

**Report from the Sahtú Environmental Research and Monitoring Forum's
Annual In-Person Meeting and Workshop
January 26-28, 2016
Yellowknife, NT**

Prepared for the Sahtú Renewable Resources Board
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Introduction

Background

The Sahtú Environmental Research and Monitoring Forum was initiated in 2013 to support environmental research and monitoring by providing a venue for discussing plans and accommodating the priorities and traditional knowledge of Sahtú communities. Through fostering communications between forum members, which include community, regional, territorial and federal government representatives as well as industry representation, forum members hope to ensure that “environmental monitoring and research programs and projects in the Sahtú are coordinated and conducted in ways that reflect regional and community priorities, engage communities, value both western science and traditional knowledge, and support wise decision-making.”¹

Over January 26-28, Forum Members met in person for a three day meeting to discuss past, current and future research programs and priorities. Several guests were invited to present during the three day meeting in order to convey information about existing government and industry research programs that speak to, or partially speak to the research and monitoring priorities that have been identified by forum members to date. The meeting also included fulsome discussion about the forum’s future priorities and directions.

Report Structure

This report has been written to summarize the content of the meeting and to highlight specific themes and calls to action that emerged from the discussions. The report is therefore written in two parts. Part 1 includes brief summaries of guest presentations and includes a summary of the discussion, questions and answers that followed each presentation. Full presentations, where available, can be downloaded from the SERM portion of the SRRB website. Part 2 of the report highlights the principle themes that emerged from discussions during the meetings as well as specific calls to action and next steps for moving forward.

Meeting Agenda and Participation

Holding the meeting in Yellowknife presented the opportunity to hear from many guests who were able to update the forum on their activities. Although this left less time for discussion and planning than originally anticipated, it did help to inform Forum members about many relevant projects and programs that can help to

¹ Sahtú Environmental Research and Monitoring Forum Terms of Reference

inform the Forum's direction and that can better resource Forum members to identify research gaps and help to prevent duplication of efforts. The final meeting structure is roughly depicted here:

Tuesday, January 26, 2016

Morning session - Forum in review and general research presentations

- 8:00am Coffee and mingling
- 8:30am Opening prayer, Welcome, introductions, review meeting purpose and agenda (D. Simmons)
- 8:45am Annual recap. *Discussion led by C. Wenman and S. Morgan with all Forum members and other guest participants.*
- How we got started
 - Key contributions over the past year
 - Cross cultural research camp (Shauna)

Research in Focus – Guest Presentations

- 9:15am Krista Chin, Cumulative Impacts Monitoring Program
Cumulative impacts of disturbances on the aquatic system in the Central Mackenzie Valley – research update
- 9:40am Karen Dunmall, Fisheries and Oceans Canada
Connecting salmon, temperature and eDNA in the NWT
- 10:20am Break
- 10:35am Thom Stubbs, Headwater Strategy Group
ALCES as a tool for assessing cumulative impacts of development scenarios

Afternoon session – Caribou Knowledge

- 11:15 Jean Polfus, University of Manitoba; Leon Andrew, ʔehdzo Got' ɪnɛ Gotsé Nákedɪ;
Frederick Andrew, ʔehdzo Got' ɪnɛ Gotsé Nákedɪ
Boreal Woodland Caribou Genetic Research
- Noon: Catered lunch
- 1:00pm Paul Wilson, Trent University
Potential research with mountain caribou and barren-ground caribou
- 1:45pm Micheline Manseau, Parks Canada, University of Manitoba and
Emily Frances, University of Manitoba
Proposed Mountain Caribou work

- 2:15pm Break
- 2:30pm Karin Clark and Jan Adamczewski, Environment and Natural Resources
ENR updates on caribou research
- 3:15pm Mike English, Colin Robertson and Nick Wilson, Wilfrid Laurier University
Snowpack implications for caribou
- 4:00pm Joanne Stassen, Independent Consulting
Communications about Blue Nose East caribou management
- 4:15pm Questions and dialogue
Looking forward
- 4:45pm Close for the day and overview of Wednesday agenda
- end ~ ~5pm ~

Wednesday, January 27, 2016

Majority of day --- Towards a Regional Research Strategy

Objectives

- Develop a shared vision for a Sahtú Regional Research Strategy
- Using a straw dog from which to facilitate discussion, collaboratively brainstorm content for sections of the Strategy.

- 8:00am Coffee and mingling
- 8:30am Prayer, Introductions, review agenda for the day
- 8:45am Debrief exercise from previous day
- 9:30am Thom Stubbs
ALCES as a tool for assessing cumulative impacts of development scenarios
Best of Both Worlds
- 10:00am Julian Kanigan, Cumulative Impact Monitoring Program
CIMP approach to strategy and priority setting
- David Livingstone, Wilfrid Laurier University Partnership and Tsá Tué Biosphere Reserve

Research Agenda in Context – related initiatives – WLU and Tsá Tué Biosphere Reserve

- 10:30am Break
- 10:45 Overview of example Research Plans, Strategies, State of the Knowledge Reports and Vulnerability Assessments
- What can we learn from elsewhere?
 - What are relevant initiatives in Sahtú?
 - Developing a shared understanding of terms
- 11:00 Sahtú Regional Research Strategy
- Purpose and objectives
- Brainstorm and discussion

Noon Catered lunch

Early afternoon --- Research in Focus 2

- 1:00pm Gabrielle Slowey, York University
Pressing Pause: Conversations and Co-development of Research questions about Shale Development in Canada
- 1:30pm Suzette Montreuil and Karen Hamre, Alternatives North
Economic Futures in the Sahtú Region: A Discussion Paper on Building a Balanced Economy

