

Workshop Notes

January 9, 2014

Notes by Janet Winbourne

Attendance

Deb Simmons
Shauna Morgen
Stephanie Berans – ENR wildlife tech
Jane Modeste
Anja Carlsson – post doc Calgary
Susan Kutz
Nancy Norman-Andrew - Tulita
Berndarde – youth Tulita
Todd – Deline Youth
David Menacho
Gilbert –
Valerie ___ -trrc
Leon Modeste
Eugene –
Cindy Gilday –
Louise Chavarie
Camilla Rubisca
Jesse Gary
Bob Hanley
Laurel McDonald
Julian Kanigan
Jean Polfus
Gerald Peroit
Fredrick Andrew
Yuggle Yalle (briefly)

Opening Prayer
Introductions

Shauna – objectives

Deb – recaps results from research and monitoring coordination workshop

Shauna – talking circle – top environmental issue? Is it being addressed?

Deb – talking circle explanation – everyone gets to talk/equal chance, recording is it okay?

Stephanie – we need baseline data before exploration takes place so we know what the effects are

Anja – baselines are really important. Health and disease of caribou and moose in the area, especially where there is increased development.

Susan – as we see change it is important to ensure there is wildlife around long term. Wildlife should be healthy for people to eat. The monitoring needs to come from the communities.

Nancy – to understand and be informed because of the oil and gas exploration all around us. We are concerned what is happening to the environment and animals.

Gerald – environmental impacts from oil and gas – main concern is the oil spill in the Athabasca. I am wondering if they will do testing on the Mackenzie as well. People shouldn't drink Mackenzie water for a while. More projects on wolverines and other animals. More projects on caribou – keep track on where caribou are moving. Hunters and trappers if they see anything they should report it to the RRC so we have better information from other people. All the impacts that people notice, ways to

David – fracking that is happening right now. What are the long term effects of the chemicals they are using. What are the long term effects of what is happening? How many chemicals are they using. Need more studies on the chemicals.

Gilbert – the spill that happened in Alberta, what kinds of chemicals were spilled in the water.

Leon – Elders the land we live on, we are concerned about our ancestors and the animals. We are thinking about the future and the people who will live in the future. The young people who are here must listen: we have a beautiful land, if we damage it, what will the future hold? If we have no food to eat, we know that the people will not survive. The resource people who are here, help each other have a good discussion and work together. And if the resource people come to work to you on issues, make sure you have a good plan to work with them. On our land we need to learn where all the good fishing and hunting is. When the industry comes, need to make sure that they don't destroy those areas. Dene people are supposed to care for each other and work with non-Dene people. We have to speak up. Can't ignore the impact we have now. As a young people, stand up and be strong and you will have a future. We're talking about everywhere and everybody. In 100 years from now we know there will be a lot of people coming this way. What will it be like? How will we protect it? Think about how you want to see yourself in the future. Sometimes it's hard to speak in public, but this is so important, so you need to speak up. I know we have lost our traditional way of life – we are strong in prayers, but we are even getting away from that. I want to thank everyone here today. Don't be afraid to speak and make sure that your message is understood. If you don't have all the tools to build a house, then it will not be a well built home. Think about your family this way. Work well together and thank you.

Eugene – Enhance community capacity to engage in monitoring.

Cindy – Wants to thank the elders comments. We have only 1 world. I think the elders message to tell the young people to speak to the resource people in the room is very important. As the industries are coming it is hard to understand the full detail of how it is done. It is hard to see what will happen in the future. Our elders talk about the future that we are in now today. They talked about protecting the land and they say “tell them what you want as a Dene people”. You are not the ones doing the impact. We have to hold onto the elders message. Our knowledge is one of the things we should hold onto to the end of time. That is the message the elders have said to us from the past. Our water is still good and the wildlife are still doing well, but we still need to make sure that goes on for a long time. We have a message from ____ he is the guideline until today. As a people when we talk of research we need to include TEK, if you only speak English you need to learn about your history. Fracking – we need to be educated. If you ask more you will learn more. Always remember where you come from.

Louise – long term data is needed to build up trends and relationships with the communities. There aren't a lot of long term studies in the north.

Camilla – a few concerns – the spill on the Athabasca river. I live on the river and my main source of water is on the river. I drink water every day from the river. I take my grandchildren. How do I know if it will be okay to drink the water. I have big concerns about that. I am also concerned about the caribou and the moose. I eat the fish. They did fish work on Rory Lake – they did studies years ago. The fish have always been good. But lately some have lots of fish eggs but some have only a few eggs. It varies. I would like to have that checked. The caribou, my kids went hunting. The meat they brought back was good. But Leon came back 2 nights ago and the meat had little pus bags in the meat. So they left it alone. They didn't eat it. I wouldn't mind to do a study on the caribou. I know they did the moose study with Susan. That is still ongoing. Another concern is about the Dene way – the people as Dene when we go hunting we take everything. But yesterday a person from Colville said that people are leaving the parts behind – backbones, rumps, hooves – behind. I think it is the people who are from FGH who are going hunting by Colville. Why don't they bring the whole thing and give it to the people who can't go hunting. They should bring the whole caribou back and give it to the elders and widowers. It is really bad to waste the meat. They should bring it back. I could make use of it.

