

A Way Forward

Report from the Environmental Research and Monitoring

Coordination Workshop

November 5-7, 2013, Tulít'a



Prepared for
Sahtú Environmental Research and Monitoring Forum

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Summary

Members of the five Sahtú communities are looking for a way to move forward on environmental research and monitoring in the region, and there is support from government and industry stakeholders. Sahtú community members want to feel more in control, have a better understanding of what is going on, and get more involved in all aspects of research and monitoring, from on-the-ground fieldwork to decision-making.



On November 5th, 6th and 7th, 2013, about 45 participants gathered in the Tulít'a arena to begin finding better ways to conduct and coordinate environmental research and monitoring in the Sahtú Region: to better address community concerns, to strike a better balance between science and traditional knowledge, and to inform decision-making.

This report highlights the great ideas brought forward by workshop participants by quoting them in their own words as much as possible. The report covers the following:

“Why was the workshop important?” – descriptions of the current situation in the Sahtú Region, stories about past experiences with good or poor coordination, and the group’s vision for the future;

“Key research issues in the Sahtú” –

Environmental vs. Socio-economic issues – can we study them separately?

Traditional Knowledge – why involve TK holders in research and monitoring?

Baseline Data – what is it?

Cumulative Impacts – what are they and what difference does it make to consider things from this perspective?

Data Collection, Monitoring, Research, Adaptive Management – what are the differences and similarities?

“Roles in environmental research and monitoring” – where each organization fits within the bigger picture of environmental research and monitoring in the Sahtú Region;

“What kind of coordination is the group working towards?” – including goals of coordination, expected challenges, opportunities for coordination, and how members of a coordination group could be chosen;

“Next steps for forming a new working group” – action items and initial research and monitoring priorities that were identified at the workshop.



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Introduction

Members of the five Sahtú communities are looking for a way to move forward on environmental research and monitoring in the region. They want to feel more in control, have a better understanding of what is going on, and get more involved in all aspects of research and monitoring, from decision-making to on-the-ground fieldwork. This challenge has become particularly overwhelming over the past few years, since a dramatic increase in shale oil exploration has brought an influx of new funding for research and monitoring, as well as a host of new players looking to get involved.

Co-management boards, federal government agencies, territorial government agencies, academics, and industry also recognize the danger of proceeding with major environmental research and monitoring programs if these are conducted in isolation and without solid community support and partnerships.

This was the common challenge that brought members from each of those organizations together, to understand the important role they each have to play in improving coordination of environmental research and monitoring.

Purpose

On November 5th, 6th and 7th, 2013, about 45 participants gathered in the Tulít'a arena to begin finding better ways to conduct environmental research and monitoring in the Sahtú Region. The group was striving to ensure environmental research and monitoring would be done in a more coordinated way, better address community concerns, strike a better balance between emphasizing science and traditional knowledge, and inform decision-making. The focus of the workshop was **Drum Dance in Tulít'a** addressing opportunities and challenges related to the emerging shale oil play in the Central Mackenzie Valley.

The objectives of the workshop were:

- To build relationships among Sahtú, government, and industry agencies and organizations;
- To share information around what environmental research and monitoring has been done in the past, what is underway, and what is being planned in the Sahtú Region;
- To figure out the best ways to coordinate environmental research and monitoring in the region, considering ideas like a working group;
- To outline goals, funding needs, and timelines for coordination of environmental research and monitoring; and
- To identify Sahtú individuals and organizations who are interested and motivated to take a lead on coordinating environmental research and monitoring.



Participants

The 45 participants included representatives from all five Sahtú communities, the Sahtú Renewable Resources Board, federal government agencies, territorial government agencies, Aurora College, and industry. Over two-thirds of the participants were from Sahtú communities. There were eight youth representatives present. In addition, a larger group of Sahtú youth who were participating in a parallel workshop, focused on Health and Climate Change, made a presentation and engaged the group on the final day. The full list of participants is found in Appendix A.

About this report

This report presents a summary of the main themes discussed at the workshop, and the conclusions that were reached. As much as possible, participants' ideas are presented in their own words, using quotes taken from workshop notes. The report does not follow the workshop agenda in order. The sections are grouped as follows:

“Why was the workshop important?” – including descriptions of the current situation in the Sahtú Region, stories about past experiences with good or poor coordination, and the group's vision for the future;

“Key research issues in the Sahtú” – the results of five break-out group discussions:

Environmental vs. Socio-economic issues – can we study them separately?

Traditional Knowledge – why involve TK holders in research and monitoring, and what can they teach us?

Baseline Data – what is it?

Cumulative Impacts – what are they and what difference does it make to consider things from this perspective?

Data Collection, Monitoring, Research, Adaptive Management – what are the differences and similarities?

“Roles in environmental research and monitoring” – an explanation of where each organization fits within the bigger picture of environmental research and monitoring in the Sahtú Region, according to the Sahtú Dene and Métis Comprehensive Land Claim and the perspectives of participants;

“What kind of coordination is the group working towards?” – including goals of coordination, expected challenges, examples of opportunities for coordination, and how membership in a coordination group could be chosen;



Michael Neyelle leading break-out group discussion

“Next steps for forming a new working group” – action items and initial research and monitoring priorities that were identified at the workshop;

“Conclusions” – final statements and reflections from participants.

Why was the workshop important?

Situation in the Sahtú Region

Environmental research and monitoring has an important role in protecting the land, both from effects of industry and from climate change:

The traditional economy is very important in the Sahtú Region. Trappers in Sahtú communities produce some of the highest quality furs in the world. Researching and monitoring the traditional economy is a holistic way of understanding cumulative effects on the environment and people.

“There have been issues in the past with respect to spills on our land, and with spills not being recorded.” - Natanda Oudzi (Colville Lake)

“Climate change has such an impact for the people who go out and trap for themselves. That is how they make their living. I’m sure it will be worse in the future. Maybe it will be too warm in our area. We know that the animals will change. A long time ago when people were going out with their dog teams, by mid-November they’d be out on the land. So we have an impact going on now. I know that it is good for people to put their ideas and research together.” - Jimmy Dillon (Délıne)

“We are concerned that lease sales across the river will be bad news for people because it may mean no hunting, no fishing, and no trapping. What if injected chemicals come to the surface? People can protect wildlife by protecting the habitat. Some areas are really sensitive areas, including where Husky and Conoco are working right now. We have to be really careful about how industry works on the land. The ʔehdzo Got’ıne will continue to monitor.”

- Frederick Andrew (Tulıt’a)



Frederick Andrew

Many Sahtú youth are eager to get more involved in both the traditional economy and in research and monitoring. They are learning about climate change and finding ways to take action to protect the health of their communities and the land. The youth are eager to learn from their elders and to take part in decision-making.