Towards a Regional Research Strategy, continued

- 2:15pm Sahtú Regional Research Strategy
- Purpose, objectives and principles
- Brainstorm and discussion, continued
- 2:45pm Break
- 3:00pm Sahtú Regional Research Strategy
- Working with the “straw dog”, Sahtú Research context
- 3:45pm Sahtú Regional Research Strategy
- Working with the “straw dog”, Cross-cutting themes
 - Involving youth: Sahtú Youth Network update (Daniel and Ted)
- 4:45pm Close for the day and overview of Wednesday agenda
- end ~ ~5pm ~ ~

Thursday, January 28, 2016

Morning session --- Towards a Regional Research Strategy, continued

Objectives

- By end of day, identify which aspects of a research strategy have broad consensus
- Reach consensus on a path forward to continue elaborating a Sahtú Regional Research Strategy
- Have developed an understanding of the role of a Regional Research Strategy within broader research networks

8:00am Coffee and mingling

8:30am Prayer, Introductions, review agenda for the day

8:45am From research questions to research themes (facilitated discussion, continued)

- Examining scope and scale of questions
- How to support research that influences decision-making
- Sahtú prioritized research themes

9:30am Scale questions / geographic scope – community, watershed, regional priorities

10:00am Break

10:15am Roles and collaboration; actions, next steps; roles and responsibilities

11:00am SERM Forum Terms of Reference review

noon catered lunch

Afternoon session --- The broader research context

1:00pm Steve Ellis and Itoah Scott-Enns, Tides Canada
Tides Canada project updates

1:30pm Cristina Soto, Ducks Unlimited
Ducks Canada update and wetlands inventory

2:00pm David Hik and Christine Urban, University of Alberta
Mountain Network Centre of Excellence

2:30pm Break

2:45pm David Miller, Polar Knowledge Canada

Introduction to Polar Knowledge Canada

- 3:15pm Alice Legat, Gagos Consulting
Developing Traditional Knowledge research guidelines for the Sahtú
- 3:45pm Shelagh Montgomery, Arcadis
Sahtú Environmental Monitoring Protocol
- 4:15pm Recap and discussions
- 4:45pm Closing, and prayer

end ~ ~5pm ~ ~

Attendance list:

SERM Forum Members and Support Members, listed alphabetically by first name

- Bruce Hanna, NWT Environment and Natural Resources
- Cindy Gilday, Sahtú Secretariat
- Daniel T'Seleie, Sahtú Youth Network Coordinator, SRRB
- Frederick Andrew, ʔehdzo Got'ine ʔotsé Nákedı, (SRRB)
- Gordon Yakeleya, Tulít'a ʔehdzo Got'ine (RRC)
- James Caesar, Fort Good Hope ʔehdzo Got'ine (RRC)
- James Hodson, NWT Environment and Natural Resources
- Jennie Vandermeer, Environment and Natural Resources
- Jimmy Dillon, Délıne ʔehdzo Got'ine (RRC)
- Krista Chin, NWT Cumulative Impact Monitoring Program
- Leon Andrew, ʔehdzo Got'ine ʔotsé Nákedı (SRRB)
- Lesley Allen, ʔehdzo Got'ine ʔotsé Nákedı
- Roger Odgaard, Norman Wells ʔehdzo Got'ine (RRC)
- Ted Mackeinzo, Youth Representative, Sahtú ERM Forum
- Walter Bayha, Délıne Land Corporation
- Tejas Kashyap, Industry Tourism and Investment

Facilitation / Note Taking

- Deborah Simmons, ʔehdzo Got'ine ʔotsé Nákedı
- Christine Wenman, PlanIt North

Guests and/or presenters

- Alice Legat, Gagos Consulting (Thursday afternoon)
- Brian Sieben, Environment and Natural Resources
- Christie Urban, University of Alberta (Thursday)
- Cristina Soto, Ducks Unlimited
- Colin Macdonald, Northern Environmental Consulting and Analysis

- Colin Robertson, Wilfrid Laurier University (by conference call)
- David Livingstone, Wilfrid Laurier University Partnership and Tsá Tué Biosphere Reserve
- David Hik, University of Alberta, Canadian Polar Commission (Thursday)
- David Miller, Polar Knowledge Canada, Northern Coordinator
- Gabrielle Slowey, York University
- Itoah Scott-Enns, Tides Canada (Tuesday)
- Jan Adamczewski, Environment and Natural Resources (Tuesday)
- Jean Polfus, University of Manitoba (by conference call)
- Joanne Stassen, Independent Consultant (by conference call)
- Karin Clark, Environment and Natural Resources (Tuesday)
- Karen Dunmall, Fisheries and Oceans Canada (Tuesday, Wednesday)
- Karen Hamre, Alternatives North (Wednesday afternoon)
- Mike English, Wilfrid Laurier University (by conference call)
- Micheline Manseau, University of Manitoba (by conference call)
- Nick Wilson, Wilfrid Laurier University (by conference call)
- Nicki Sharma, Donovan and Company
- Paul Wilson, Trent University (by conference call)
- Shauna Morgan (Tuesday morning)
- Shelagh Montgomery, Arcadis (Thursday afternoon)
- Steve Ellis, Tides Canada (Thursday)
- Suzette Montreuil, Alternatives North (Wednesday afternoon)
- Thom Stubbs, Headwater Strategy Group

Annual Recap

Discussion led by C. Wenman and S. Morgan with all Forum members and other guest participants.