Jesse – I like to work in the north because people are invested in the research. People up here are interested in the research. I am interested in the chemistry and apply it how to address the questions people have.

Bob – first concern is about the research that is being done. How that information gets to people. Proposal for an advisory position to help with that. Human health and traditional foods health is necessary.

Laurel – 1. Water – the amount of water that is used to for exploration as well as how much water is used by the communities. There is a lot of research on drinking water and water in general. But I know great bear river ... if there is contamination... we won't be able to drink that water. Flow rate? 2. Caribou – are taken care of. Working with ENR, we do the moose study but where is the data? NW, Tulita, FGH always hunt moose. Harvesters need to know how important it is to give the data to the researchers. Maybe people will get the message. We saw 3 caribou this fall at 3 day lake. This is the 2nd year we have seen caribou in the area. They never saw caribou there before. Beaver – what about research on beaver? I think we should do research. Bottom feeders like Losch – how much research has been done on them? Grayling? Is there any research on grayling? This fall I had the kids, we had a screen, 5 feet off the shore, on three day lake, what kinds of fish were we catching. They were little ones, different kinds.

Julian – After traveling to Tulita 3 times this year I am starting to understand some of the questions. One of the most important is the balance between development and traditional lifestyle and protecting the food and lifestyle you rely on. How can we have enough baseline information to make good decisions. How much development is too much? What are the limits? What is safe? How to put these ideas together? Baseline is important but we need to put it together in a regional picture. What is happening to the whole? Not just the individual pieces. In addition to monitoring the effects on caribou or fish – we need to monitor the things we have control over – like disturbance. How many roads, how many seismic lines. If we put all the info together can we make some predictions about the future. Like Leon was saying can we see what our future will look like. Can we choose our future?

Jean – cumulative effects... lots of small things ... how to understand the big picture.

Shauna – cumulative impacts

Fredrick – Welcome everyone here. I am concerned with the industry – about the land and water and wildlife and wildlife habitat. I am happy you are here so we can do something about this and move forward. I live all my life here and I am going to die here too. The impacts that are coming soon, Conoco/Husky/MGM. My biggest concern is the industry that will be here at least for the next 10 years. My biggest concern is wildlife and wildlife habitat. Industry is new to us, and we need to pay attention to how they conduct research on wildlife. Biggest impact on caribou and moose will be noise from helicopters. This will drive wildlife away. Dene people still live on the land and rely on these animals. Water – drilling is close to the Carcajou River. It is important to Tulita and FGH. Drilling could impact an underground river that flows to the Carcajou. Some of the chemicals used in fracking are very powerful.

David – Stewart and Kelly Lake. Need studies on mercury. What is the long term effect?

Deb – One of the things that drives me is the way in which Dene TK can be part of an overall research picture and have a special contribution. In particular, the knowledge can go way back before scientists were here. That knowledge is even valuable in the present for working at different levels than scientists do. Looks at relationships and the big picture.

--Break--

11:15

Julian – presentation – introduction, CIMP, cumulative effects.

Cindy – my history with Dene nation goes back my whole life. I want to comment on this part. A year ago SSI said ... approach projects with 1. **Rights of aboriginal people**. Young people need to take advantage of all the laws that the chiefs fought for that uphold your rights. These tools are put in place for you to take advantage. 2. **Power of traditional knowledge**. You can never under estimate the power. This morning we were talking about names. Why people have names that don't make sense to us. "one foot in hell" "chocolate" "football" that the priest gave them. In the old days people just had one name. the priests took those names, not understanding how significant those names are, they gave us names for the records that stuck with them through residential school. Those kinds of things come from a very different way of thinking. Saying "you are a child of the universe as much as the trees and starts and in the noisy confusion of life, keep peace in your soul". All the animals and birds, etc have spirits and lives. With CIMP I had to find records of what has been happening over the years. Since 1990 the gwitchen have had projects to monitor caribou and develop institutions in the region. But in the sahtu we haven't had many of the projects. One of the obligations is to share this knowledge with your peers and others. Write down things so that it is recorded. Our oral tradition is important, but we need to keep the records. It would have been valuable for me if someone had written so something down. Traditional knowledge ... it is in your heart. We live in challenging times, but we have to remember who you are. Your contribution is important. The traditional knowledge needs to get out there so we can help the scientists who are doing good work. What we know as dene about fish, water, animals and what makes it good. So we can survive. That is traditional knowledge that is carrying your responsibility as Dene, caring for the earth. That is a dene responsibility. You have to carry that in this time. Cumulative knowledge and impact has a lot of good programs for now, but you!, now, here, need to face challenges.