Community members are overwhelmed by the number of proposals by researchers and industry that community organizations are supposed to review. With the expected ramp-up of shale oil exploration and associated research and monitoring, the administrative back-log will only get worse unless steps are taken to better coordinate activities and to identify research and monitoring priorities.

Research and monitoring in the region should be guided first and foremost by Sahtú communities, and traditional knowledge holders play a key role.

“We realize that climate change is a global issue and affected by many factors. Elders and youth can see it happening. Elders are out on the land; they see things firsthand. The youth have access to internet; elders don’t know much about this. We came to the conclusion that by sharing our knowledge, we can contribute to making changes and doing our part. We realize that the oil and gas industry is a main contributing factor to climate change worldwide. Youth and elders feel we’ve been left out of decision making processes. We ask that we be part of the decision making. We ask that we be properly represented. We know that climate change impacts health—individual health and community health. It affects health worldwide. We realize that the wellbeing of the people depends on the wellbeing of the land. The elders stressed to us that the earth is alive and we need to respect it.”

- Carrie Campbell (Youth from Norman Wells)

“I’m really impressed with all the youth in the workshop. There are lots of motivated young people with really big hearts who are wise beyond their years. They have a lot of skills and knowledge. They are valuable and they are going places. I want to encourage all of you to get these young people involved.” - Daniel T’seleie (Fort Good Hope)

“Community members have specific knowledge about the places where they live and practise their traditional pursuits. To understand cumulative effects, we need to go to those knowledge holders to find out what the impacts of a development are. For me as a government person, it seems much easier to approach a board that can summarize things for me from a whole region, but what’s needed is to go into the community and bring that information back.” - Julian Kanigan



Presentation by Carrie Campbell with other Sahtú youth

Lessons from past experiences

Past experiences with coordination teach us about what can go wrong when coordination is done poorly, or what can be accomplished through good coordination.

“The Délı̄ne Uranium Team got together and did a whole bunch of recordings of elders talking about Great Bear Lake, telling stories of the past. Then we realized that people had other recordings, from elders that had passed on. So we asked everyone who had cassette tapes to give them to us. After collecting over 180 cassette tapes, we digitized all of them and made an archive for Délı̄ne. Then we started going further, recording place names, Dene stories and songs, and transcribing the recordings in Slavey and English. At the beginning, the community didn’t want to deal with research, but this kind of research they really support. We want to set up a kind of model that the school can use. The community has ownership and copyrights to anything they produce. That is one thing that is often missing around research.” - Michael Neyelle (Délı̄ne)



Michael Neyelle

“Bad story first. I worked in Inuvik in the early 2000s when all the excitement around the Mackenzie Gas Project was really fresh. People decided they wanted to start counting things. We each had to scrape together funding to do this sort of monitoring. When I tried to book a helicopter, they were all booked by other scientists, all going to pretty much the same place on the same days. That is an example of lack of coordination. Good story next. It’s about employing youth. We wanted to get young people involved in science. The college had students who were available, but I couldn’t afford to hire a youth for the whole summer. We coordinated with three or four other groups of scientists. We each contributed a little bit of money and together we had enough money, work, and supervisors for three students. Two students went on to finish the program and go to university programs. One is still working in science. Those are little things, but sometimes they add up to big things.” - Andrew Applejohn (Yellowknife)

“My story is from Alberta, where I was a biologist working with government, looking at issues around reclaiming prairie grassland. The ranchers had stories about how they would overgraze an area, then leave it or burn it to get rid of weeds. People over the decades had been using these methods to reclaim areas of their land. That program extended down into the Blood Reserve and they also had their stories. For centuries they’d been using burning techniques as well. The program also heard stories from people further south, in northern Montana in the United States. It’s still going on, this collaboration and sharing of techniques to protect and reclaim grassland.” - Sandra Marken (Calgary)

Participants from one Sahtú community shared their recent experience of a mix-up with the charter that was bringing them to Tulít'a for this workshop. No one seemed to know who was coordinating the charter and who was supposed to get on it, so some participants missed the flight. While many of the other examples of good and poor coordination illustrate the need to involve many people, this example illustrates the need for someone to be in charge and take responsibility.

“In 2002 or 2003, in the Sahtú, we were hired to do a survey on several lakes to figure out depth, area, and volume. While we were out there, we came across another consulting company doing the same thing on the same lake for the government!”

- Jenica von Kuster (Calgary)

“I was working in Fort Good Hope with Anne-Marie Jackson. We wanted to go on the Horton Lake hunt but we couldn't afford it. It was the same with some Fort Good Hope people, and researcher Susan Kutz also didn't have enough money. So we pooled our money, got on the same charter, and got out there. Anne-Marie helped Susan make videos; scientists learned for the first time some rules about being respectful around caribou, and we got to teach people how to do sampling.” - Deborah Simmons (Tulít'a)



Patricia Manuel



Todd Paget (speaking)

“This story was told to me by an Inuvialuit elder, while we were working on Mackenzie Gas Project discussions. The Department of Fisheries and Oceans was doing a study on some fish species - char. All of a sudden the fish stopped going to that one place where they'd been counting them. Fisheries was concerned because the fish had disappeared. They came to the conclusion that there must be overfishing. Fisheries went to the Inuvialuit and said: 'Hey, we have concerns you folks are overfishing.' The people said: 'We don't fish there.' Fisheries said: 'You must be fishing there, because the fish are gone.' This started an argument, and the federal government threatened to shut down the fishery. This went back and forth for a year or two, then Fisheries and Natural Resources Canada and the Inuvialuit got into a room, and the Inuvialuit said: 'Look, there was an earthquake and that river got blocked so the fish can't get in there anymore.' **The moral of the story** – everyone had a piece of information that was valuable to solving that problem, but it took a lot of fighting to solve the problem.”

- Todd Paget (Yellowknife)

Vision for the future

There is a common desire to see more coordinated environmental research and monitoring in the Sahtú Region, better priority-setting led by Sahtú communities, better grouping and sharing of information, and decision-making that is better informed by the results of research and monitoring.

A Sahtú Environmental Research and Monitoring Coordination Group was formed out of the November workshop. The Vision Statement agreed upon by that group incorporates many of the ideas described above.

“In the future, environmental monitoring and research in the Sahtú region will be conducted in a coordinated way that addresses regional and community priority concerns, values both science and traditional knowledge, and supports decision-making.”

- Vision statement of Sahtú Environmental Research and Monitoring Group
(from January 2014 meeting in Yellowknife)



Leon Modeste

Key research issues in the Sahtú

There are certain issues related to environmental research and monitoring in the Sahtú Region that are concerning to people and often misunderstood. The five topics below were discussed in small groups at the workshop:

Environmental vs. Socio-economic issues – can we study them separately?

