

Kluane Research Summit 2019

Summary Report

May 30, 31 & June 1, 2019

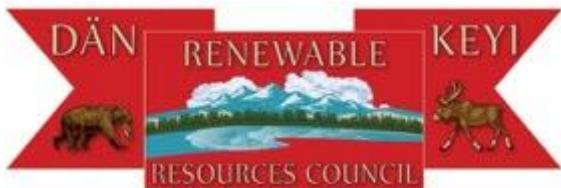
Lhù'àan Mân Keyi – Kluane Lake country

Burwash Landing, Yukon Territory



Photo by K. Wroot

Summary report by Green Raven Environmental, Inc and the Summit Planning Committee



Preface

This report summarizes the activities and dialogue from the second Kluane Research Summit, held in Kluane between May 30th and June 1st, 2019.

A copy of this report as well as the 2018 Kluane Lake Research Summit Summary Report are available on the Kluane First Nation website at:

<https://kfn.ca/documents-and-forms>

These documents can also be requested from the Kluane First Nation Natural Resources Manager at resource.manager@kfn.ca (867-841-4274 ext 236).

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Acknowledgements

The Summit would not have been possible without the dedication and attention to detail provided by the Summit Planning committee:

- Pauly Sias (Executive Director, Dän Keyi Renewable Resources Council)
- Kate Ballegooyen (Natural Resources Manager, Kluane First Nation)
- Ellorie McKnight (Yukon University/University of Alberta)
- Sonia Wesche (University of Ottawa)
- Brian Horton (Yukon University)
- Sandra Johnson (Dän Keyi Renewable Resources Council)

The Planning Committee gratefully acknowledges the Summit hosts – Kluane First Nation and Dän Keyi Renewable Resources Council – the partners – Yukon University and University of Ottawa – and the funders – the Social Sciences and Humanities Research Council – for contributing to this meaningful and memorable event.



We wish to acknowledge the generosity of each speaker and participant: thank you for your willingness to share knowledge and insights throughout the event. We know many of you traveled great distances and at no insignificant cost to join us in having a new dialogue on research.

Special thanks are owed to the community educators who work with the youth of Kluane to know the value of learning two knowledge systems: dän k'e and science.

And to our Elders, thank you for guiding this journey and always offering to share your knowledge, values and wisdom.

Executive Summary

Kluane people have a deep knowledge of, and relationships to the land, water, and communities (both human and animal) in their area. It is the knowledge and respect for each of these relationships that contributes to the resiliency of the community in the face of change.

The second Kluane Research Summit 2019 was organized to bring together a diverse array of individuals from communities, governments, and academia for the purpose of bridging knowledge systems and (re)building relationships for mutually beneficial outcomes. The Planning Committee organized the KRS2 based on feedback from the first Kluane Research Summit in 2018.

In 2018, the Summit theme was focused on Kluane Lake and watershed as a response to the 2016 Ä’äy Chù diversion and the associated increased attention and research. For the 2019 Summit, the KRS2 Planning Committee introduced a more holistic theme (as suggested) centered around ‘change and resilience.’ While this theme mainly related to physical environment, wildlife, human, and climatic changes in Kluane, it also included socio-cultural changes and the opportunities to respond effectively to these changes across community and institutional relationships.

Over the course of the Summit, participants discussed ongoing change, past and potential future impacts, and how to rebuild and renew resilience. The participants agreed that climate change and its effects are occurring at an alarming pace. It is not only impacting local residents but also plant, animal and fish communities. In spite of these growing concerns, the community continues to strengthen its resolve and activate resilience. One recent example of this was Kluane First Nations’ investment in pursuing sustainable energy solutions, including solar and thermal power. Community members also shared the example of the use of community greenhouses to enhance local food security.

Participants identified several opportunities for furthering Kluane’s resilience by growing research relationships and building on expanded networks of knowledge: they expressed the need for researchers to work collaboratively with elders, youth, and community members and co-identify locally-relevant research topics, and to share and discuss their research findings. They also emphasized the importance of engaging and empowering youth in research and appreciated the presence and voice of the youngest Summit presenter, Logan Moore.

Participants widely acknowledged this Summit as a useful platform for communication, and its theme “Resilience and Change in Kluane” as an important topic of discussion. They further wished such Summits and workshops would be continuously organized in coming years. The Summit created space for participants to exchange stories and ideas and share laughter and frustration. In conclusion, participants agreed on the value of pursuing research that can help address ‘resilience and change’ in the Kluane region and beyond, and that collaborative research, exploration, learning and sharing shall be further continued to increase resilience.

1.0 Context

Kluane First Nation (KFN) and Dän Keyi Renewable Resources Council (DKRRC) partnered with University of Ottawa, Simon Fraser University, and Yukon University to host the 2nd Kluane Research Summit from May 30 to June 1st, 2019 in Burwash Landing, Yukon. As the local and First Nations communities in Kluane region become more actively engaged in shaping research relationships, KFN continues to work towards establishing guidelines that may foster these relationships and ensure that communities benefit from research outcomes.