You have tools to make a big difference. Cumulative impact will have a huge impact on your land. It is our obligation to know. We are not getting the opportunity I feel. With programs like this we can turn things around. Is the results workshop in Dec enough? That is why I wanted people to come here to the sahtu. If the direction does not come from the community it is not sustainable. You can do all the research you want, but you aren't going to make much impact on the ground with people. What we do now will change the lives of your people. What for? What is the hurry? Changing what is here now, and what I have been hearing my whole life from the elders is that we should protect the land and water and animals so that we the people can survive off the food that was provided to us from the great spirit. Why are we collecting data? Is it good enough? We need a broader strategy. But what for? We need to know what is happening with the animals that we eat. It is about animals sure... scientists study animals for animals sake and for plants sake.. but piecemeal. But it is our fridge so we can survive. So I want you ... sorry for the lecture! Keep in mind. As you go forward. These programs are opportunities for you guys.

Julian – one more slide – projects must meet the needs of decision makers... community based monitoring and capacity building are key principals.

Bob – presentation on health and social services GNWT contaminants file. Do you have a word for contaminants? Poison? I've been in the north 40 years ago. Health advisories are available on the Health and Social Services website.

Discussion about Kelly Lake studies... mercury in fish, how much is bad, how contamination works... Jesse answering questions. Stephanie asking about how long mercury lasts....

Bob explains website

Leon – want to say a few things about mercury and fish and before the non-aboriginal people came we never had concerns about mercury.... In the past so many years ago they had fishing lodges on the lake this was one the the guides back then ... people came and went fishing at those lodges... sometimes they would go there and people would come and go fishing in the area where they could catch fish. There is one area they went every summer for fishing. That was the first time we heard about mercury. And that was the first time we asked if it was safe to eat fish contaminated with mercury and they said it was fine back then and we asked them questions like if it was affected for a long time, what were the effects but they told us everything was okay. Our understanding of how they explain the mercury and how the poison affects the human body and they said it was fine if we ate it, that was our understanding back then. And now I am wanting to ask if the fish is contaminated does it go away? And we need to understand what mercury and how it does things to humans and fish and animals.

Bob – explanation.

Gerald – more questions about Hg in the human body

Dave – questions about Hg and medication that can be used?

Jesse – more explanation

Leon – where does mercury come from?

Bob – at great bear lodge many years ago mercury was coming from coal fired/burning industries – from the my understanding – from asia. It was transported in the atmosphere and deposited in lakes.

Jesse – in the Mackenzie it comes from rocks in the mts. To the lakes manuel lake, narrow lakes, a few other lakes like that... naturally occurring from the rocks. Comes from the atmosphere , in the algae, microintertebrates, into bigger fish, lake trout and burbit. Longer ice free time means more mercury can get into the lakes. Different atmospheric patterns... now has stabilized but climate change processes are also affecting mercury uptake.

Cindy – we will talk more about this later. Lets talk more when Jesse talks.

Bob – finishing presentation.

Cindy - **GAP – who does the toxicology assessments.** Provided by researchers...

Susan – expensive to do panels... who is required and for what is a good question. Will come up again.

Bob – check with the office to see how this works.

After lunch:

Eugene – Opportunity for a youth caucus. What are the challenges and opportunities facing Dene youth with increased development, self government and community administration?

Deb – introducing the concept of risk. Understanding how we assess risk may help us to better interact with the next presentations on research. We will do a group exercise on this. How might different sources of knowledge be helpful in assessing risk (both TK and science). What question could focus the research to understand the risk? What are the options that should be looked at? Topics:

- 1) FGH – what are the risks of drinking tap water in the Mackenzie River?
- 2) Is it too risky for youth who have been raised in town to go out on the land to learn bush skills/monitoring skills?

Leon – In western society kids go to school before they can talk. And now many people in communities do this too. We teach skills of how live off the land, trap, hunt, set fish nets, pray. This is all part of our Dene knowledge. Now the non-Aboriginal people take the kids out on the land. We don't know what they teach. When the youth come back from the land their attitude remains the same. Youth here today need to think about the future. If you want to return to your Dene way of life, then before the age of 5, teach kids how to speak their language, then you can send kids off to another school. School was first established in 1950. Kids that went to school then were fluent in their own language. Those people now live well in both worlds because they speak both languages. Now when kids go to school they only know one language, and when you talk to them, all they do is stare at you. They have very little skill to learn the Dene ways. Bringing kids out on the land is one way to teach Dene knowledge. School is not going to be there until the end of time. The prophets have talked about what will occur in the future. If the children don't learn the land skills to live on the land. Dene way of life is a part of our culture. We know ourselves, and it is important to us. Young people here today will one day have a family, so think about how you want to educate them. When we think about an issue it's not about tomorrow, it's about 100 years in the future. Now we have a chance to make changes for the future. Both Dene and non-Dene people should listen to each other's advice. If you use the strength of both worlds then we will have a good future. If we don't work well together, everything will be destroyed. Some of these comments are

for you to think about, and think about the meaning. You should listen to others. When we talk about the animals and the fish, I'm sure they are aware of it. The world is alive. When two mountains face each other, they sing to each other. We need to make sure that the land is protected, and that will lead to a better life. Everything was given to us, not created by humans. If the resource people who are here today understand our culture, then things will be easier for both. Some of the youth that spoke, I'm sure they are some of the things that they think of themselves. Want to thank everyone for talking about protection of the land and water. Thank you.