- How we got started
- Key contributions over the past year

For Intro:

Preamble:

- what was happening + why did it happen?
 - In communicating (?) scientists + Dene + Metis people in the room
 - I was also lost! Frequently
1. celebrate accomplishments → manage scientists How (?) (?)
 - finding own way to understand what was being said
 - validating/ resonated?
 2. Scientists' stories validated through graphs (hard to understand for anyone)
 - that's the way that they're (?) trained, need more training
 3. Dene people are way better at explaining + have always had to be in a colonized environment

- disagree? Thorough on how we've (?) this?
- 4. Build understanding
 - and a plan to deal w/ this challenge
 - (?)
 - (?) (?)

Mandate

WKSS:

- had funding pot
- providing funding
- facilitating partnerships for priority research & monitoring projects
- prioritized studies that contributed to cumulative efforts
 - o indicators
 - o thresholds
 - o carrying capacity
- include TK (?) + (?)
- encourage building of capacity at community + organizational level
- information (?)
- info really available for decision-makers + public

BREA- seller preposed for oil + gas

1. (?) regional information + data gaps related to offshore activity

Commented [CW1]: Does this go here?

- Anyone who attended (?)
Roger backing up (?) I go home - I have to report to (?) on what is going on
→ intense and hard → need to have an education to explain, hard to explain
- Some of biggest problems back home are always
 1. consultation
 2. participation

Evolved to environmental monitoring and research forum

hard to explain (?)

1. in 2013 - when Bradly was (?)
Tulit'a - our concerns were (?) (?)
- all the concerns came from us → initiating and reports are building on our concerns, so "I (?) Shauna and Deb"
 - two things that are really important
 1. who you are representing
 2. who is working with you - participation

Everyone has to come forward with

NEXT PAGE

- disconnect is when this isn't going on

- both worlds need to understand the (?) concept
- in regards to camp – awesome
 - o (?) we bring young people in and show them what’s been going on ____
- intimidating to walk in the room and it’s a room full of scientists and researchers → (?) people away
so the real important thing is **participation** and **communication**

RRC – my (?) too scientific to fall short of that and is a challenge how to report back and my RRC → (?) and (?)

- monitoring (?) and getting (?)

- totally different perspective – Cindy Gilday
 - (?) Forum
 - at the time there was a lot of internal fighting (?) fracking – SSI asked her to look at files
 - o 20 years (?) human consumption of wild animals and contaminants but land really (?) Dene areas
 - (?) who is doing what, where? → there was little networking connecting going on and huge problem because of [NEW PAGE] ability now exists to take miniscule DNA (IE. EDNA) “photocopy” it to (?) analyse → so where are fish ≠ where are they caught?
1. How to (?)?

NEW PAGE

Community concern around fracking. SSI (?) in 4(?) alone (?) of Sahtu land
Claims do we have legal responsibilities
 → so (?) this can (?)
 → too many (?) → (?) is fracking (?) knowing what underground work looks like
 → (?)
 (?) 2013 → people came together (?) → Christy was there (?)
 Cindy – suggests value for (?) **now** is coming up with (?) strategy that can (?)
everybody
 Pilot – **Brian** (?) – human monitoring (?) in Sahtu. He came to cultural camp, he said it was a real eye opener
 Andrew (?) in support

- (?) stepped forward, good sign
- (?) things
- (?)

Commented [CW2]: Does this stuff go here?

- 560- chem(?) salmon
 - o map shows location right Hay River(?) to Slave River from this (?) slo is larely salmon not necessarily the an?
- Jimmy Dillan → asked where they came from
 - o Asks (?) Eileen say that like caribou
 - o Don't know what fish went through in the past where are they coming from
 - Is there something they are getting away from?
 - Fish cand(?)d how good are they?
 - How can we know if we don't know where they are coming from?
- Salmon is (?) some change
- Very hard on fish to get used to freshwater → put all their energy into their eggs & they die
- (?) places where salmon frequent
- JD: we asked old people if they had ever seen salmon
 - o General consensus: a lot of salmon in river
 - o Chem(?) salmon – more frequent

Andrew:

- 90yo(?)
- remembers catching some as a boy w/ his father

NEW PAGE

If you wash them (?)

- contains things, they will do it ex. (?)
- you change them to go for steepest part difficult they will do that (?)

- pink salmon also v interesting, people don't remember a lot of pink salmon at the bump how long ago; only r ecently are they showing up
 - o even years (?)
- Mackenzie River system strictly same pattern as Yukon
- Don't eat (What do they eat??) → stomach are empty- all energy into swimming
 - o Another recently died

- compared salmon DNA to global DNA to see where they would match
- red dots on sides & (?) represents where they (?) their de..(?)
- (?) has (?) (?) 2yo = 2 (?)
 - o Sept at F + O were following herring from Alaska
- Has been looking at patterns fo whitefish
- Suggestion that there is a spawning population of salmon
 - Golden perch → Roger was catching here in Mackenzie @ (?)

- tagging is like needle in a haystack

- Mackenzie is HUGE
- **And** salmon are only rarely hunted

NEW PAGE

- Exceptional years --(?) population
 - Low level → closely related to Alaska populations
- Something (?)
 - 70%
- something is (?) allows salmon to come around the Mackenzie
 - quicker ice thaw time
- Roger: maybe already seen there is reporting?
 - Roger through #s of stocks were dwindling
- Leon—migration route
 - (?)
 - can they colonize new places??
- Places do exist: fish know where to go [[mostly (?)]]
 - Bell trout & Dolly (?)
 - (?)
 - (?) – lay eggs
- In Alaska they co-exist – not recently, going to outcompete
 - Will depend if spawning places are limited—water temperature
 - Bell trout & Dolly (?) → 3 – both bell trout & dolly (?); bell trout; dolly (?)
 - is temp apparent(?) if they show up?
 - water temp
 - incubation happens in winter when only (?) can (?) is groundwater + very cold

NEW PAGE

- (?) now exists to take miniscule drift
 - ie in DNA + “photocopy” it to (?) to analyze
 - so where are fish =/= they caught
- How to collect??