1.1 Previous Summit: 2018 Lhù’ààn Mân (Kluane Lake) Research Summit Summary

In 2016, the Kluane region witnessed the Ä’äy Chù diversion, drawing international attention and magnifying research interests in Lhù’ààn Mân (Kluane Lake). This essentially served as a catalyst for the 2018 Lhù’ààn Mân (Kluane Lake) Research Summit – hereby referred to as 1st Kluane Research Summit (KRS1) 2018 – whose aim was to support a more coordinated effort between local communities, First Nations and researchers. KRS1 brought together researchers, communities, and governments into a dialogue to work towards bridging knowledge and building relationships for mutually beneficial outcomes. The following recommendations resulted from this Summit:

1. Both researchers and community members need to engage in cross-cultural learning
2. Kluane First Nation develops an introductory course on the history, knowledge, and people of Kluane for researchers (i.e. KFN 101)
3. Increased communication and opportunities for interaction between research communities and local communities
4. Empirical observations of local ecologies can benefit from more time spent with First Nations and community members.
5. Work towards making existing knowledge, data, information more accessible to the community
6. Work on mutually beneficial research projects
7. Kluane First Nation develops policies and guidelines for research with traditional knowledge
8. Research continues to include traditional knowledge
9. Investments into cultural revitalization projects

Together with their academic partners, KFN and DKRRC have made important strides in advancing some of these recommendations and are looking towards furthering their relationships.

1.2 Second Kluane Research Summit 2019: Resilience and Change in Kluane

The second Kluane Research Summit – hereby referred to as KRS2 - renewed an opportunity for communities and researchers to reflect and build on their collective strengths in order to advance KRS1 goals and recommendations. While KRS1’s theme was more specific to water and Kluane Lake, the KRS2 theme was more holistic, based on previous year’s recommendation, and was notably focused on “change” in the Kluane region. It also included a more traditional format with less presentations (as per KRS1 recommendations) and a broader range of speakers and panelists including both researchers and community knowledge keepers. The KRS2 was oriented around

discussions about climate change and the effects observed and experienced both on the land and in communities, but also around the ever-evolving socio-political dynamic that further influences the region's socio-cultural relationships. The Summit acknowledged that responding to change in a manner that respects communities' values and knowledge - while drawing from the best available practices and technologies - can be an act of resilience which requires cross-cultural and multi-disciplinary learning.

2.0 Participants and Presenters

The Summit hosted approximately 75 participants, including KFN Citizens, Kluane community members, citizens from neighboring First Nations, Yukon government researchers, university students and academic researchers. To enable relationship-building, the Summit focused on activities that encouraged dialogue across cultures and between participants. A few key presentations were also included at the event:

- An update on the previous year's efforts – Pauly Sias (Executive Director, DKRRC) and Kate Ballegooyen (Natural Resources Manager, KFN)
- Overview of Traditional Knowledge Research Protocol – Geraldine Pope (Lands, Resources, and Heritage Director, KFN)
- Summary of Community Research Protocols and Update on “Bringing Research Home” – Sonia Wesche (University of Ottawa) and Ellorie McKnight (Yukon University)
- Presentation by National Indigenous Science Camp recipient, Logan Moore (KFN youth)
- Video presentation: Kluane & Climate Change, Prairie Climate Centre and Kluane First Nation – Jared Dulac (KFN Citizen)

A number of speakers and researchers were also invited to welcome participants and initiate key discussions:

- Opening prayer– Elder Councilor Keith Johnson (KFN);
- Summit welcome – Sandra Johnson (Co-Chair of DKRRC);
- Introducing Summit theme - Nadia Joe (Summit Facilitator);
- Fireside chat on “Change and Resilience” – Pauly Sias with Lena and Margaret Johnson (Elders, KFN);
- Kluane Experts Circle Discussion – Chief Kluane Adamek (Assembly of First Nations and KFN citizen); Alyce Johnson (KFN citizen); Dennis Dickson (KFN Elder); Stan Boutin (Co-director of Canadian Mountain Network and University of Alberta), Benoit Turcotte (Yukon Government)
- Water and Ice in Lhu’àan Research Panel – Gwen Flowers (Simon Fraser University); Ellorie McKnight (University of Alberta); Heidi Swanson (University of Waterloo); Michel Baraa (University of Montreal)

- Site visit/field tour – Carmen Wong (Parks Canada); Shawn Taylor (Yukon Government); James King and students (University of Montreal),
- Closing Remarks – Sandra Johnson (Co-chair, DKRRC)

3.0 Summit Objectives

The KRS2 objectives focused on strengthening emerging relationships between communities and researchers, allowing for participants to:

- Reconvene, share progress, and (re)evaluate shared interests, priorities and goals;
- Continue building the collective knowledge of the people of Kluane and examine solutions/strategies for learning from and adapting to change in the region;
- Identify opportunities for further involvement of communities in research and researchers in communities

3.1 Scope and Summit Format

The KRS2 was intended to be an opportunity for exploratory dialogue among all those with an interest in research in the Kluane region. Summit outcomes were expected to advance research opportunities and continue to support co-ordination and collaboration between the research community, local community members, and KFN's citizens and government.