Traditional Knowledge – why involve TK holders in research and monitoring, and what can they teach us?

Baseline Data – what is it?

Cumulative Impacts – what are they and what difference does it make to consider things from this perspective?

Data Collection, Monitoring, Research, Adaptive Management – what are the differences and similarities?

The results of those discussions are summarized in the boxes below.



Feeding the Fire ceremony in Tulít'a

Traditional Knowledge(TK)

The following ideas were brought forward during the small group discussion:

Why would we want TK experts to teach us about research and monitoring?

It's important for industry to have as much information as possible to help plan and design projects.

Land Corporations need TK when making a decision to open land for development.

What can TK experts teach us about research and monitoring?

TK experts can teach about Dene laws for being respectful to the land (not just content, but providing values to guide methods for using the land and researching it).

They hold all different kinds of information about the ecosystem because it's all interdependent.

Cumulative effects thinking requires the kind of 'big picture,' integrated thinking that TK holders often have: TK ties things together.

Examples of research involving TK:

Land use mapping and place names – Dene Mapping Project

Harvest study – knowing about how people harvest on land can help inform monitoring

Best ways to work with TK experts:

TK experts should not just be asked to answer questions; they should help direct what should be studied.

Clans are very knowledgeable about specific areas – you need to ask the right people.

Recommendations are important in TK studies with information about the basis for the recommendations. For example, industry can avoid special areas as recommended in the TK study.

TK studies need to be validated by the community to make sure it is correct (like a peer review).

Industry should tell people what accommodations are made in response to the TK provided. TK holders want to see their knowledge used in decisions and really listened to.

“Elders often say that our traditional knowledge is not for sale.” - Edwin Erutse (Fort Good Hope)

Questions about TK that need further discussion:

When should TK and scientific studies be combined together? When should they be separate?

What exactly are we trying to integrate?

Baseline Data – what is it?

“The most obvious of the issues we’ve been trying to tackle for the last few years, are baseline studies and cumulative effects.” - Roger Odgaard (Norman Wells)

The following ideas were brought forward during the small group discussion:

What is ‘baseline data’?

It is information you gather before there are changes to the land caused by humans or industry.

It may reflect just a moment in time, but ideally it would reflect the range of natural variation, since changes are always happening in nature, especially now due to climate change.

It is a basic assessment of what’s out there – wildlife, water quality, conditions, disturbances.

It includes harvesters’ knowledge and traditional knowledge (TK).

Things to think about when you’re collecting baseline data:

It should be collected from areas that might be impacted by development **and** from areas that are not impacted, to be able to compare changes over time.

The scale on which you’re collecting baseline data is important (whether you need a detailed local picture or a regional overview).

Consider information that already exists (avoid duplicating; build on data collected previously).

You will need a way to keep track of all your information and make it available to others (like a database).

When is baseline data collected?

“You often don’t start to monitor until activities start, or you don’t document as closely, so you don’t have that real characterization of a baseline until you have companies coming in to explore.” - Geneviève Carr (Ottawa)

“We need a comprehensive baseline study in the Mackenzie River Valley now! But who will do it? Who will hold the data? Who will report on it? Who will pay for it?” - Roger Odgaard (Norman Wells)

What if you need baseline data from a place where the environment is already disturbed?

“We have historical collection. We’ve had research for oil and gas going on since 1921 at a minimum. We have traditional knowledge. And we can do comparative studies since we have many places that are not disturbed.” – Jeff Walker (Norman Wells)

“In some fields of research there are techniques we can use to go back in time, like taking sediment cores from lakes.” – Julian Kanigan (Yellowknife)

Cumulative Impacts – what are they and what difference does it make to consider things from this perspective?

The following ideas were brought forward during the small group discussion:

Looking at cumulative impacts involves looking at the bigger picture, over the long term—not just a single project. It includes social and economic impacts as well as environmental impacts – it is hard to separate these things.

It could include looking at industry development and community infrastructure, as well as things outside our control, like climate change and weather patterns.

We may need to focus on monitoring the things in the environment and community that we might be affecting with our actions and that we could have some control over.

“With current development, we have our heads down focused on a specific project, but we forget to look at what’s come before and what will be the entire effect of all the projects together. You see effects with boreal caribou. How do we determine a threshold and avoid going past it?” – Jeff Walker (Norman Wells)

Deciding how much development to allow:

We need to look at past experiences to figure out what kinds of cumulative effects could be expected in future scenarios.

“Cumulative impact monitoring might help us find out what the thresholds are. It is often a value judgment, often in the absence of information. Using principles of adaptive management, your first trigger point would be a warning that you’re approaching the threshold or point of no return.”- Julian Kanigan (Yellowknife)

“Part of it is a question about what you want your world to look like. Maybe we are ok with some changes. This is at least worth thinking about. It helps frame things when you’re thinking about trade-offs.” -Nicole McCutchen (Yellowknife)

Example of cumulative impact management:

GNWT-ENR is working on a regional waste management tool for the oil and gas industry. The system will be able to predict the total amount of oil and gas-related waste that will be produced across a region. In the Sahtú Region, there is very limited infrastructure, including roads, for dealing with waste. Communities need tools to understand how much waste is going to be produced and make a plan for dealing with it, rather than waiting for each company to make separate plans and reacting after the fact.

Roles and responsibilities:

GNWT-ENR has some processes for cumulative impact management, such as caribou range management planning. The government expects companies to participate, but not to figure out solutions all on their own.

“As an industry proponent, do I have to consider what all other companies are doing? If I do, it gets really big really quickly.” - Jesse Tigner (Calgary)

Data Collection, Monitoring, Research, Adaptive Management – differences and similarities

The following ideas were brought forward during the small group discussion:

Research builds on monitoring, which builds on data collection.

An example of **data collection** is the wildlife camera stations set up by Husky: 40 camera stations have collected over 300,000 photographs since February 2013. The photos are data. The challenge is figuring out what to do with all those photos and how to analyze them in a way that would lead to meaningful research.

Monitoring keeps track of trends. There can be baseline monitoring before disturbance begins, and then changes can be tracked as development proceeds. It can be used to check whether predicted impacts actually happen. Monitoring can be more long-term than research. Through general monitoring, we can identify things that need to be studied more closely through research.

Good **research** requires having good research questions.

Examples of ʔehdzo Gotʔine (Renewable Resource Councils) collaborating on research and monitoring projects:

Fort Good Hope ʔehdzo Gotʔine has collaborated on researching moose ticks, moose and caribou health, contaminants in burbot and mink, as well as water quality monitoring. Délıne ʔehdzo Gotʔine has collaborated on researching lake trout as well as water quality monitoring. Tulıtʔa ʔehdzo Gotʔine has collaborated on sheep and caribou research. The Norman Wells ʔehdzo Gotʔine has collaborated on lots of fish and caribou research.