ALCES as a tool for assessing cumulative impacts of development scenarios

Thom Stubbs, Headwater Strategy Group

ALCES as a tool for assessing cumulative impacts of development scenarios

Best of Both Worlds

Thom Stubbs

CIMP approach to strategy and priority setting

Julian Kanigan, Cumulative Impact Monitoring Program

Pink Pages:

Julian → Manager, cumulative Impact Monitoring Program, originally from N Vancouver, 15 yrs

- cartographer before this
 - o (??), terrain scientist
- Krista has toned the tasks + becomes my boss for a couple for weeks each summer
- **CIMP**- Environmental Monitoring program
- Steering committee- ARI on committee for work from MURMA
- One of the first ways that we set a priority is with the steering committee → decided to focus on biophysical not socio-economic
- Differences—CIMP-territorial in scope vs regional
 - o Some ways (??)- fewer divergent issues
- Cumulative effects/ env. Trends because of legal mandate

PAGE 2

Questions—how to weight what people say

1. whose priorities are we trying to reflect?
2. Who needs to be at the talk? + how are people at the (?) communicating with the people that they represent

Objective:

KEY - worked to get away from passively accepting

- difference actively knowing + asking for what you want
- subject matter expert, key (?) -makers → identified research + Monday themes + Friday gaps

Projects aren't static

Ex/ with boom in (?), needed info + mke decisions now

- now can take wider look

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- when asking for expert, considering (?) v useful but need to take a step back + (?); scientists have their own passions + agendas
- problem with approach
 - o takes a long time to develop the research approach
 - o PERD- checklist of water priorities → this took two years so this can take a while
- Summary recommendations:
 1. right people at the table

2. agree to process
3. review priorities regularly—sometimes don't get product for 8 years

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Gordon → mention priority like fish, caribou, water

- what about other priorities like moose?

JK → projects can be broader because more (?) have implications for caribou

Gordon → RRC want to look at how we can make sure that we provide (??) to our Elder so that we can ensure that they have a healthy diet

GY → yes, communicators need to set priorities

- have to be involved in process because when results com in want involvement but we can't understand It
- recognizes (??) document

**CIMP almost all (?) projects have (??) + require plain language reporting

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(?) is alternative for Cindy on (?) - NCP + CIMP and training a student who is studying geography from (?) + CBC

- struggling with (??)
 - o limited priorities—set before Andy was there
- so priorities are ongoing debate
- MURMA- (?) mandate in in (?) land claim agreements + now (?) interested lands (?)
- MOU-ISR- go up there because they know how to do things in Sahtu we have been really disorganized
- Over the years Aboriginal representatives have (?) really (?), you (MURMA) rewire participation but all administration went to feds (GNWT) + has never provided funds to Aboriginal participation
- Finding Aboriginal participation + admin+ training never funded

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- so young person (?) forum- caribou SSI funds
- MURMA changes- wanted terms changed and valued component

James Caesar → weren't made, want to see more holistic approaches

TK proposal guide; by right should be half and half

- o → community-led priority entirely with more holistic view

DS → one of the things that happened strategically thinking a synthesis of work that has been done would be really helpful

- JK did bring that idea forward, didn't make it through steering committee

JK → over past 5 years, Sahtu has been a real priority; Sahtu takes biggest piece

DS- Deline + (?) both part in unsuccessful (?) – how do they learn for reports? How do they get feedback?

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Other action—working with RRCs(?) to get feedback from CIMP proposal

JK- was higher chance to get funding if you put it in even 1 week before + you can get feedback ahead of time

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R.O → human resources + human capacity

- RRC are least funded organization in the community with (?) responsibilities
- (?) + (?) that we are mandated to create with (?) (?) → {programs/reviews}
 - o statement on paper from Forum
 - o interagency partnering to fill gaps
- maybe we should be (?) employees
- how can GNWT employees help with capacity
- we have to do something about it! → proactive
- need HR + make big collaboration → more data on paper
- 1 more youth to (?) beside us—youth forum should be here

Funding → Andrea(?) MC(?)

- 222-(?) + caribou
- talk about having checkpoint at Kiele River
- very important to (?) ; need to know how (?) (?)

Action:

- for tomorrow have this reflected in our Terms of Reference

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5 year environmental review

Cindy made (?) (?) for them that work had to be done

→ one point was too much was spent in Sahtu region but driver was (?) + lack of information

TK- GY –are people getting proposals with this attached?

JK—yes because we’ve emphasized it more; has to be community driven

- proposals this year about developing TK indicators of change

Research Agenda in Context – related initiatives – WLU and Tsá Tué Biosphere Reserve
David Livingstone, Wilfrid Laurier University Partnership and Tsá Tué Biosphere Reserve

Pressing Pause: Conversations and Co-development of Research questions about Shale Development in Canada
Gabrielle Slowey, York University

Economic Futures in the Sahtú Region: A Discussion Paper on Building a Balanced Economy
Suzette Montreuil and Karen Hamre, Alternatives North

PAGE 3

Commented [CW3]: Do these notes fit here?

Examples of biome replacement

→ gave example of wood chips

- forestry was chosen as example because question of actual potential

Tommy examples

- jobs can be higher paying if locally owned
- even though talking about local economies, looking at international (?)
- discussion across territory re: renewable energies. Ex/ (?) solar project in Colul? Lake
 - o questions about how else it is being tracked to learn from other communities
 - o so need to get data + ability to keep up with other technologies
- “Contamination(?) of resources” used in report to mean jobs related (?) (?) as another form of income replacement D.S. ex/ of snowmachine sent south for fixing
- steps to fostering local economy
 - o metrics; GDP== have to be careful, pollution is good for GDP= how do we want to measure a successful economy
 - o Research + Monitoring Plan
 - How can that be used to think about what a healthy community looks like?
 - Can think about what kind of indicators you’d like to use
 - What kind of economy do you want
 - What are the terms?