The Summit was not intended as a forum for Governments to meet consultation and/or engagement requirements with First Nations. Nor was the Summit intended as a forum for researchers to meet consultation, communication or engagement requirements that may be specified in their grant proposals.

3.2 Anticipated Outcomes

At the end of this Summit, it is expected that participants will have had a) an opportunity to meet or reconnect with other citizens, researchers and individuals who share a concern or interest in the Kluane region; b) an improved understanding of change and resilience in the Kluane region, the differing perspectives on these issues, and some of the challenges and opportunities involved in tackling these issues over the coming months and years; and c) identified opportunities for further involvement in collaborative efforts to manage and adapt to changes in the Kluane region.

4.0 Summit Discussion Framework

Opening Ceremony	<ul style="list-style-type: none"> ▪ Observe welcoming ceremony ▪ Maintain sacred fire
Welcome and opening remarks	<ul style="list-style-type: none"> ▪ Welcome ▪ Why is this workshop important? ▪ Why is collaborative research with among First Nations, local governments, universities and community members so critical?
Introductions and orientation	<ul style="list-style-type: none"> ▪ Who is here today? ▪ What are we seeking to achieve at this event? ▪ How is the agenda organized?
Looking Back, Looking Forward	<ul style="list-style-type: none"> ▪ What are the origins of this Research Summit? ▪ What has happened in the last year on our commitments?
Change and Resilience In Kluane	<ul style="list-style-type: none"> ▪ What is resilience? What are the changes we're experiencing in Kluane? ▪ How have Kluane peoples experienced and adapted to the changes in the past? ▪ What can we learn from the land in responding to change and building resilience?
Learning from the Land	<ul style="list-style-type: none"> ▪ Responding to observed changes on the land: what changes have we observed in Kluane? How are we adapting to these changes at various levels (personal, governments, institutions)? ▪ What strategies have been considered or used in the past to tackle these issues? What worked? What did not? <ul style="list-style-type: none"> ▪ Indigenous Perspectives ▪ Research Perspectives
Observing Change on the Land	<ul style="list-style-type: none"> ▪ Visit to Thechàl Dhâl ▪ Tour of Ä'äy Chù– dust effects
Growing Resilience	<ul style="list-style-type: none"> ▪ How do we understand resilience? What are the systems of resilience in Kluane? ▪ What relationships are most vulnerable to the changes we are witnessing? ▪ What tools/ strategies can we use to build resilience in Kluane?
Where To From Here?	<ul style="list-style-type: none"> ▪ What have we achieved at this event? What work remains? ▪ What happens next?

5.0 Summary of Summit Discussions

5.1 Welcoming Summit Participants

Evening of May 30th

The hosts invited participants to share a meal the evening before the official start to Summit. Elder Councillor Keith Johnson shared an opening prayer and welcomed guests to Kluane. Following dinner, Summit participants were invited to join a tour of the Kluane Museum of Natural History or to work on sewing with Kluane knowledge keepers.



Official Summit Start on May 31, 2019

Elder Sharon Kabanak opened the Summit with an opening prayer in Southern Tutchone. This was to be followed by the lighting of the sacred fire, as recommended by Elder Mary Easterson, to complement the water ceremony (which would take place at the end of the Summit) and offer an appreciation of these two powerful elements. However, due to the extremely dry conditions and out of respect for the Haines Junction community – where a wildfire had grown quickly out of control during the week of KRS2 – the Planning Committee decided not to light the sacred fire. Instead, Pauly Sias introduced the concepts of the sacred fire. She reminded everyone of the power of the natural elements and our responsibility to respect their power. She also noted that the circular arrangement of the Summit room represented a more traditional format for community dialogue.

Welcome to Kluane

Chief Bob Dickson of Kluane First Nation welcomed new and returning Summit participants to Kluane and noted the diversity of participants and their commitment to the area and people. Chief Dickson appreciated this year's Summit theme of 'resilience and change' as all KFN citizens and

local community members can relate to and have experienced changes for many years. The most notable change being Ä'äy Chù diversion, which affected Lhù'aàn Mân (Kluane Lake). Chief Dickson also noted that change in the Kluane region extends beyond the lake, with an increasing interest in addressing those changes and identifying opportunities to build resilience. He further emphasized that KFN already partnered with the Department of Fisheries and Oceans, Environment Canada, Parks Canada, and Yukon Government to enhance monitoring programs in the area. Chief Dickson referred to several ongoing projects relating to change and resilience which involved researchers from outside of the community and partnerships with other governments, organizations and universities (ex: the Forest Resource Management Plan for Settlement Lands; Dän Keyi Renewable Resources Council's wildlife observation project). He further added that KFN is well prepared to address climate change challenges and opportunities as well as build a resilient community through collaborative work. He concluded his welcome remarks by thanking the Planning Committee for their efforts in organizing this event.