Examples of monitoring affecting industry decision-making:

The Délıne ʔehdzo Gotʔine made an agreement with Petro Canada that the operation would shut down when caribou came within five or ten kilometres of the site. The Délıne ʔehdzo Gotʔine was involved in monitoring to make sure Petro Canada followed the agreement.

ConocoPhillips is monitoring lake levels to decide whether it is safe to continue withdrawing water from those sources. Husky is monitoring bear dens in order to avoid disturbing bears.

“One of the objectives of the Cumulative Impact Monitoring Program (CIMP) is to make sure that folks are collecting data in such a way that it can be used. We are moving from data collection to producing meaningful baseline information. There would need to be a protocol, to turn monitoring data into baseline data.” – Julian Kanigan (Yellowknife)

Example - A scientist with DFO, Neil Mochnaz, is working on a protocol for collecting fish, so that monitoring would be done in the same way and data would be comparable.

Summary of roles and responsibilities

The photo above is a diagram created collectively that illustrates the roles of various organizations in research and monitoring (funding, collecting knowledge, coordination, partnerships, and decision-making). This diagram is summarized in the following table.

Funding	Collect Knowledge (TK and Science)	Coordination	Partnerships	Use Knowledge in Decision-Making
GNWT-ENR Industry (own projects, CIMP, ESRF) -pay ʔehdzo Got'jne monitors CIMP Federal government (AANDC, DFO, EC)	ʔehdzo Got'jne Gots'é Nákedı (SRRB) ʔehdzo Got'jne (eg. moose, caribou, loche/burbot, water monitoring) -monitors and harvesters Industry CIMP (water, fish, caribou are priorities) Federal government (AANDC, DFO, EC) GNWT-ENR Universities (academia)	CIMP – coordinates with decision-makers, researchers, funders and communities • Cumulative effects research requires coordination! Review Board - environmental assessments Federal government (eg. NPMO, CanNor) GNWT-ENR can lead on coordination of data collection	Great Bear Lake monitoring and management NPMO – Partnership Initiative GNWT-ENR Working Groups	Sahtú Land and Water Board - can seek more information to make decisions Review Board – can recommend measures through environmental assessments Federal Government (AANDC, EC, DFO) National Energy Board Land Corps – ABAs, “hold land in trust” GNWT-ENR Sahtú Land Use Planning Board Industry ʔehdzo Got'jne – can make recommendations to ʔehdzo Got'jne Gots'é Nákedı, work with industry ʔehdzo Got'jne Gots'é Nákedı – can make recommendations

The Sahtú Dene and Métis Comprehensive Land Claim

The Sahtú Dene and Métis Comprehensive Land Claim lays out “an integrated system of land and water management” that applies to the entire Mackenzie Valley (Section 25.1.1 (a)).

The Sahtú Dene and Métis Comprehensive Land Claim Objectives include:

(g) to provide the Sahtú Dene and Métis the right to participate in decision making concerning the use, management and conservation of land, water and resources; and

(h) to protect and conserve the wildlife and environment of the settlement area for present and future generations.

“The Land Claim created 27 organizations, which sometimes creates confusion about who does what. The Land Claim book spells out each and every one of our roles. We should familiarize ourselves with what the Land Claim says the roles are.” - Edwin Erutse (Fort Good Hope)

“‘Integration’ is what you do when you make cookies. The raw cookie dough holds together. But then, after you have baked it, the cookie crumbles – that’s disintegration.” - Deborah Simmons (Tulít’a)

ʔehdzo Got’jneᑦ (Renewable Resource Councils)

ʔehdzo Got’jneᑦ representatives describe themselves as:

- custodians of wildlife, land, water and habitat;
- monitors (eg. making sure spills are reported);
- advisors on industrial activities;
- teachers about laws of the land;
- managers of harvesting and land use;
- researchers (eg. gathering info through harvesting);
- partners in scientific research on land and water; and
- partners in watershed management.

The **Sahtú Dene and Métis Comprehensive Land Claim** describes the role of ʔehdzo Got’jneᑦ:

13.9.1 There shall be a Renewable Resources Council in each Sahtú community to encourage and promote local involvement in conservation, harvesting studies, research and wildlife management in the community.

13.8.40 Wildlife research or harvesting studies conducted in the settlement area by government or by the Board or with government assistance shall directly involve Renewable Resources Councils and participant harvesters to the greatest extent possible.

“We gather information on changes in climate that affect people when they go out to trap, for example. We teach youth about laws of the land.” - Jimmy Dillon (Délįnę)

“We monitor land and check with companies and make sure they're not interfering with wildlife. Our environmental and wildlife monitors come back and they fill out a report. Our organization is doing pretty well. But there are some more things we can work on.”
- Norman Hodgson (Norman Wells)

“The ʔehdzo Got'įnę is part of the Land Claim Agreement, in protecting and monitoring water, harvesting, wildlife and the protection of certain areas. Right now the Fort Good Hope ʔehdzo Got'įnę has partnerships or coordinated approaches with the forest fire monitoring, the moose and caribou projects, and the collection of burbot in the Mackenzie River for research.” - Patricia Manuel (Fort Good Hope)

“In Délįnę, we did a lot of work on research programs, for example a five year trout study on Great Bear Lake that is still ongoing. We've also done research on climate change on Great Bear Lake, and we came up with a watershed management plan that is in the Sahtú Land Use Plan. Another kind of research we did was called Tutse—‘Water Heart’—where we studied the different fish. There was a legend about different kinds of fish on Great Bear Lake. We also did research on caribou movement. Great Bear Lake is one of the largest fresh water lakes in the world, and I think Délįnę would like to be involved with

“The ʔehdzo Got'įnę are custodians of land and water, including wildlife habitat. We need to monitor land, especially in sensitive areas like wetlands. The Tulít'a ʔehdzo Got'įnę makes recommendations to the ʔehdzo Got'įnę Gots'ę Nákedı.”
- Frederick Andrew (Tulít'a)



Joe Bernarde

Land Corporations

Land Corporation representatives describe themselves as:

- decision-makers with respect to granting access;
- negotiators of Access and Benefits Agreements (ABAs);
- monitors who ensure all parties meet terms and conditions of agreements;
- land owners, holding land in trust; and
- those concerned with both socio-economic and environmental issues.

Access and Benefits Agreements often contain general clauses about environmental monitoring, management and reclamation. However, there is some concern that these Agreements may prevent Land Corporations from being able to advocate for appropriate environmental research and monitoring. This may be an important topic for further discussion in the future.



Jean Polfus awarding prize to Roger Odgaard

ʔehdzo Got'Inę Gots'ę Nákedı (Sahtú Renewable Resources Board)

The ʔehdzo Got'Inę Gots'ę Nákedı gives advice and recommendations to decision-makers on wildlife management as well as research and monitoring.