Shauna – 3) How risky is it transporting waste water down the winter road?

3) Mercury in fish: How risky is it to feed your family fish from Kelly Lake?

Consider the alternatives. Is it also risky to not eat country foods?

Many people see the world in black and white. However, there are degrees of riskiness. When we talk about contaminants in the environment, we can talk about degrees of risk rather than are there contaminants out there or not.

Traditionally harvesters know how to assess and mitigate risk.

Cindy – will you provide us with a detailed background for each scenario?

Shauna – As a group, you can figure out what you need to know to assess the risk. Do you need TK or science?

Report backs from groups – see info on posters

Jean – risks of drinking water in FGH. Use TK and science to understand risks. Camilla makes tea on Mackenzie River and notices a film, in water from lakes, there is no film. Group felt they were data deficient to make a risk determination.

A research question could be what causes the shimmer/sheen on the water?

FGH youth – Did you notice a smell in the water a few years ago? I have noticed that mercury has a smell. I tried to light it on fire, but the water did not light.

Eugene – Youth want a land-based education program.

Shauna – wastewater trucking down the winter road.

Eugene – the scope of the assessment is just within the Sahtu region?

Shauna – Yes, just of trucking fracking wastes along the winter road.

BREAK

Shauna – Introducing the Pathway approach – how is research and monitoring conducted? Goes through the 9 steps.

Julian – Pathways approach the scientific method in plain language. Communities want to be involved in more than collection of data, also want to be involved in question generation or analysis of data. Pathway approach makes it plain the different steps that communities can be involved in.

Shauna – Fred – what research have you enjoyed being a part of?

Fred – Caribou. Worried about health and how industry may be affecting it.

Dave – do mercury in fish and health of people study instead.

Shauna – working through the Pathway approach with the Hg project.

Jesse – It is possible to look at persistent organic pollutants in water and how that could affect fish.

Shauna – Need to understand the food chain

Louise – Explains what invertebrates are.

Shauna – Any background information on caribou research?

Fred – Ticks on moose a big concern

Anja – We will report on ticks on moose tomorrow.

Leon – Want more studies on ticks on chicken and ptarmigan.

Louise – Hard to know what community said to other researchers 5 years ago. Communities feel like they repeat themselves over and over again. There is a need to document community meetings.

Jesse – Two outlets for that already: NWT Discovery Portal. Polar Data Catalogue.

Fred – Where is the TK on the Discovery Portal from?

Julian – It is related to specific projects and is often in summary form.

Deb – For example, the Dene Mapping repatriation project will provide a summary of results.

Anja – community members helped to develop the methodology and the research questions. Community members were collecting the samples themselves.

Jesse – community members do the data collection of fish.

Louise – community members had the questions about fish, and we hired people to collect the fish.

Deb – Role for community members in data analysis. Community members have their own chance to interpret results when the data is being reported back.

Shauna – It sounds like there is sometimes a gap in reporting back. Any ideas?

Susan – We need a better mechanism for reporting back. It doesn't seem like information is getting back to people that need it.

Dave – A facebook page is useful.

Deb – Joe Hanlon is an SRRB employee who can provide connection with RRCs. That is his job.

Fred – Outfitters and hunters harvest a lot. We keep asking Norman Wells to give us a report. RRB has reports about outfitters, but they never come to a community in person to report to the people. How much are the hunters harvesting? It could be a significant impact. Need to come to the community to report at a presentation.

Cindy – Lorna Skinner was helping Gary Stern. Cindy was working on her own. At NCP the Inuit have their own research advisors that are funded by NCP to assist researchers with communication. This made it so much easier for the researcher. No coordination approach for communities to understand what is happening on their land by federal and territorial government. Cindy and others put together a proposal for a research advisor in the Sahtu, and it was supported by the NCP. Unfortunately the proposal didn't make it to the committee in time.

Susan – Having a research coordinator would facilitate the researcher being on the ground. Wouldn't preclude the researcher from coming to the community.

Julian – talked about the Working Together: Towards Relevant Environmental Monitoring and Research in the NWT.

Susan – An example of adapting a program based on community feedback. Have reduced the amount of sampling over time.

Louise – Stopped tagging fish as a result of community input. Increased the amount of sampling based on a broader perspective due to community input. Dried fish rather than waste it.

Deb – What happens when people learn from the substance of the research? Adapt. Deline uranium research. Afterwards, the community decided that they wanted to do more TK research outside of the Ur research. If communities are involved in the research they are energized by it and want to do more research.

Susan – That's how we got into moose research as a result of focus interviews with harvesters. That started the intensive tick sampling program.

General conversation about increased tick occurrence on moose.

Deb – It's very complex when looking at all the concerns that are posted on the wall. We need a data manager to find all of the reports that the communities want.