Caribou Knowledge

Community-based caribou genetic research in the Sahtú

Jean Polfus, University of Manitoba; Leon Andrew, ʔehdzo Got' ɪnə Gotsé Nákedı
Frederick Andrew, ʔehdzo Got' ɪnə Gotsé Nákedı

Jean – role →

- Leon – share traditional knowledge and tools with Jean
- Frederick Andrew - (?) partner (?) caribou poop and DNA

→ will be jumping in to speak re: → (?) being collaborations

Frederick / Jean

- **North Slavey writing** – means working together, we are stronger working together

Language is **obvious** starting point

→ environment, wildlife...

language → **categorizing** animals and plants is (?) human undertaking

also words for hunting (?) (?) (?) [patterns of species]

- A lot of these words (?) translating in (?) species
- Because aboriginal language
- (?) patterns of biodiversity - phenotypes(?) NA (?) (?) (?) (?) (?)

NEXT PAGE

(?) **diverse** with the landscape that they (?)

- (?) **antler** shape
- between Alaska and Canada
design (?) units
DU → for endangered species but DU keep being challenged and concerned
- aboriginal people's languages

+ need to use all approaches and understanding but system has valued (?)

- (?)
2012 RRC's → resolution renewed commitment for caribou management →
(?)

Dialects – have to be careful

Shutagotine dialect because (?) **working w/** as opposed to other dialects

Boreal threatened – southern range is **forestry, mining(?)**, oil and gas In NWT doing OK but (?) of

- some have declined or disappeared

→ some work was done in NW lab → did work with the student from high school and hired some people to

Mitochondrial

- seems to be 3 distinct groups in south
 - o did (?) ancestors come from north? Or south?

Nucleus DNA:

- 1 (?) from NW brought 130 high quality samples
- (?) collaboration is key

→ can compare unique individuals

→ so we know over the year that caribou (?) the river

- elders over 80 languages
- Tol.. ? shared (?) (?) occupancy; range distributions
 - o (?) is language pattern
 - o words wouldn't exist if they weren't important for describing the caribou
- point to stability of c
 - o local woodland caribou phenotype over time
 - consideration of northern Todzti(?)
 - may have increasingly important genetic diversity wrt northern caribou

(?) (?) of elders is f(?) (?) had heard of herd (?) ancestries

- more related to barren ground than (?)
 - o wouldn't have (?) (?)
- rigorous knowledge

NEW PAGE

Potential research with mountain caribou and barren-ground caribou

Paul Wilson, Trent University

Paul Wilson:

- mitochondrial d(?) DNA how similar or dissimilar are dDNA?
- Discover (?)
 - o Hard to understand focus on Sahtu regions – learn from Jean's approach
 - o Follow up → more phone calls
 - o Very confused →

Jimmy → focus on aprt

- What can we do about (?) (?) of today

RO: Especially (?) (?) --people don't talk about its (?) caribou

DS – to respond to Jimmy's comment

- Board meeting
 - o Is there such a thing as bluenose east + bluenose west caribou

- hearing assumes bluenose east is a distinct or unique cluster
 - so it's important to understand the relationships between the caribou
- Jean's work combines that genetic information +

Can we define herds now??

Jean – yes: Mtn, boreal, woodland caribou

- so yes at broad scale of genetic (?) we can pick up on (?) differences
- → and getting to a new + (?) scale

NEW PAGE

JP: noted that early (?)

- Jimmy's (?) + one of the things we can do is look at questions elders have like isn't it important to protect skills of their herd information + w/ more detailed genetic information we can start to look at that (?) a different lens because we can probably pick up on that (?) looking closely at the DNA

Gordon- why do we have to ask these questions?

- Every Saturday everybody who wanted to would be asked to go get meat – freezer rm
- Need to think back and look at how things used to be managed
- Takes (?) to → really need to brainstorm w/ the Elders but we aren't doing that now
- Some still living today so we can ask them
- → next generation; we have to protect it

R.O.

- I think it's our generation that's cleaning things out w/ jet boats, snow machines etc
- there was always an education (?) (?) everything today
- need to manage the caribou

Jimmy Caesar- question, (?) (?) Area

- animals migrate there b/c no development around there (?) too many would be good to see genetic (?) of animals that live there. Woodland caribou tend to stay close and not migrate from there.

JP: can speak at length about how

NEW PAGE

Proposed Mountain Caribou work

Micheline Manseau, Parks Canada, University of Manitoba

Emily Frances, University of Manitoba

Micheline:

- what we dreamed of was to look at these questions from all angles
- mainly wants to bring up a project idea
- this comes from discussion in 2012 w/ board when we talked about genetic methods to answer questions
 - o → there were a lot of questions about mtn caribou + how different populations connected to each other
- northern mtn caribou
 - o we started w/ the broader question of understanding the “lines(?)” of herd distribution
 - o how much do these ranges overlap + what does that mean for management?
- Yellow – southern mountains now listed as endangered b/c of fragmentation
- Contrast: northern ranges more intact
 - o Less fragmentation, fewer roads, etc
 - o natural fire cycles

R.O: observation that in the Nahani, there have been 7 herds identified, Micheline notes that she was (?) in that work and will speak to that

M: she notes that lines are important but dangerous

- we can think there are (?) when there is actually movement (because they aren't counting them when they expect to) so (???)