Following a welcome from Chief Dickson, Sandra Johnson shared welcoming comments on behalf of KFN Elder Mary Easterson:

"Good Morning, welcome to Lhù'aàn Mân Keyi/Our Grandfather's land. As you gather here in the next few days, and in your future research papers, we ask you to constantly remember the importance of the land and the water to our people and to all the Indigenous people in the world. Our ancestors that walked this path before us understood and practiced the sacred bond between people and the land. It is my hope and belief that your future research will instill in our youth an involvement in science and in land and water. It is important that we, as educators and scientists, develop curricula in climate change. For it is our youth and children that will make a difference in our society".

Review of Summit agenda and objectives

The Summit facilitator, Keghaala (Nadia Joe), began by acknowledging the planning efforts by the Summit hosts and Planning committee members for their commitment to bringing participants together again this year. She noted that the real value of these events lies in the relationships that continue to grow. This Summit invited communities and researchers back to Kluane to celebrate progress and continue cross-cultural dialogue and knowledge sharing to support the region's ability to respond to climate change and continue advancing meaningful community involvement in research initiatives.

Participant Introductions

Participants travelled to the Summit both from within and outside of Yukon and represented many different communities. They were requested to bring a bottle of water from their watershed and then invited to introduce themselves, and their water, to one another.



5.2 Where we've been, where we're going

Following last year's Summit, there were a number of recommendations from the community with respect to how knowledge and information can and should be exchanged. These included: respecting cultural protocols; ensuring protection of what is sacred, shifting away from exploitative research models of the past that extract or exploit Indigenous Knowledge, and making knowledge/research that takes place on Indigenous lands more accessible to communities themselves.

Highlights from 2018-19 Research in Kluane Region (Kate Ballegooyen, Natural Resources Manager, KFN & Pauly Sias, Executive Director, DKRRC)

KFN Youth participated in an Ikaarvik Program workshop (<https://ocean.org/our-work/arctic-connections/ikaarvik-barriers-to-bridges/>), exploring how indigenous knowledge and science - two different yet complimentary ways of knowing - can be used together to address local concerns. As part of the program, the youth also discussed the relationships between researchers and communities and how these relationships could be improved. The Youth presented to KFN

Council, Elders, community members, parents and KFN staff on what they learned and how they would apply it. KFN Elder Mary Easterson commented “*It is amazing! It is like they have been sitting in our meetings and hearing our discussions and their concerns are very similar to what we all talk about here.*”

In January 2019, Pauly, Kate, and Ellorie McKnight (PhD candidate at University of Alberta and Researcher at Yukon Research Centre) were also invited to prepare and deliver a presentation for the SCOPe (Yukon Science Community of Practice) speaker series. Their presentation included a brief history of research in Kluane, an overview of the 2018 Summit, current research initiatives, and a summary of the ‘Bringing Research Home’ project – a community driven project focused on climate change research accessibility to communities and developing research protocols and priorities (see more below).

Kate co-authored an article with Lael Parrott (professor at UBC Okanagan) and Tosh Southwick, for the State of the Mountains Report, highlighted the emerging impacts of climate change at Kluane and the effects experienced by KFN as viewed through the community lens.

Over the last year, KFN, Champagne-Aishihik First Nations (CAFN), and Parks Canada developed a new and improved research permit application specifically for conducting research in Kluane National Park and Reserve. This process is now more reflective of the co-management framework between the three co-managing governments. Research in the park is now only permitted if there are no concerns from Parks Canada, CAFN and KFN. It also encourages researchers to connect directly with First Nations and determine opportunities for sharing information with citizens.

Pauly provided an update on some of research initiatives by DKRRC over the past year. Since 2013, DKRRC has been carrying out a community-based wildlife observation project. Prior to this project, much of the data on moose surveys was coming from Yukon Government and the community raised concerns that their observations were not included in these results. This led to a pilot project, which involved a community member collecting information on moose in the region. This research approach was well received by community members. The project conducted interviews (approximately 100) with community members and strategically placed 42 wildlife cameras from Á’äy Chù to Dan Zhù Chù (Donjek River). Summary reports will be provided to the community in summer 2019 and staff will determine how this information can and will be shared.