Day 2

Roundtable introductions – Deanna Leonard , DFO; Carole Mills, NCP new participants

Julian

Jesse

Camilla

Louise

Bob

Laurel

Shauna

Deb

ENR wildlife tech Norman Wells

Jean

Anja

Susan

Youth Deline

Leon

RRC Tulita member

Youth

Dave RRC Tulita

Roger

Rocky

Fort Good Hope community member

ENR Officer Tulita

Shauna – review of yesterday

Shauna – any examples of research without a research question

ENR Wildlife tech – finding caribou calving grounds

Laurel – all of the monitoring that environmental monitoring techs do for industry. Nowhere to put the data.

Shauna – these highlight the importance of having a good question.

Cindy – youth were very well organized and impressive

Julian – Messages to youth from elders to get involved in research and monitoring. Message to resource people and Dene people to work together to protect the land.

Cindy – Some eloquent examples of local people frustrated with not having information.

Bob – I would like to hear the Dene word for contaminants

Jane – I will record it for you

Deb – It is important for the non-Dene to hear the Dene translation to understand the meaning. Could mean bad medicine, poison.

Cindy – The translation is dependent on the story context.

Deb – Louise was trying to come up with a taxonomy for fish in Great Bear Lake. It turned out that the colour palate between Dene and non-Dene was different.

Shauna – Does the connotation of poison mean that any amount will kill you? Because in some cases, scientists are saying that you can eat fish with some contaminants.

Leon – Each term has its own definition. Eg. When we are talking about mercury it has its own def'n. We should have a discussion about it. When we say contamination in Dene it is poison, which means that it will kill anything. But if we explain it in a way that it is not bad, then in our mind we know that it is harmless. When we see fish flesh with little white things, we think it is poison and wouldn't eat it. We could instead say that it is unusual so that people won't fear it. We could explain that it is not bad. One of the main results is finding a word that comes from the animal with unusual marks on the body.

Shauna – Perhaps there is a need for a workshop just on the terminology around contaminants.

Rocky – We're talking about the future of our kids and yet there are only two kids here. People that are here today may not be here for the next meeting. Teacher from the school could bring all the kids to the meeting. Representatives may not bring back information to the organizations they represent. In the last month I've seen some good questions from the students of Tulita on Facebook. I can see those same questions being brought up at this meeting. I used to sit on the contaminants committee for the Sahtu, and I brought this up there at the Water Strategy when thinking about the oil sands. Is this a one off meeting or is this an overall NWT strategy? There's a concern in Tulita about fracking and this related to the oil sands concerns.

Deb - We need to find ways to engage youth even more. There were youth here yesterday and today. We have made a lot of effort to bring youth here.

Cindy – Rocky, you were on the NCP file for a long time. I had no written records when I started last year. There has been a lot of work done by the NCP in Inuit communities but not in the Sahtu. I have been lobbying for a meeting here to discuss contaminants. Nobody was holding Gary Stern's hand to conduct community consultation. Really important for community members to set direction of the program.

Carole Mills – PPT presentation

Fred – Cli Lk, Kelly Lk, Lac St Therese have mercury. Not sure of the result. Elders find fish. We need to respect the elders. It is natural for fish to have mercury in it. Just consume fish once in awhile. FGH people eat fish in spite of Norman Wells. We don't want to scare the elders - it's ok to eat the fish.

Carole – Guideline numbers are based on a wide margin of safety and assume that you will eat fish every day. Eat fish that don't eat other fish. If you only eat fish once in awhile you are ok. Impacts often only happen to small children not adults. Beluga is 20mg/L Hg, 50X higher than 0.5mg/L for trout in Kelly Lk.

Fred – When fish are ready to spawn. Does the Hg affect the eggs?

Jesse – We haven't looked at fish eggs, but we have looked at shrimp-like creatures in the Beaufort and the eggs were low even though the adults were high in Hg. I'd be happy to look at fish eggs if you send me some.

General agreement to send Jesse whitefish and trout eggs.

Carole – Look at trout eggs because they are in the NCP Blueprint.

Roger – Levels of POPs in the tundra. Do you have any projections for how long POPs will take to wash out from the tundra naturally? Also, Mongolian dust cloud settled in the Yukon, and that's how POPs get there too.

Carole – There will be work being done, but it is not a high priority because the levels are fairly low compared to levels in animals. We can do snapshots to confirm where things are at, just can't do long term studies.

Bob – Addressing the toxicological assessment question that came up yesterday: The researcher must present the results to the chief public health officer. If there is an issue about health, then there must be some indication of that in the report. And if that is so, then HSS would ask NCP to ask Health Canada to do an assessment on human health. If it is a negative result then the chief public health officer may put out a public health advisory.

Carole – sometimes the Chief public health officer may request Health Canada to do the exposure assessment him/herself. Instead of Health Canada you could send the data to an govt independent body. Other programs that produce contaminants data could also give info to HSS.

Leon – Talking about Hg in fish. As a human we are vulnerable to diabetes, and we even have blood pressure problems in the communities. You may not be specialized in this area. Do humans contain Hg in their body? What is diabetes and high BP caused by?

Cindy – How will this info be managed through public health to advise the community? We will address Leon's questions through the stories of Hg in fish.

