything you'd like included. Please include a full bibliographic reference.

Jenica: We funded a project at the University of Calgary for northern data and there was a whole section on the Sahtú so I will connect you with them.

James: CIMP also has the NWT Discovery Portal which has all the CIMP projects. Alana agreed that she is connected to the CIMP work – Julian and Deb have also talked about the NWT Discovery Portal as a possible platform that SRRB could use for the database if they wanted to. Alana and Jenica will be in touch.

Next meeting – Monday December 5, 1pm – focus is planning (in-person February meeting and youth camp) as well as internal Forum initiatives – research strategy etc. We won't invite any presenters for this one.

Attachments to meeting notes:

1. Presentation from Mary –Ann Neal

Appendix:

E-mail form Dr. Elizabeth Turner to SRRB:

Dear Mr Hanlon,

This is to update you about our days of field work in July-Aug 2016 in two areas for Aurora Science Licence (#15888; application number was #385). I said I would update you on our work after the field season.

Everything went according to plan: 2 people (a student and I) spent several days at each site (Dodo Canyon and Norman Range) measuring and describing rocks, and collecting samples. Given the protracted nature of the analytical component of the work, and owing to the training aspect of student work (which I described in a previous email), formal publication of complete results will probably be several years off, but an interim report is anticipated within the year and is probably of more interest to you given that it will be focussed entirely on the field geology (not the geochemistry). I will send you this government report once it has been published.

In the meantime, I attach here the text of the plain-language summary I submitted to Aurora Research Institute for the licence renewal, and a photo of each of the two places where we worked.

As for wildlife, we noted fresh grizzly tracks going upstream in Dodo Canyon on the other side of the river from our camp around Aug 6 (no interest in our camp - just straight up river past camp on the other side), and shared our workspace with a very placid bull muskox in the Norman Range on Aug 8-9.

Many thanks,
Elizabeth Turner

Elizabeth C. Turner, PhD, PGeo.
Professor

Sedimentary Geology, Paleontology, Sediment-hosted Ore Deposits
Harquail School of Earth Sciences / Mineral Exploration Research Centre
Laurentian University
Sudbury ON
P3E 2C6
[705-675-1151 x2267](tel:705-675-1151x2267)
eturner@laurentian.ca
<http://laurentian.ca/faculty/eturner>

Summary update from Dr. Turner
Turner 2016 research summary for Aurora Science Licence 15888

Field activity for this project was undertaken at two of the locations listed in the 2016 licence (Norman Range east of Norman Wells; Dodo Canyon). After drop-off by helicopter, all work was done on foot by two people over several days. The sedimentary layers at each location were measured with a measuring stick and described using a standard geological classification scheme. Numerous small samples (lemon-sized or smaller) were collected through the layered successions of interest at each site and will be subjected to a suite of geochemical analyses over the next 1-2 years. The results will allow the rocks to be compared to other sedimentary rocks of the same age globally, and added to our growing database of Earth-surface environments for the time interval between approximately 520 and 450 million years ago. The field work undertaken in 2016 is a small component of a much longer-term and more geographically extensive study on the regional geology of this time interval in northwestern Canada; some of the results from the 2016 locations will be published within 1- 2 years, but other publications addressing regional geology will be produced over a longer time-interval (2-5 years).