The **Sahtú Dene and Métis Comprehensive Land Claim** describes the role of the Sahtú Renewable Resources Board in relation to research and monitoring:

13.8.37 It is intended that the Board and government departments and agencies work in close collaboration and exchange full information on their policies, programs and research.

13.8.38 The Board may participate in harvesting studies, in data collection and in the evaluation of wildlife research. It is intended that the Board have an independent research capability, to the extent agreed by government and which does not duplicate research which is otherwise available to it.

“The ʔehdzo Got'Inę Gots'ę Nákedı has been involved with a lot of research projects. Right now we're doing a caribou study, collecting caribou pellets in the winter time. We're doing that project because elders say, 'Don't chase caribou with the planes, don't collar them.' We are recognized in the Land Claim. We make recommendations to the decision makers, on how best to do wildlife management. We look at industry applications and provide comments to the Sahtú Land and Water Board – the decision makers in this area – on licensing applications. And from there it goes to the federal people.” - Michael Neyelle (Délıneę)

Sahtú Land and Water Board

The **Sahtú Dene and Métis Comprehensive Land Claim** describes the role of the Sahtú Land and Water Board as follows:

25.4.2 (a) The objective of the Land and Water Board is to provide for conservation, development and utilization of the land and water resources of the settlement area in a manner that will provide the optimum benefit therefrom for present and future residents of the settlement area and the Mackenzie Valley and for all Canadians.



Beaded baq by Sahtú artisan

“We utilize research in the region as part of our process. We also look after monitoring, of a sort, due to reporting requirements from permit and license holders.”

- Paul Dixon (Fort Good Hope)

Sahtú Land Use Planning Board

According to the **Sahtú Dene and Métis Comprehensive Land Claim**:

25.2.4 The following principles shall guide land use planning in the settlement area:

(a) the purpose of land use planning is to protect and promote the existing and future well-being of the residents and communities of the settlement area having regard to the interests of all Canadians;

(b) special attention shall be devoted to:

(i) protecting and promoting the existing and future social, cultural and economic well-being of the participants

25.2.9 Upon approval of a land use plan, those authorities with jurisdiction to grant licences, permits, leases or interests relating to the use of land and water in the settlement area shall conduct their activities and operations in accordance with the plan.

“Gathering information is a significant part of the land use planning process. In the Sahtú Land Use Plan background report, released in July 2010, chapter 2 included information about geology, wildlife, watersheds, ecological zones, and a lot of other factors. We want to make decisions based on the best, newest information, so we will hopefully continue trying to update that with new research.” - Scott Paszkiewicz (Fort Good Hope)

Mackenzie Valley Environmental Impact Review Board

The **Sahtú Dene and Métis Comprehensive Land Claim** describes the role of the Mackenzie Valley Environmental Impact Review Board as follows:

25.3.4 A development proposal in the settlement area or which may impact upon the settlement area may be referred for assessment to the Review Board by the Sahtu Tribal Council or any governmental authority, and by the Review Board on its own motion.

25.3.3 (b) Legislation shall provide that a development proposal which would otherwise be exempt from assessment may be assessed if, in the opinion of the Review Board, it is considered to be of special environmental concern by reason of its cumulative effects or otherwise.

“Understanding the existing environment is an important part of understanding how a project might change things there. The Review Board looks at cumulative effects – that is, the project plus all the other human activities in the past, present, and future. The Review Board also often makes measures, meaning ‘You can go ahead but only if you do this thing.’ This often involves research and monitoring to detect changes and react to them.”

- Alan Ehrlich (Yellowknife)

Industry

Industry representatives describe themselves as:

- working closely with ʔehdzo Got'ɫne on monitoring plans;
- incorporating traditional knowledge (TK) into program planning;
- assisting with monitor training;
- hiring monitors; and
- funding research and monitoring through the Environmental Studies Research Fund (ESRF) and the Cumulative Impact Monitoring Program (CIMP).



Jenica von Kuster leading break-out group discussion

Access and Benefits Agreements (negotiated between industry and Land Corporations) require industry to include traditional land use and traditional knowledge in decision-making. These Agreements also require industry to hire environmental monitors for all of their programs.

Cumulative Impact Monitoring Program (CIMP)

As of April 1, 2014, with devolution, CIMP became a GNWT program instead of a federal program. CIMP's roles are:

- coordinating;
- focusing on cumulative impacts of development;
- identifying research and monitoring priorities;
- conducting monitoring;
- making sure there is information to support wise decision-making about resource development; and
- funding monitoring.

"We are a territorial program, so we need to think about all the other regions too. We've had to limit ourselves to just the biophysical concerns, and in the last three years we have decided to focus on water, fish, and caribou. Starting in 2010, we set our priorities for five years, and it was a two-fold approach. One approach was the distribution of questionnaires to multiple decision-making organizations. We have a wide definition of what a decision-maker is. They provided us with their surveys, we analyzed those, and then we had a workshop where we validated what we found in the surveys. This was in 2011." - Julian Kanigan (Yellowknife)



Julian Kanigan

Federal government agencies

Other federal government agencies with mandates relevant to environmental research and monitoring include: Aboriginal Affairs and Northern Development Canada (AANDC), Environment Canada (EC), the National Energy Board (NEB), and the Canadian Northern Economic Development Agency (CanNor). The federal government takes various roles, including:

- manager of the resource;
- responsibility for monitoring and conducting research;
- responsibility for honouring the Land Claim and making sure consultation is done appropriately and according to the laws; and
- funding agency.

Government of the Northwest Territories (GNWT)

The part of the GNWT that is most active in environmental research and monitoring is the department of Environment and Natural Resources (ENR), which has representatives in both the Sahtú Regional Office in Norman Wells and at headquarters in Yellowknife.



Geneviève Carr and Andrew Applejohn

“We fund, coordinate, collect, partner, make decisions. One of the key things is the partnerships. Partnerships are very important to the GNWT because we want government decisions to be made by the people, so the decisions are representative. We want to use the best TK and the best western science. People are hired and paid to be monitors. That’s an income and a sustainable life, and we want to have the people most familiar with the land doing the monitoring. That’s who we want to have input from. That requires training, experience, leadership, and mentorship. The other side of what we do is coordinate those things and fund training and opportunities.” - Jeff Walker (GNWT-ENR, Sahtú Region)



Jeff Walker

How coordination is evolving

Research and monitoring priorities should be identified through partnerships, not by any one decision-maker alone. Currently the Cumulative Impact Monitoring Program (CIMP) and the Environmental Studies Research Fund (ESRF) advisory groups are existing partnerships that identify priorities, and already play somewhat of a coordinating role. There is a need for a Sahtú-specific coordination group that has strong representation from each of the five Sahtú communities.