Update on Traditional Knowledge Sharing Protocol (Geraldine Pope, Lands Resources and Heritage Director, KFN)

One of the key recommendations of KRS1 was to develop policies and guidelines that guide how research is to be carried out in KFN traditional territory. KFN is in the process of drafting a traditional knowledge policy to strengthen protection and preservation of Traditional Knowledge. The policy is undergoing revisions and will provide guiding principles, definitions, protocols, etc. While there is currently no official definition of Traditional Knowledge, there are some guiding principles that apply to hunting and fishing sites, spiritual sites, pictographs, petroglyphs, symbols, traditional or sacred songs and stories. However, those guiding principles currently do not apply to traditional tools. Both guiding principles and property rights of traditional tools need to be considered.

Update on “Bringing Research Home” project (Kate Ballegooyen & Sonia Wesche, University of Ottawa & Brian Horton, Yukon University University & Ellorie McKnight, Yukon University)

This project focuses on building connections between KFN and researchers by creating opportunities for KFN to be involved in all aspects of research, including identifying research priorities, clarifying additional research protocols, engaging youth, and developing tools to facilitate research relationships and enhance communication – with a focus on climate change knowledge and research. The project has several objectives, including increasing accessibility of historical and current climate change related research and knowledge to communities and research, as well as developing KFN’s own ‘Research Guidelines’ for researchers.



5.3 Kluane Research Summit 2019 – Resilience and Change

Listening to the wisdom of our Elders: What ancient wisdom teaches us about change and resilience

Pauly Sias introduced this session with her story:

“I was born and raised here. My great grandmother, Mary Copper Joe Jacquot, was born sometime around the year 1900. Let us imagine this place in 1900, no highway, no European people, only First Nations living a nomadic lifestyle. A very different world from ours today. My great grandmother married Louis Jacquot, a European man who was earlier than most to come to Kluane country. Louis played an important role in establishing the community of Burwash Landing in an important First Nation traditional place. My great grandparents were from two different cultures and I consider that as a very important blending of my cultural background. Their daughter, my grandmother was Josie Sias. She and Frank lived in Silver City across the creek from the Kluane Lake Research Centre. It was interesting to have our family’s property with Mary and Josie living right there, so close to a research facility. So close, but they midst as well have been worlds apart as there was not much mingling done. My grandmothers and I could easily spend three hours over a cup of tea just chatting. I enjoyed listening to their stories. Learning in this way, is more about having an informal conversation than it is about analyzing data.

We as small children recognize stories as gifts, a reward at the end of the day. That is how people here learned for generations. My grandmothers would agree, it is too bad not so many researchers ever had a cup of tea with Elders and had a chance to learn their ways. I am grateful to all the Elders over the years, who have shared stories with their full heart. Now we tend to write these stories down because that is how we now record our history, but the traditional way is to share knowledge by talking, by showing and by doing. Every single story I have heard has involved change and resilience. Elders tell me that change happens all the time. It is the only guarantee we have. I often think of the icefields and pre-contact period; stories from when the world was created. It is a hard to believe now that at one point this landscape was so very different; people and animals were more connected. Those stories are the root of the culture, landscape, and people here. Regardless of what you personally believe in relation to stories, the important thing to

recognize and remember is that these stories have kept people alive; they help the next generation. The person who is gifted with those stories, that is just it, it is a gift and we should be grateful to have it shared with us.

I want to acknowledge that this is not the first time a meeting is held to bring science and Elders together. It is not. I know lots of people have tried and the bottom line is continue trying".

Pauly then read an excerpt from a “Do Glaciers Listen” by Julie Cruikshank, before inviting Elders Margaret (Grace) Johnson and Lena Johnson to speak.

Gushäka - Margaret (Grace) Johnson

“I was born in Burwash inside a tent, not in a house. I met sister Lena in Burwash. Our lives are tied to all of you. Do you know what’s going to happen? Everyone knows. Some of the people here know. I and Lena are now Elders. My mother told me that you should be ready. It’s not lying. Aunt Mary and Aunt Jessie, my grandpa, and my uncle told us all their stories. They used to say, “You cannot play around when someone talks to you. Do not think it’s not true”. My mother told me a story. She asked me, “Do you know what is going to happen when the fires occur? Are you guys get ready?” No. Me, I just do not see you are ready. She said that we are not going to have water in Yukon. It is going to dry out. They had seen water in creeks and lakes before. Now when I look there, it’s all dried out. Are I and Lena different? No, we are still the same as my mother and the Elders who raised us. They trained us to go fishing and fetch water. We need to chop thick ice before drinking coffee. I am not lying. I’m telling the truth. Hard time is coming, and everyone is going to starve. There used to be lots of animals in the highways. Now, some of them die because they have no food. They cannot just run around to the store. When I live in Whitehorse, I heard the lady say, “It is same like when you go to the store, there is no food”. Now a days we teach all the kids, who are coming to winter and summer camps. But who is going set a net under the ice? We do, me and Lena. We are running the camps for around ten years but that is nothing. Elders taught us. They used to make a big fire out there and they call and tell us to sit there and listen. They tell us stories. Today, young kids do not come to see you. We have to chop ice before drinking water. We have to go out in the bush to cut wood. We have to stand all day long with a saw and cut wood, not with a zing having a chain saw. We lived almost the same way as our mom grew up.