NEW PAGE

- really important
- Jimmy Caesar: my Dad spent a long time in N. Yukon + old crow + said there used to be high herds that could migrate down from N. BC, would take a long time to do the circular migration + huge migration towards Rampart(?) protected area

Leon Andrew: woodland, mtn caribou

- strongly supports doing count
- → (??) _ River, Canal Road, mines ((?))
- concern to (?) hunters

Micheline: - agrees that major questions this will help **caribou hunt?** to do with regulatory decisions

Re: (?) Prairie Creek is Nahani?

- show that some animals do v/ large scale (?) others stay put
 - o → indicates not only 1 movement pattern
- what frequency and one pattern
- someone asked if we can tell the difference b/w different (?) grand herds
 - o the longer they have been separated from each other, the more easily we can detect groups

- formulate other(?) questions
 - o larger team
 - o so if people (?) we need to ask questions, get more samples done, +

R.O: I (?) if you worked w/ (?) (?) to work w/ this project

NEW PAGE

→ all 7 (?) can be part + submitting samples, this would (?) up to (?)

Mich: if there are gaps the special collection can (?)

Jean: probably half of these samples are (?) (?) from mtn

- (?) (?) collaborate
- Heather has started telling w/ outfitters? about getting more samples
- Keele (?) is open for compare who can (?) mile 222?
 - o People can drive in + back
 - o + now (?) in mine and there will be a new (?)
- so we really need to start monitoring the river
- a lot of people are against collecting but we could try, people said no
 - o how are we going to know the #s if we don't collar them??

[Wildlife record licensing]

- process—people like Joe + Heather can help
- Important person to speak to is Joe
- I(?) this Forum

Jimmy Caesar: is Parks Canada using collaring?

- Micheline- some data? is older
 - o ~2000s – monitoring at Nahani at that time – collars
 - o + more recently a few collars deployed (?) Selwyn Road
 - o so preliminary results + to help w/ (?) Impact Guidelines

Jan- SRRB had 10 satellits collared caribou in 1990s followed for ~3 years or until they died

NEW PAGE

Identified? possibly 3 populations

1. (?)
2. Mile? 2+2
3. (?) (?)

^at least 2 (?)

Yukon many years ahead w/ mtn caribou

- lots of experience to draw on

Heather: v good biologist

- Jan- in past mtn hasn't been (?) until (?) (?)

- RR? (?), NW— (?)
- working together
-

Snowpack implications for caribou

Mike English, Colin Robertson and Nick Wilson, Wilfrid Laurier University

Mike English:

- significant (?) b/w energy (?) to high latitude
this could affect snow pack
- hypothesized: snow crust could be (?) caribou to try to get the herd
Bathurst(?) herd herd (???)
→ we're trying first cut to see if (?) is snowpack equivalent could correlate roughly
w/ collar pup #s
→ (?) couldn't
- Global circulation models
 - Can make prediction (?)

So more than access to herd

→ movement, prediction .. (???)

We can measure changes in ice to water

→ (?) is (???)

NEW PAGE

Peter Monacho—MP office

→ Ask Jim? About this more! (I

- interested in 2 wavelength don't really get it
 - my grandfather was telling me
about this—when the 1st winter
comes, you feel the cold (?) that makes (?) come
→ makes cold (?) that penetrates
makes ground cold
 - If snow comes early, water level goes low
→ another ear full (like his grandfather)
- interesting how science can say one thing + TK another
- a lot of studies indicate flood can we (?) that inter.. lack?

Leon: Mountain Dene people wasn't drink water from cracked

- (?) → did a chemical analysis + compared it w/ (?) of water to drink + Carol
drafed info + (???)
- Da..? called Globsnow?
- Ground..? satellite data w/ ground samples

Nick: modelling

- daily SWE values since 1996-2011

maps of average snow water equivalent

ME- if there is a day missing, suggests (?) in day + (?) assume there is an ice lens that has formed

NEW PAGE

- idea of forming a small winter ecotope? scenic centre
- compared (?) avg SWEs w/ caribou collars
- caribou density is broader dispersion

Pre-crash, crash, post crash

→ just helps us analyse data

1996-2003 → can locate where caribou were at time of crash

^ when collared caribou starts so can compare w/ SWE distribution

Deb: don't have collar data but satellite since 79(?)

- so could be TK? to RII? that gaps

Jimmy Caesar- 1979

- has it been crossed with

observed this year- snow was soft & watery

- (?)
- this warm period → snow pack went down to (?) – caribou at home were just north of Colulle Lake but then they didn't come any further south so Tommy was wondering if that was why they didn't come south

Peter

- snow + density
- climate change has to do w/ this problem
- so is this (?) that we are going to be seeing more (??)?

NEW PAGE

Deeper snowpacks (??)

- trees & (??) of snow in trees
- so caribou go into the trees to eat

JD: people..?

- Jimmy observed (?) in trees?
- Yes, but they think it is because of (?) not necessarily snow
- caribou travel together (not clear they hear noise then they disperse)

R.O: what kind of snow do caribou like?

- of course they like crystal snow (not ice)
- this seems (?) to Roger
- is really deep snow wolves can run right up to (?) and eat them

Jimmy: example is snowshoe – once deep snow

Colin Robertson → spatial modelling

- Northern- used more in first time period than second period
- But (?) consideration also
- Also (?) – herds decrease, herds stay close together
 - o So no certainty that snow packing is causal
- need to update from new data
- weren't part of analysis per se but there for (?)

NEW PAGE

- and the (?) on that can calculate a cost?
- when looking at related predictors for Bathurst
 - o (?) (?) stall herd growth
- vs future high → decreased herd growth
- spring temperature is predicted higher temps with higher growth of the herd (depressed w/ lower spring)

results—can start to ask questions

- (?) why?
- Maybe earlier (?) of nutrition veg..