With devolution, the GNWT becomes even more of a coordinating hub. CIMP transfers over to the GNWT with devolution, and the GNWT also becomes the authority that issues oil and gas leases (through the Petroleum Resources division) as well as licenses and permits (through the Office of the Regulator of Oil and Gas Operations). The GNWT will maintain its close relationship with the ʔehdzo Gotʔine Gotsʔé Nákedı (Sahtú Renewable Resources Board) and ʔehdzo Gotʔine (Renewable Resource Councils).



Geneviève Carr leading break-out group discussion

What kind of coordination is the group working towards?

Goals of coordination

Below are the workshop participants' hopes about what a Sahtú environmental research and monitoring coordination group would be able to accomplish, and their expectations about what such a group would not be able to do.

Goals of a coordination group

- Get more work done for less effort – work better distributed with less duplication
- Save money and access more funding than you started with (leverage)
- Pool resources – money, logistics, expertise; pool funds to hire local people to help with research and monitoring
- Clarify roles so that leaders and responsible people and organizations are identified and held accountable.
- Improve communications and guide people to individuals or organizations who can help.
- Build better networks; better community engagement; trust-building and relationship-building
- Collaborate in reporting back results to communities – more time-efficient and meaningful
- Establish a common vision and goals; help identify regional priorities; build ownership and buy-in amongst all group members
- Foster community ownership of research
- Understand the bigger picture; solve complex problems
- Help ensure everyone can access the same information needed for decision-making
- Coordinate timelines and pace associated with various projects
- Ensure more coordinated and well-informed decision-making



What a coordination group cannot do

- It cannot take away the rights, responsibilities, or decision-making powers of any organization or individual.
- It cannot be a decision-making body – would help acquire information and make recommendations to decision-makers.
- It cannot solve everyone’s problems.
- It cannot set up new databases or establish data collection protocols; but could support others in doing so.
- It cannot fund projects.
- It cannot make all companies cooperate (some will not due to competition, lack of commitment).

“We need to be really clear that this group isn’t there to slow down or impede industry activity. That was really important for the Beaufort Region, to have industry participating fully and openly.”

- Geneviève Carr (Ottawa)

“Where I see this helping CIMP, is if the group is a place where the monitoring priorities are set, where those gaps are identified.”

- Julian Kanigan (CIMP)

“Part of the mandate of the coordinating group would be to keep an up-to-date list of sources of data and contacts, and to update it as new things come online. The group could be a place where someone could go to ask a .. ”



Nancy Norn-Lennie

Selected participants from this workshop later met in Yellowknife in January 2014, where they developed a set of objectives for a new coordination group, based on many of the ideas discussed at the workshop:

“The Sahtú Environmental Research and Monitoring (ERM) Working Group will provide advice on how to:

1. Identify opportunities for collaborative research and monitoring networks and knowledge-sharing relationships
2. Assist in identification of environmental research and monitoring gaps and priorities for the Sahtú Region
3. Advocate for a balance of traditional knowledge and scientific research
4. Assist in reviewing research proposals and plans that meet identified regional priorities
5. Advocate for stronger community involvement in research and monitoring
6. Identify opportunities for data- and information-sharing, as appropriate
7. Support appropriate management and protection of community-owned traditional knowledge
8. Assist in cross-cultural interpretation of research results
9. Provide research results to support regional decision-making processes
10. Build regional understanding of research and monitoring processes

Expected challenges

Below are some of the challenges that workshop participants expect to encounter in trying to better coordinate environmental research and monitoring in the region:

- Coordination can be slow. It takes time to build buy-in and to start working together.
- Decisions take longer, and a decision is not even guaranteed at the end of the process.
- People want action and change (not just ‘talk’), but sometimes people need to learn to slow down and not take on too much – if working group members get too busy, there are bottlenecks.
- There can be too many working groups – consultation and collaboration fatigue.
- Often compromises are necessary; there has to be a give and take—sometimes that is hard to do. There is a loss of flexibility; you have to follow the rules of the group.
- Coordination requires resources and administrative support.
- There can be communication barriers. Sometimes it is hard to get meaningful input. There can be too many people talking.
- ʔehdzo Got’jne need to realize the powers they have under their Land Claim mandate.
- Companies are competitive; not every company has a strong commitment to the region.
- People in every organization come and go – hard to maintain commitment and continuity.

These challenges require careful consideration by the new Sahtú Environmental Research and Monitoring (ERM) Forum, in order to create realistic expectations and allow the group the best possible chance of long-term success. Having a paid administrator, either part time or full time, could help a lot.

Opportunities for coordination and partnership

The following opportunities for better coordination were identified by workshop participants:

- GNWT-ENR is gearing up to start boreal caribou range management planning and is deciding how to allocate boreal caribou research and monitoring funds.
 - GNWT-ENR would like to listen to local concerns and consider research and monitoring project ideas coming from Sahtú communities and ʔehdzo Got'ıne.
- There could be better community input and coordination with regard to Environmental Studies Research Fund (ESRF) projects focused on both water and wildlife across the Sahtú Region, which will soon be underway.
- Husky has set up 39 surface water monitoring stations, as part the terms and conditions of its water licence. Three of the flow metering locations may overlap with ENR stations, so there could be potential for collaboration in water flow monitoring.
- ConocoPhillips Canada and Husky have been trying to develop a common approach to data collection surveys.
- ConocoPhillips Canada, Husky, Explor and GNWT-ENR have been engaged in data sharing, so the information could all be analyzed together to get a better regional understanding of wildlife habitat and potential impacts, including how these impacts could best be managed and minimized.
- The baseline studies and reports done for Protected Areas Strategy initiatives (Ramparts and Shúhtagot'ine Néné) can be better shared and built upon.



Edwin Erutse and Valerie Erutse

“Every week there is a license or an application. Is there no organization of this? ... A lot of them are legitimate, they would benefit us, but there needs to be more coordination for all of them.”

- Edwin Erutse (Fort Good Hope)

- Research permitting and licensing could be better coordinated in order to ease the administrative burden on ʔehdzo Gotʔine and community organizations. There could be better communication between ʔehdzo Gotʔine, Aurora Research Institute, GNWT-ENR and research applicants as to what information ʔehdzo Gotʔine want to see in the applications, and the best ways to consult communities so that the information is understood.
 - The ʔehdzo Gotʔine Gotsʔé Nákedı (Sahtú Renewable Resources Board) can help communities interpret what is in a research proposal.
 - GNWT-ENR is interested in ways to improve this process.
 - CIMP has created a 'Pathways Approach' document that is supposed to help improve coordination and communication between researchers and communities.