Louise Chavarie – PPT presentation

Leon – Pointed out that the 4 different morphs are from different families, and live in different areas. Piscavore (Morph 1) around Deline, Morph 2 – deeper, Morph 3 (butterfly) shallower, Morph 4 (bulldog) – shallower. They also taste different.

Cindy – Can there never be commercial fishery on GBR because of low reproduction?

Louise – That’s my opinion as a scientist because reproduction is so slow. In some northern lakes there are fisheries but with whitefish that are faster reproducing.

Carole – Community has questions about contaminants in fish. Can you help?

Louise – I can make my samples since 2000 available for contaminants analysis. We tried before, but the DFO lab was shut down.

Fred – Lots of sport fishing on the lake. Did you ever find fish damaged from the sport fishing?

Louise – The main lodge is on Dease Arm. I didn’t see any signs of damage myself. We didn’t do that much sampling right around the lodge. They also travel around the arm a lot to impress the clients. It would be unlikely that we would catch a fish that was caught by the lodge in such a big lake.

Fred – I have seen a few fish in Dease Arm that had lures in the mouth. As a Dene people we catch fish for survival, we don’t throw them back. This is not respectful.

Rocky – Bill Carpenter used to be involved with contaminants and PAS. We had a big meeting here. Focus was on the coal. Does coal naturally give off contaminants that could harm fish? We have coal burning underneath us. Many people remember 1995 when the community almost burned. New burning spot on Little Bear River across the Mackenzie.

Jesse – I have sampled this coal. The Hg in this mercury is low compared to other coal in the world. Hg is the main concern as the other chemicals are less able to be taken up by fish. In the Mackenzie Delta, 40% of the organic material is from the coal here.

Rocky – Is Tulita safe?

Jesse – Most of the coal comes out in the breakup season as a pulse.

Carol – Fish in the area may have adapted to Hg in the system.

Shauna – ongoing water monitoring along the Mackenzie River. We will talk about that later.

Deanna – PPT presentation on fish on behalf of Kim Howland

Fred – Temperature slide. Does water temperature change have to do with climate change?

Deanna – This is change, it is not necessarily a negative change for fish. It is likely related to climate change. Most southern lakes have a thermocline.

Louise – In the south lake trout are always in deep water. But in Great Bear Lake the trout used to be in shallow water too because the water was cold.

FRED – It used to be a cold snap in the fall. We don't have that anymore. That will probably have an effect on the fish.

Louise – This is why a long term dataset is important.

Deanna – Have you noticed any changes about where you can catch lake trout? If you fish on Great Bear Lake.

Fred – Want to thank you and appreciate the scientists. It is useful for us.

Deanna – Want to thank the community for allowing us to study the lake. We are honoured.

Deb – Are there any results from the community/traditional knowledge that have been input into this project?

Deanna – Absolutely. Yamin is able to use mathematical models to predict what will happen if temperatures go up. Traditional knowledge is an input to this model.

Louise – I am trying to wrap up this work and it will be done. No date yet. My goal is next year. May or may not work with Yamin.

Roger – What is the water temperature difference between the two graphs?

Deanna – In the past, water was more uniform temperature throughout depth, but now there is a bigger spread between the top and the bottom, and there is a distinct separation between the two layers.

Roger – Is this going to be like the west coast in the oceans. Are the small things going to die off?

Deanna – So the small things are deeper than they used to be. But we do know that southern lakes are more productive and abundant. You would expect that species that are better in warmer temperatures will do better in warming northern lakes.

LUNCH BREAK

Jesse – PPT presentation

Deb – There were international conventions signed about Hg and POPs. Given that some of the every day things that we use are a source of contaminants. What can communities do to stop these things from happening? Do we need to stop using cell phones?

Carol – Chemicals are constantly be added to the Northern Contaminants Program. Some of these new chemicals could be added. Community could do a project to look at emerging contaminants.

Roger – FGH loche studies: Have you tagged any and found where they are going/migrating to?

Jesse – No, but loche don't tend to migrate. So they would be accumulating from sources nearby.

Roger – Are many of the loche near FGH coming down the Rabbitskin River?

Jesse – Not sure. But with organic pollutants, they would be everywhere, rather than mercury which would be in specific locations.

Roger – I agree. My dad was helping researchers track silver herring from AK up the Carcajou River. Fish move and migrate. There is a cumulative effect from all the water systems they are in. There is a need for more studies to monitor fish migration.

Deanna – Interesting trend of arctic salmon. There have always been a few, but now communities think that we are seeing more salmon. Dunmall is a PhD student. Can salmon spawn in the NWT? If so, this could change conditions for resident fish. This study is supported by CIMP.

Cindy – What are the implications of 3 year study showing increasing mercury. Where is this information going?

Jesse – Giving information directly to GNWT HSS. That's the way HSS wants it.

Carole – This is such an important question for the NCP and other scientific programs. Eventually we need to talk to communities about the food that they are eating. This would be a good use for the NCP community-based monitoring envelope.