So next steps: contributing using (?) model

→ the contract (?) + preferred to apply for (?) herd + ← proposals

WWF

- feedback has been really needed to talk to people to (?)

Gordon:

- really wasn't to look @ (?)
- not comfortable talking about caribou so much

Frederick:

- I notice last 30-40 yrs lots of climate warm, fires out of control and they just leave it like that, (?) habitat (?) out together ← elders never (?)
they don't come back for 40-60 yrs
- Muskox + (?) questions about what could be affecting caribou populations

NEW PAGE

DS: we will work on that this year w/ more time
GY: caribou hear as...

ENR updates on caribou research

Karin Clark and Jan Adamczewski, Environment and Natural Resources

Commented [CW4]: Any notes from these guys?

Jan → spring → how many young make it to 1 year of age (as ratio)

- (?) Caribou cycles and (?) trends
- ratios drop, ex 2006
- only 9 calves per 100 in late winter
- if not a lot of young ones are making it then the herd can only be declining
- then (?), then lower

Someone named (?) Chan

- used satellite imagery
- you can create long time trends
- compare (?) at summer range productivity
- low summer feeding= poor (?) conditions
 - o = low calf (?) ratio 15 yrs later!

1979-2014:

- drought index in July
- 2014- (?) drought (?)
 - o summer reg range wouldn't grow well, poor feeding
- (?) we did
 - o (?) (?) year we saw a lot of cows that weren't pregnant
- it's a good indicator of only (?) (?) might not be good for herd

NEW PAGE

Another one= (?) this

- can (?) (?) (?) over time
- 2014- all time high
- snapshot but what we've asked this group to do is to put together weather data to map trends over time
- summer indices
- → (?) do more (?) picture
 - o (?) (?)

Don has promised a short report on trends → pass that along in the next couple of months

Communications about Blue Nose East caribou management

Joanne Stassen, Independent Consulting

D.S: communication is key + difficult

- Joanne started, was hired by (?) to help w/ communications work
- Joanne (?) from CBC so working independently
- Normally in YK but is in Ontario this year for family reasons

Communications challenges that Board faces:

- esp Deline plan
- new + important
- Bluenose east- incomprehensible especially to media
 - o Large + complex process to come to terms with
 - o (?) approach (?) really up

NEW PAGE

Identified barriers + opportunities

- Board + RRCs
 - helper to RRCs and Board is (?) maker is public interest
 - = clear communication strategy important

* In territory not a lot if people who specialize in wildlife reporting + high (?) w/ media people in North

* And terminology isn't always understood

→ so how can we address these challenges??

DS: (?) idea that we are always (?) of story we are telling + how it can be understood

Thom: DNE + Bathurst + (?) meets allocation ?
(?)(?)

→ group agreed as top 5 communication **prices?**

- will agree on messages so they aren't con..? by each other
- JS → imp when trying to communicate cemeters?

CH: lack of public awareness includes CBC → part of role of board

NEW PAGE

Sahtu region only has 2 members on Board! (includes (?) + Canada reps!)

- awareness campaign around understanding make up of the (??)

TS: agrees + journalists struggle to do their homework

- if you have an idea about communication, can email her directly

Questions and dialogue

Key take-homes from caribou discussions:

Jimmy Caesar- caribou research → presenter should be in-person yesterday was awful; they said we'll get back to this and then they never did

- Mind down in technical problems—better jobs on presentation
- (?)
- want to know what is really going on so we need to go back to traditional knowledge holders—communication has to be there

Cindy—really drilling down

- legends tell that people have spirit of caribou—can't c(?) into head and spirit of caribou
- Jan's presentation → what is happening with environment that is influencing the caribou + talking about it

Mar 1-3 hearing Bluenose East caribou

- super important that knowledge is part of decisions
- Christopher + Colin → help make a story that gets received by Forum re: knowledge that is important to the (??)

Ted- cool to see hundreds of caribou walk by cabin + now that got others up (?) to each (?) 10, so could be good to have reference (?) there

Critical (?)= caribou

Jimmy has cold - TK in by stories of caribou, animal

- stories about where caribou travel and where they will be
- why are they disappearing? Why disappearing? Now we don't know where they will be. There is something out there that Dene people don't know about + we want to know about it → Framing Question
- could be wolves in the air, whatever goes up in the air has to come down
- (??)- comes down to ground
- what makes it disappearing
- need to work together to do it

R.O: blown me away how (?) Jimmy is

- all had a (??)
- caribou is a concern for youth too—pop in (??) about

POP- (?) or caribou? Toxicity study?

Allie TK - must be food

JD- example in Deline- disappeared for 30 years after they came back there was so much food there

- listening to what is happening today

Gordon:

- (?) (?)
- used to go out to _ lake—went to w/ snow that (?) (?) – too much water.
- I know already (?) + animals also know that how they survive + how we survive
- Community needs to lead on all of this
- Caribou mammal where (?) (?) - Dave (?) has predicted this → managing the animals so keep talking about it
- We need to (?) (?) (?)