When I and Lena were ages like the 12th and 11th grades, we set up a net and it was frozen. So, how we were going to get it. We need a stick to chop the ice prior to setting up a net. We need to learn these skills when we were in high grade. We need to go out in the morning, maybe around 4 to 6 am. Aunt Jessie had to walk into the bush, cut and carry wood, not in a car like today. Right now, it’s easy to cut wood. Just zing and make a fire. Our mother told us a story before they left us behind. All the grounds are going to dry up. We should listen when someone says something. We should not lie, go out and forget it. We should remember and put it in our head and heart. In a new generation, I do not understand what they mean by new and old generations. Now I know what they mean. There are young kids growing today that know nothing. I talk to people, tell them to come and see me in Junction too. I ask them to try learning the language. Long time ago they

did a lot of work, they went in the bush and killed moose. There were no cars and planes and we have to carry all the meat back by ourselves. I learnt all this from Aunt Mary and Aunt Jessie when they talk to me when I was small. We have to learn a lot.

Fire is going up. Everything is changing now. Do you guys know if everything has changed? It is not the same. People are going to fight with one another for food. I'm not lying to you right now when I'm talking to you. I do not care for myself but I care for my family. Everybody do that. I do that. My mother told me that hard time goes and comes back again. Lena's son George Johnson is my nephew. Everyone knows George. He once told Lena, "if a moose is gone, that means starvation is coming. All the pigs and cows are going to die too". I would like to tell everyone, put it in your mind that electric lights and water will not be always there too. You should know that. There will be no more gas, propane stove and chainsaw will no more cut wood. I want to tell these things to people. I keep it in here in my head, now I'm giving it back to you. I request people to come and see me down at the Junction. I talk to them. I cook bannock, also take some to the police station and become police, happy. I love my grandson. I love everyone. It does not matter where people go, embrace them. I love dogs as well. You should not hate anybody. My grandson tells me that People does not like him. I advise him not to mind that, stay by himself and let them go. I could see his face change when I tell this. People talk about my grandson and his personal habit. He once said grandma you know what I dreamed about? I said no. He said he dreamed there were no more lakes down here. He is gone now. Thank you all for listening."

Tulhusèn - Lena Johnson



"My parents are Mary Johnson and Moose Johnson. My native name is Tulhusèn – it means 'no turning back, do something, no looking back, you are going ahead'. I was born and raised here, not exactly right here, but across the lake down Little Arm (of Lhù'ààn Mân -Kluane Lake) somewhere there. We were raised up like Margaret said earlier. All our Elders taught us. You are not only teaching your own children but also all the children around you. If they want to learn, they come to us. Today they do not even listen to us when we call them. I have one grandson like that. I had to put my face on his head just to let him hear me. He's a nice kid but he should break away from doing that. When I see the muskrat kids, they do not think about that. We are trapping and laughing. If we explain our children to see what's happening and if they print it into their heart, our culture will never get lost. If we do not work on it, it will get lost. They play too much iPad. If we tell them to do something, they will question us. I do not know how to explain them.

Parents need to work on this. We are working on our language but iPad is too far ahead of us.

I have noticed many changes like climate change. Until around 1975, we used to trap gophers up in the Duke Meadow together with her sister, Rita, who already passed away. Little kids used to play and make forts. We used to make a campfire, roast gophers and talk. After 1975, we started to notice the change. We found changes in the taste of gophers. Gophers do not taste like gophers any more. Moose, sheep and caribou meat taste the same. Moose taste like moose. When you cook gopher, you could smell the sage. We noticed this change in 1975. Some of you were not even born. It is like I'm talking to young school kids. I'm 90 years old now and I am looking at a bunch of little kids here. They are going to miss out on lot of things, if they do not pay attention. They should go and pick some plants such as the sage and smell it. But, what they do is buy sage for turkey dressing, smell it and then they know it. The sage that you buy from a store is from some other place on the earth but they smell the same. Fragrance of most flowers and plants is also disappearing not just the gophers, moose, etc.

Last world war, I was just a little girl. I remember how my parents had to really watch for foods. We cannot touch anything. We cannot grab an orange without asking. Today I still follow this, even at home and also for left overs. When our parents buy a case of candy for the trapline all winter, they used to put all the good food in the high cache, so children could not go up and take what they want. That was a part of learning to be obedient. Everyone should ask. My kids were in their 20's when I once told them not to ask for anything anymore. One day they came home around two in the morning. They told me that they just came from Whitehorse and were really hungry. They asked for an egg sandwich. I responded them not to ask anything anymore. That's how our life passes on. You take your culture/values by heart and in head. It is easy for kids to forget things but I remember them. I remember telling stories about animals and stuffs like that. That's how our children get wise, know how to behave themselves and do hunting. I remember one true story once a stranger guy told me. He has already passed away now. He used to hunt around here. One day when he was hunting he saw a moose in a side hill passing through the bushes and willows. He loaded his gun, aimed at the moose but decided to wait a while. When he was about to shoot the moose passing through the willows, he saw another hunter. He was lucky that he did not pull the trigger as soon as he saw the moose. So, I normally tell children to first ensure that the area is open, and then pull the trigger and shoot. I worry a lot about such situation.