Cindy – So FGH would be in the best place to bring forward a proposal?

Carole - Since it's Kelly Lake could be Tulita, FGH, or Norman Wells.

Julian – PPT presentation

Roger – groundwater is a gap. It's good to know surface water, but we need to get the 2D schematics from Explor.

Julian – Kathryn Feiss needs a hydrogeologist, gets the info from industry. Denis Lacelle is mapping icings in the mountains. Could be a connection with surface water in the CMV.

Laurel – presentation on surface water monitoring in the region done by GNWT. She is training to do the water monitoring and the idea is that eventually community members can do the monitoring themselves. 15 sampling sites from Tulita to FGH. Results won't be in until March next year. Results from last year in FGH showed that the water is clean and safe to drink. DGTs are for metals and PMDs are for hydrocarbons. Want to train community people. Really need people to be there when they say they will because there is a narrow window for the sampling.

Roger – Would make sense to do the sampling in the winter, the water is the cleanest and that's when we drink it. I see kids here from FGH when we talk about water health. In Norman Wells we looked at test results from the water plant and there were some things that weren't in there the year before. It turned out that the things in the water were so low that they weren't a concern. Roger is concerned that

even if it is below the guideline, there are increasing trends. We don't even know what they're using (oil companies) how can you test for it? The NEB has put out a report that Imperial Norman Wells is the worst place for spills. Environmental monitors there can't be trusted. The Mackenzie River is so big that it just dilutes everything, but there are lots of spills going on that we don't even know about.

Shauna – Do communities need to do their own monitoring in order to believe it?

Roger – No because we couldn't do a better job than anyone else.

Shauna – Do people want test results from community facilities?

Roger – We don't know what contaminants are in the river when we fish or when we drink the water.

Gerald – We have to sue the companies so that we can get more money to do monitoring.

Roger – Where is the trust and where is the gap? We don't trust NEB. Where is Steve Deschene, AANDC.

Shauna – What is the link between community monitoring and industry monitoring? Does CIMP collect both industry and other monitoring data? Yes. But also need data collection and analysis methods that are comparable

BREAK

Jean – PPT presentation

Roger – Species at Risk Act says we can bother more than 30% of their area. Husky had a meeting with Norman Wells and the Land Corp and ENR and Husky (Ken Hansen). Ken said, through the Land Corps NPI (net profit interest) agreements the people are obligated to help with all parts of the project. Land corps didn't even know about fracking at the time that they signed the agreements. Not just boreal caribou also access (for families and harvesters). What are the human and social aspects, community is being divided. RRCs have a big role in the communities.

Shauna – This reminds us how connected all this is to decision making. So important for researchers to work with community members.

Roger – The territorial and federal government are torn as well: pro development vs protection. Cumulative effects include social aspects and the government aspects.

Susan – PPT presentation

Anja – PPT presentation

Susan – Would it be a good idea for us to start a facebook page where hunters could submit photos of odd things that Susan could look at, and then give feedback as to whether it is safe to eat.

Deb – This kind of hunter information sharing facebook page has been successful with Inuit.

Leon – When you're talking about ticks in moose, is it safe to eat the meat?

Susan – It's safe to eat the meat.

Leon – The information that you shared about caribou. Elders used to give a lot of information about moose and caribou. As a Dene people we don't have authority over moose and caribou, but I'm happy that you are doing these studies, thank you. Our elders talk about these kinds of issues. When the caribou go away they will be gone. Protection of caribou will help us for a long time. A caribou can go on the land as far as it wants to. We use caribou as food and depend on it. Moose too. Moose migrate differently than caribou. At one time there was a scarcity of caribou in one area. They were going to count them. The message from the ancestors was that if caribou leave or migrate, we have no control over it as people. When they came back they said there was too much caribou so they couldn't count them. The information that you shared with us is valuable because we depend on the animals to live. So if there is more money for training especially young people, that would be useful.

Susan – Appreciates all the support that the region has given, and hopes that the information has answered community questions.

BREAK

Stephanie ENR Norman Wells – Didn't bring a presentation but as a government representative we want to make sure that wildlife remain plentiful for people to eat. She will leave a Sahtu wildlife management plan that is currently in draft for people to read. There is a GNWT employee, Heather, who is doing her Masters and will be able to report back to people soon. It will be on Dall sheep. We also pay trappers for wolf carcasses, but we were getting wolves from around the dump areas. Wolves aren't much of a nuisance in this region (not eating dogs).

Susan – Comment on parasites of wolves. Can tell what animals eat based on parasites. Wolves had a parasite from eating frogs, almost half of the wolves had eaten frogs.

Stephanie – Duck banding camp, not funded by us (US Fish and Wildlife) but ENR participates. Biodiversity projects: butterfly collection, small mammal trapping – can give an indication of how marten are doing. Camilla mentioned that her marten were getting fatter, maybe because there was freezing rain in October the voles can't get under the snow, so the marten feed more. Bunny poop count can correlate to lynx populations. Richard predicts that bunnies are starting to decline, so now is the time to trap for lynx. We have a bat detector because a bat was found on the Husky block. A bat was found in Colville Lake.