Towards a Regional Research Strategy

Objectives:

- Develop a shared vision for a Sahtú Regional Research Strategy
- Using a straw dog from which to facilitate discussion, collaboratively brainstorm content for sections of the Strategy.
- Identify which aspects of a research strategy have broad consensus
- Reach consensus on a path forward to continue elaborating a Sahtú Regional Research Strategy
- Have developed an understanding of the role of a Regional Research Strategy within broader research networks

Overview of example Research Plans, Strategies, State of the Knowledge Reports and Vulnerability Assessments

- What can we learn from elsewhere?
- What are relevant initiatives in Sahtú?
- Developing a shared understanding of terms

Sahtú Regional Research Strategy

- Purpose and objectives
- Brainstorm and discussion
- Working with the “straw dog”, Sahtú Research context
- Working with the “straw dog”, Cross-cutting themes
- Involving youth: Sahtú Youth Network update (Daniel and Ted)

From research questions to research themes

- Examining scope and scale of questions
- How to support research that influences decision-making
- Sahtú prioritized research themes

Scale questions / geographic scope – community, watershed, regional priorities

Roles and collaboration; actions, next steps; roles and responsibilities

SERM Forum Terms of Reference review

D.S- communities carry on as though it is life as usual

- community folks wanted to look at what sustains the region
- through the booms & the busts?
 - o Jenny's mom, Jane worked with SRRB and partners with the language part
 - o Investigating a health mixed economy
 - o Not enough grounding on traditional economy
 - o Recommendation → proactive impact (?) agreement → how can these support the traditional aspect of the economy

Next steps → Than? + Deb—best of both worlds- Sahtu economu

1. call on (?) to see how it helps
2. Sahtu leaders have been talking about the need for an economic strategy
3. Making time to discuss it and talk about next steps
4. Being healthy—arts and crafts economy

*What would you like a regional strategy to achieve?

Ex/ (?) (?) this strategy now & we are able to successfully implement, what will have been achieved in 10 years time?

2. Who do you want this strategy to (?) and how?

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Peter:

- template- what can we use to bring the balanced approach
- what been said- beyond economic decisions?
- At least there is something out there that protects us...
- What is the next step?

Cindy Gilday

- one version is how this group came into focus
- I developed a rationale for SSI to be involved
- Went to NCP + CIMP to collectively support a workshop. I wanted a full picture of what is the research? → want a full picture

Mandate of SRRIs → environment + research SRRIs itself has only 2 Sahtu reps + GNWT + Canada

But here all communities represented

- so really important to
- so we need to focus on research + monitoring
- centring strategies to SSI Board but for now think I need to be more (?)

then if SRRB Board wants to table this, that is the place to foster their discussion
Cindy- not my mandate, so I asked to step back

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GY- needs to go to community

- (?), Deline, picture before going to SOI
- so much breakdown in communication
 - o surveys- what TULita wants to do

Former Mayor of Tulida, Gordon Yakela..?

- community to put down what their ideas are

Leon Andrews: from my perspective in the Sahtu, we are all in the same boat.
Challenges are there. If we are going to get support there we should start with SSI,
then come down to community level

- need to approach government & better education

James Caesar:

- (?) shale oil was going on
- (?) did not participate → we were very interested in the kinds of effects downstream
- study of why education levels are so low
 - o though he had graduated in gr. 12 but it was gr. 9 because of ECE policies and targeting menial jobs

Blue pages

PAGE 1

Research Strategy Brainstorm

Youth

- lack of training/education
- poor literacy skills
- industry coming in & (?) etc, there is attention to getting certified
- education system is lacking
- there are efforts to involve youth, but they are still not involved enough
- youth voice there

PAGE 2

Jimmy

- economic measures, disadvantaged because young people don't have same education as others
- lower standard for education

- if there's economic development we can't defend ourselves because we are not educated to speak the language
- we can't understand the way companies talk about things
- we need equal education with other people in Canada
- needs to be priority

PAGE 3

- young people come out of school but only have grade 9 or 10 so can't go to post-secondary
- so just end up hanging around

Frederick

- teachers in Tulita, education system needs to have strong policy that teachers
- some students take time off & then don't end up going back even with only one semester left

PAGE 4

- some teachers in Tulita for 15 years
- they like teaching less kids in small communities
- they also like it because they don't have to teach as well
- they need policy change to make sure they are properly teaching kids
- like Frederick can live in both worlds, nowadays young people really need a proper education to have strong voice
- to stand up to industry

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- education is priority
- by time industry is booming it is the young people who will be dealing with it
- needs to teach youth their own language
- technology is interfering with this, need to get them away from technology

PAGE 6

Jimmy

- youth need to know how elders lived and did things
- also need to know how (?) way works
- two ways (of knowing, etc) makes one strong voice

Gordon

- community used to work together & be powerful
- with out money
- now with money industry & govt uses divide & conquer

PAGE 7

- contractors all bidding on things
- there are other ways to do things where everyone benefits
- then business people get mad at each other, divide & conquer

Jimmy

- education centre has to be out on the land

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James

- this type of stuff should be included in research strategy
- high cost of living, has been increasing
- people never used to depend on fuel
- efforts where to feed their dogs
- used dogs for trapping/hunting, means of production
- people had to be skilled at making snowshoes, cutting wood, etc
- socio-economic aspect of research is important

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- people talk about traditional way of life disappearing
- how can we go back to traditional economy with low fur prices, mortgages, etc

Jimmy

- youth need two education
- if can't get job they can go back to land and survive
- very important to train youth from when they are young

PAGE 10

Ted

- has been pressured to take over Dene mapping work
- that's another way to get education
- work with researchers and bring young into academia like that
- it's important to bring youth along, experiential learning and not just talking

The broader research context

Tides Canada project updates

Steve Ellis and Itoah Scott-Enns, Tides Canada

Ducks Canada update and wetlands inventory

Cristina Soto, Ducks Unlimited

Mountain Network Centre of Excellence

David Hik and Christine Urban, University of Alberta

Introduction to Polar Knowledge Canada

David Miller, Polar Knowledge Canada

Developing Traditional Knowledge research guidelines for the Sahtú

Allice Legat, Gagos Consulting

Sahtú Environmental Monitoring Protocol

Shelagh Montgomery, Arcadis