Climate change has started a long time ago. Another thing I remember is about recycle. During a meeting on recycle, I remember one of the attendees suggested not to throw saran wrap in the garbage. It just got into me and I follow it. All of us have should take care of this land. I do not think there is any cultural contribution to climate change. I hear people reaching on the moon. What are they doing up there on God's creation? Are they trying to build a home up there? I do not think that's good, that Neil Armstrong went there. My Grandmother happened to come into the café that time. She started talking about the moon trip. She was not happy, she got really mad. She said, "Moon scientists are just wrecking things up there. Everything will change on the moon. Nothing will be the same". I was thinking about it. If someone is on the moon right now, what will they eat? They need water.

Elders in the village are grandmother to all kids. All the kids, whom I taught, are old now and have five to six kids. They still all call me Gramma Lena.

Parks is the worst thing built in our area as I remember. It is not easy, especially when the park came in. We cannot get into the park and get moose, caribou or sheep. We cannot even get gophers in the park or we would be charged for hunting and trapping. Edward Johnson, he has passed, even went to court for that. It was a time of suffering for the whole community. We had the lake for fish and in summer we looked for small animals. We depended on them. It was a hard time. We had to sneak when we go across the highway to set traps. It made us feel bad as if we are stealing something. We must go far across the lake when we hunt moose and we do not even have any boats. We have to stay on this side of the highway. Now the young children can get sheep there. My granddaughter Diyet sings a song about that, “how the hearts cry out when the park was closed, they were suffering. Now the park is open, we are happy”. If she comes in, she may sing this song.

I've three kids and adopted two. Adoption culture goes on to the next generation. My dad was adopted. I too adopted children. Now my granddaughter Diyet adopted. Parents' culture passes to their next generation. Do you remember how we raise our children? I remember as a little kid, we have grandmothers everywhere. When you go to Junction, we have a grandmother there. When we go to Northway, we have grandmother there. That's what we pass on to our young children—how to treat one another. When children hit, we make sure they apologize. When we bring children together, we should talk to them in order to make it easier for them to say sorry. Another thing I know is breastfed children are smarter than those drinking cow milk. When the cows become a mother to our children, it makes them crazy like that too. I told young girls not to feed children in the bottle when they have one. I have one granddaughter, who is five years old now. She cried one night. My daughter woke up, warmed up the milk in a bottle and gave it to the baby. The baby threw the bottle out of the crib right away. I never really thought about it that way. Now, the world is going crazy too. Everything is not right. I watch TV and listen to what is going on overseas. I do not know if these are the impacts of climate change. People should work hard to minimize impacts. It is just like a garden and natural care; when the rain comes, the branch springs out. There was a big rain last week and now the flowers started popping up. That's how we should care for our land. Another thing I thought of is death. There has been number of deaths due to cancer. We, Elder people, do not use fancy sauce. I used sugar before, but I quit it 20 years ago. I feel much better now. I cannot even drink if it is too sweet.”

Comments, Questions and Answers

- *I was just looking at the poster and it says changes to our animal relations. I remember when I was little I was given my “bear words.” I know that Elders give words to children to say them to bears and I passed this tradition down. If I meet a bear on the trail, then I have to say those words and the bear will let me pass. Can you talk about that?*
 - Lena: *I do not know that. Some families have tradition. We have to treat the animals with respect. Anything we eat, we should not throw to one another. We should give it to them nicely. That is how native people look after everything.*
- *Do you remember the Alaska Highway being built?*
 - Lena: *I know when Alaska Highway was built. At that time I was 13 years old. We were living in Kloo Lake with our Grandparents, my dad's parents (and family). My Grandfather used to take us there in winter for trapping. I remember it really well. He*

took us there during fall too. I saw really smart Elders and trappers. They used to get together like we are sitting here now. They shared with each other where they were going to trap that year. Each year we know where we are going to trap with our parents. Everyone goes and traps in areas where they are supposed to. Once the meeting is over, they used to have fun. They played cards and drummed.