Deb – you need to explain biodiversity: it is all the different things out on the land. Suzanne Carriere has done a biodiversity monitoring kit. Maybe a cool thing for Sahtu schools to do.

David – Any studies on muskox? Muskox are affecting the caribou.

Stephanie – No.

Jean – ENR in Inuvik have been doing some work on muskox genetics. Muskox were reintroduced to the NWT after near extinction.

Richard – Muskox are not very good for sheep in the mountains? They are in the Richardson mountains

Susan – We did a study many years ago to see if dall sheep could be infected by a muskox lung worm. They were not infected.

Fred – In the 1930s there was hardly any moose. Is this attached to muskox and sheep too.

Stephanie – I am the TK rep for ENR, and we are working on the Dene mapping project with Deb.

Deb – Stephanie is coming to check the numbers on our harvest study next week.

Deb – In the 1970s the Dene were making the case that they were stewards of the land. They had to establish land use and occupancy. Maps with campsites and place names. We had a Dene mapping history meeting in Yellowknife recently. Bring this information back to the Sahtu and use the information to make decisions. For local people to know where their areas are, and where they need to take care of. CIMP is funding this work because this is an experiment to use the materials to understand caribou populations. This will take a long time because of all the conservation work that needs to be done. Linking stories to maps. Focussing around the oil and gas claim blocks. Overlaid Dene trails on the Sahtu area. Looked at people's individual biographies. We thought George Blondin's biography was best for this area (CMV claim blocks). Summarize what happened on each of the trails based on his diary. Trails flagged as woodland caribou hunting trails overlain on claim blocks, but there are no stories associated with the trails yet. Look at how caribou hunting trails are used in different seasons. It will take awhile to do. We will understand the relationships between different peoples and the land. If this is a 3 year project, we will talk to people about what this all means.

Cindy – Want to tell a traditional story. The mosquito and spider were hanging around. Spider says: you poke people for blood, you think you are a doctor. The mosquito said: look at you, you set nets everywhere do you think you are a treaty Indian?

Youth PPT – Eugene and youth

Fred – really proud of all of you and especially thank Eugene for helping the youth

Laurel – would be good to have a class on the land claim for people to understand.

Cindy – Why don't you take it into your own hands and learn your language?

All youth – There aren't many opportunities beyond early school years. Gerald – I learned Slavey from my grandparents, but forgot all lot of it over time through disuse.

Cindy – Trying to get a sense of where you're coming from. Nothing was handed to us. If you have a passion, you go do it yourself. You could sit with an elder every night if you wanted to learn.

Eugene – Having a place to work in the language, having the language in the home. It's different if you go to work and everyone speaks Slavey.

Roger – You guys are being handed a world that needs to be patched up. You know the answer through education. In addition to studying the land claim, should also put aboriginal studies into school. We need to be aware of colonialism. Take care of the drugs yourself if you have to. Rat people out.

Eugene – Dechinta Bush University ppt

Deb – There have been 2 Sahtu community members that have attended Dechinta.

Jean – What's your role, Eugene?

Eugene – My role in the next 2 years is to build a brand and to fundraise for an initial endowment for scholarships.

Carole – How many students have you had?

Eugene – 10-12 is a good sized group. 6 is a lot of work, may be too small. \$5000/semester for a northern student. We have had 1-2 rich southern students each year.

Shauna – Trying to wrap up:

- 1) There are some things to follow up on in the future.
- 2) Some ideas on how to improve research
- 3) Things we could apply for NCP funding to do
- 4) Things that were mentioned on how to improve coordination

Highlights:

Eugene – working with young people

Jean - even more coordination is needed

? RRC Tulita member – really like the idea of youth having a passion for language and learning it themselves

Leon – Thank you. It was all very good.

? RRC Andrew – Interesting presentation

Gerald – lots of learning

Todd – caribou and moose important

Gilbert – listening and learning about our land

Dave – youth

Roger – sits on the Working Group for coordination. Terms of reference and membership. Look forward to follow up on that. Baseline studies and cumulative effects. Need some action out of this workshop. EAs need to be done soon. We don't want to let down the youth.

High school student? – Elders are asking what is going to happen to the next generation. What is development going to us and my family.

Carole – Listening to Leon talk and the definitions of mercury.

Louise – Knowledge – it is like a puzzle we have many pieces. The more the better

Cindy – Convinced that we need a research advisor in this region. Need help from NCP and CIMP to make that happen. In YK I've had a lot of bad reaction that the people of the Sahtu are starting fracking when they have always been stewards of the land. My generation made sure that you have constitutional rights to stop this from happening if you want to.

Jesse – The whole way of life is valuable. Self confidence is valuable.

Shauna – Want to keep coming to Tulita to open my perspective, but I realize how little I know.

Camilla – Interested in research. Scientists check on our food, water, air. The research is important for the people who eat off the land. Meet new people at meetings.

Deb – Happy and scared for more work. Happy to see people taking ownership of the research in their regions. This is building on other workshops. Thank you to those that came.