How membership could be chosen

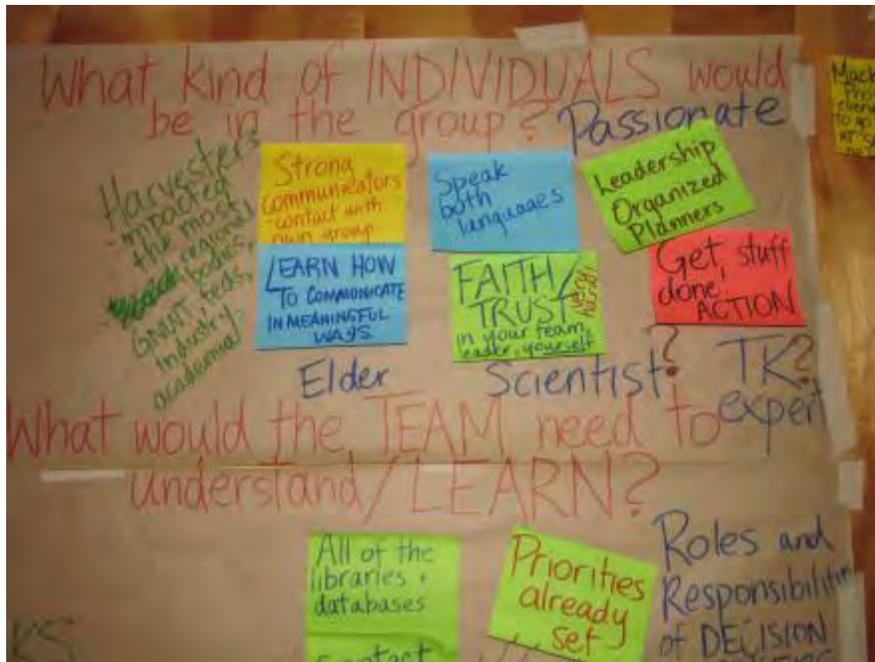
Below are suggestions from workshop participants about how members could be chosen for a new Sahtú environmental research and monitoring coordination group:

- At least half of the members should be from Sahtú communities.
- Ideally there should be ʔehdzo Gotʔine representatives in the group, since research is in their mandate.
- Harvesters should be represented in the group, since they are among those who are most impacted by industry and climate change.
- For ease of logistics, the group should not be too large.
- There does not need to be an academic (researcher from a university) representative within the group. The group should guide academics' research agendas, not the other way around.

"If someone from our group is sitting on this, I want it to be someone with passion." - Edwin Erutse (Fort Good Hope)

The qualities of individuals who would be well-suited for this kind of group include:

- Those who can lead, organize, plan, work in a group;
- Strong communicators who will keep their communities / organizations well informed of what the group is doing;
- Action oriented people who can 'get stuff done';
- People who can speak both languages; and
- Those with passion!



Selected participants from this workshop later met in Yellowknife in January 2014, where they developed a Terms of Reference for a new coordination group, including a description of Working Group Members:

“The Working Group consists of representation, with alternates to ensure consistent membership and attendance, from each of the five Renewable Resources Councils in the Sahtú Region; Sahtú community youth, the Territorial, Federal, and Aboriginal governments, industry, and from the Sahtú Renewable Resources Board.

The majority of the Group’s members should be Sahtú beneficiaries.

Other representatives may be invited to participate as needed. The membership should include people with a range of qualifications, including:

- Aboriginal harvesters
- Strong communicators
- Training in traditional knowledge and science
- Leadership abilities
- Action oriented
- Passionate

Next steps for forming a new working group

Eleven workshop participants were identified who would form a working group and continue to meet in order to identify concrete steps that would be taken to improve coordination in the region.

The new working group met immediately after the workshop finished on Day 3, and scheduled their first teleconference for November 18th 2013, 10 am.

The group also set a goal of holding an in-person meeting in January 2014.

Initial agenda items that were identified for this new group to tackle include:

- Develop terms of reference
- Communicate to decision-makers who the group is and what its purpose is (not taking over someone else's role); spread the word!
- Identify roles /responsibilities of decision-makers and researchers
- Review and sort priorities already identified by Sahtú people

The group is approaching GNWT-ENR as a potential source of funding.

One of the agenda items for the new working group is to review and sort environmental research and monitoring priorities identified by Sahtú community members. Workshop participants have already begun to contribute ideas for research and monitoring priorities, and to specify which needs are the most urgent.

The Working Group Members selected from amongst workshop participants were:

Natanda Oudzi (Colville Lake)

Jimmy Dillon (Délıne ʔehdzo Got'ıne)

Roger Odgaard (Norman Wells)

Frederick Andrew (Tulít'a ʔehdzo Got'ıne)

Bradley Menacho (Youth-Tulít'a)

Michael Neyelle (SRRB)

Sandra Marken (industry)

Julian Kanigan (CIMP)

Todd Paget (ENR-YK)

Laurel McDonald (ENR-Sahtú)

Patricia Manuel (Fort Good Hope ʔehdzo Got'ıne)

As Chair of the ʔehdzo Got'ıne Gotsé Nákedı, Michael Neyelle was nominated to be in charge of organizing the group.

"If this is important then the GNWT will try to find resources. We have a strong case for continuing this dialogue." - Andrew Applejohn (GNWT-ENR)

Research priorities and questions, identified throughout the workshop:

Should be investigated ASAP (this winter):

- Connection between groundwater and surface water
- Underground rivers and karst
- Study fish in the Mackenzie River around Tulit'a for contaminants (ie. whitefish, loche, greyling, suckers)
- Test water quality of the Mackenzie River near Tulit'a
- Study woodland caribou patterns and habitat within the lease areas, especially the CPC block (with help from elders and TK experts)

Should be investigated down the road:

- New species in the region: cougars, whitetail deer, polar bears near Déljñę, seals near Fort Good Hope – currently being tracked/monitored as people report observations
- Grizzly bears
- Contaminants in Kelly Lake (mercury) and Bosworth Creek
- Regional cumulative effects assessment
- Water withdrawals (industry, roads) – how much is too much? What are the impacts?



Grand Chief Frank Andrew and Tulit'a drummers

Conclusion

The workshop left participants fired up and ready to move forward in tackling the common challenge of coordinating environmental research and monitoring in the Sahtú Region. Participants gained a better understanding of the mandated roles and responsibilities of each organization and how the system all fits together. Furthermore, participants put faces to the names of organizations scattered as far apart as Colville Lake, Calgary, Yellowknife and Ottawa. By the end of the three days, it was clear that everyone who had gathered together brought a genuine willingness to work together to improve research and monitoring, and to prioritize the needs and voices of Sahtú people.

“I’m really happy with the way the group is kicking off, and I’m glad to meet people. - Julian Kanigan (Yellowknife)

“Hopefully we can be proactive and not too naive about what we’re doing here. We’re not here to scare anyone, especially our youth. There are a lot of questions that aren’t being answered fairly either way, regarding industry operating across the river. Some people think the world isn’t moving fast enough because of us, and that’s just totally wrong. So we’re going to fill those gaps, that’s what the Board and ?ehdzo Got’ine are doing.” - Roger Odgaard (Norman Wells)

“I’ve lived all my life here, I was born here, and I’m going to die here. Now negative things are happening, and there is an impact on our land. I know there is a way forward.” - Frederick Andrew (Tulít’a)

“I’m very proud of what we’ve come together here today to do, and how respectful all of the conversations were. It meant a lot to me from an industry perspective. I’m looking forward to seeing how this is going to evolve and being part of a really great program.” - Jenica von Kuster (Calgary)

“Looking at this wall, it was empty, but we saw it fill up day by day, I learned so much about studies and research.”
- Bradley Menacho (Youth representative, Tulít’a)



Bradley Menacho reporting back from a break-out discussion

Appendix A: List of Participants

	Name	Organisation Type	Organisation
1.	Deborah Simmons	Co-management	Sahtú Renewable Resources Board
2.	Michael Neyelle	Co-management	Sahtú Renewable Resources Board
3.	Beatrice Kosh	Community member	Tulít'a community
4.	Helen MacCauley	Community member	Tulít'a community
5.	Leon Sewi	Community member	Tulít'a community
6.	Roderick Clement	Community member	Tulít'a community
7.	William Horassi	Community member	Tulít'a community
8.	Julie Lennie	Elder	Tulít'a community
9.	Andrew John Kenny	District Land Corporation	Déljñę Land Corporation
10.	Dolphus Baton	District Land Corporation	Déljñę Land Corporation
11.	Edwin Erutse	District Land Corporation	K'asho Got'jñę District Land Corporation
12.	Sally Horassi	District Land Corporation	Tulít'a District Land Corporation
13.	Nancy Norn-Lennie	Education	Aurora College
14.	Dawn Widow	First Nation	Tulít'a Dene Band
15.	Frank Andrew	First Nation	Tulít'a Dene Band
16.	Geneviève Carr	Government of Canada	AANDC
17.	Marie Adams	Government of Canada	CanNor-NPMO
18.	Julian Kanigan	Government of Canada	CIMP-AANDC
19.	Loretta Ransom	Government of Canada	Environment Canada
20.	Andrew Applejohn	Government of the NWT	NWT Environment and Natural Resources
21.	Jeff Walker	Government of the NWT	NWT Environment and Natural Resources
22.	Nicole McCutchen	Government of the NWT	NWT Environment and Natural Resources
23.	Todd M. Paget	Government of the NWT	NWT Environment and Natural Resources
24.	Sandra Marken	Industry	ConocoPhillips Canada
25.	Jesse Tigner	Industry	Explor
26.	Jenica von Kuster	Industry	Husky Energy

	Name	Organisation Type	Organisation
27.	Charles Oudzi	Land Corporation	Ayoni Keh Land Corporation
28.	Natanda Oudzi	Land Corporation	Ayoni Keh Land Corporation
29.	Gary Yakeleya	Land Corporation	Fort Norman Métis Land Corporation
30.	Roger Odgaard	Land Corporation	Norman Wells Land Corporation
31.	Brenda Pierrot Ts'eleie	Land Corporation	Yamoga Land Corporation
32.	Jimmy Dillon	Renewable Resources Council	Déljñę Renewable Resources Council
33.	Patricia Manuel	Renewable Resources Council	Fort Good Hope Renewable Resources Council
34.	Norman Hodgson	Renewable Resources Council	Norman Wells Renewable Resources Council
35.	Frederick Andrew	Renewable Resources Council	Tulít'a Renewable Resources Council
36.	Roderick Yallee	Renewable Resources Council	Tulít'a Renewable Resources Council
37.	Valerie Erutse	Renewable Resources Council	Tulít'a Renewable Resources Council
38.	Katelynn Bernard	Youth	Aurora College
39.	Tamara Bernarde	Youth	Aurora College
40.	Connie Modeste	Youth	Déljñę Renewable Resources Council
41.	Gerald Pierrot	Youth	Fort Good Hope Renewable Resources Council
42.	Edward Leblue	Youth	Norman Wells Land Corporation
43.	Bradley Menacho	Youth	Tulít'a Renewable Resources Council
44.	Gilbert Turo	Youth	Yamogah Land Corporation
45.	Daniel T'seleie	Youth	Fort Good Hope

Appendix B: Workshop Agenda

Environmental Research and Monitoring in the Central Mackenzie Valley: Workshop to develop a mechanism to coordinate plans and activities

November 5-7, 2013 – Tulít'a

DAY 1 - Tuesday November 5

- 9:00 am Feeding the fire ceremony and welcoming remarks
(joint opening with Health & Climate Change workshop)
- 10:00 am Workshop background and objectives
- 10:15 am Introductions by participants
- 10:30 am BREAK
- 10:45 am Organizational mandates and roles, and hopes for workshop
- 12:00 – 1:00 LUNCH – NFB film *The Last Mooseskin Boat*
- 1:00 pm What does environmental research and monitoring involve? (small group discussion, then report back)
- 2:15 pm Goals of coordination (full group discussion)
- 3:15 pm BREAK
- 3:30 pm **Wildlife and wildlife habitat:** past, present and future research
- 4:45 pm Summary and wrap-up
- 6:30 pm (after dinner) Storytelling and drumming workshop at arena

DAY 2 - Wednesday November 6

- 9:00 am Recap of Day 1, overview of Day 2
- 9:30 am **Surface and ground water:** past, present and future research
- 10:45 am BREAK

11:00 am	Harvesting, the traditional economy and other socio-ecological investigations: past, present and future research
12:00 – 1:00	LUNCH – <i>Option to visit Ice Patch study exhibit at school gym</i>
1:00 – 2:30 pm	Dene and Métis ways of knowing the land
2:30 pm	BREAK
2:45 pm	Cumulative effects research and monitoring: past, present and future research
4:00 pm	Discussion of lessons learned and ideas for improvement in coordination
4:45 pm	Summary and wrap-up
5:30 pm	Feast and drum dance

DAY 3 - Thursday November 7, 2013

9:00 am	Recap of Days 1 and 2, overview of Day 3
9:30 am	Coordination roles and responsibilities (breakout groups)
10:30 am	BREAK
10:45 am	Tasks and action items
12:00 – 1:00 pm	LUNCH
1:00 pm	Two workshops report back to each other
1:30 pm	Tasks and action items (cont)
2:30 – 3:00 pm	Wrap up and next steps