One day the snow started melting over Kloo Lake, so we had to walk back. We took it easy. We did not go very far, we camped somewhere around five miles. Spring sometimes is hot. We never walked near the highway construction zone. We always stayed out of there. Once we were just going across A'qy Chu and when we arrived at Silver Creek, the army was already there. Their camp was very big. We were scared. My dad told us that we have to try returning home. He thought the army might bring us across A'qy Chu. So, we camped close to army camp. My dad walked over and saw their big barge, which could take us over the river. My mother was really scared of those army, too much Guchan (non Natives). But they helped us cross A'qy Chu (Slims River) and brought us over, where there is a trail right to the Destruction Bay. We walked. People were nice. Some ladies were making slippers for them. There was lots of moose hide then. People tanned hide all winter. Some people came and looked to buy slippers. That was how we knew them. They stayed right in the camp. When black people came in, they could not handle cold in the wintertime and a lot of them got really bad frost bite. We heard that but we did not know black people. My dad advised us not to get scared when we see black people. He told us that they are nice people too. So, when we saw them, we talked. Sometimes they bought something from us. That was how we learned about them.

People were nice back then. Long time ago, one skier came alone to our trapping camp when we were camping down the Lhù'àn Mân Taga (Kluane River). My grandparents were there too. He looked so tired. He said that he was skiing from Fairbanks. My grandparents told him to go to Dickson's cabin, make fire and have a rest. The kids asked where that man came from. Our parents answered he came to the trapline. I remember our grandparents knew he was tired and they felt so bad for him. My Grandparents, also Michael Johnson's Grandparents, opened a big roll of sleeping bag, took out a new blanket, spread it out, and put it over him. They asked him to take off his moccasins and take a rest. That was how sweet they were to him. They cooked for him; he just ate and ate. They brought him to the cabin and we did not see him again. He took rest and went on. Native people accepted any people. They were not worried about where people came from. Our grandparents used to advise us that need

*to smarten up, grow up, and learn how to take care of everything in the world. They further added that everybody's got to pitch in to help.
Amen!*

5.4 National Indigenous Science Recipient – Logan Moore

Logan Moore (Grade 7 student and KFN Youth) shared his special presentation that received award at National Indigenous Science Camp.



5.5 Learning from the Lands and Waters

Panel of Kluane Knowledge Holders

A panel of Kluane knowledge holders, comprising of four individuals with knowledge of the lands and waters in the Kluane region, were invited to address following questions on ‘Change and Resilience’ in the Kluane region. The four members of the panel included:

- Regional Chief Kluane Adamek (Assembly of First Nations and KFN Citizen)
- Elder Joe Bruneau (DKRRC)
- Stan Boutin (Co-Director of Canadian Mountain Network and University of Alberta)
- Benoit Turcotte (Senior Hydrologist, Yukon Government)

Question to Regional Chief Adamek- “When you think about resilience what comes to mind?”

Regional Chief Adamek introduced herself in Southern Tutchone and noted the recent changes to Kluane Lake, such as the island at the south end of the lake which is no longer an island. In response to these and other changes, the community has responded with various adaptation measures, including installing solar panels and harnessing wind energy. They have also focused on youth involvement in projects. The community has always been resilient and are thus well-practiced at being strategic, resourceful, building partnerships and engaging citizens in projects and activities. The people who live in Kluane are the knowledge keepers and ensuring they are well supported is critical.

Resiliency is part of who Kluane people are and will continue to be. Climate change, renewable energy and sustainability all have challenges, but Kluane people are stepping up to those challenges with incredible success which the Assembly of First Nation celebrates and shares both nationally and internationally.

Question to Elder Joe Bruneau- “Share with us a little about your relationship to Kluane and the changes observed over time”

Elder Joe Bruneau fell in love with the Yukon as a bush person. He shared stories about hunting and packing meat and cutting cords of wood. He shared wisdom passed on from Elders, such as the importance of hunting only bull moose, and trapping muskrats, and living together and on the

land. For Joe, climate change has always been present, it is now simply occurring at a faster rate due to an increase in people, consumption and travel. The evidence of change is visible in the Slims River valley walls, where the glaciers and rivers used to carve rock higher up, or in slumping landscapes near creeks, or in the lack of caribou in the mountains. It is critical that real action occurs now – not just conversation about how to change or adapt, and to realize that everyone has a role to play.

Question to Stan Boutin- “What contributes to resilience in this region?”

Stan grew up in northern Alberta, on a farm. This taught him about resilience and connection to the land – values that he has carried and now applies in his work. Stan has worked for nearly 40 years at Squirrel Camp (just south of Kluane Lake), studying rabbit, lynx and squirrels. He shared his appreciation for Elder Agnes Moose, who allows the researchers to conduct work in the area.

Squirrels share many similarities with humans: they are faced with many challenges but are also very good at adapting to change in creative ways. They have many important lessons to teach (us), including take only what is given or needed in terms of resources, resourcefulness, autonomy and creativity.

Question to Benoit Turcotte. - “Can you speak to the resilience of the Lake (water systems in Kluane) and what contributes to the development of resilience in these systems?”

Benoit Turcotte is a senior hydrologist at the Department of Environment, Yukon Government. Originally from Montreal, Benoit’s background is in river and river-ice engineering.

Benoit outlined both the resiliency and fragility of the hydrological cycle as well as its dramatic and gradual reactions to change, citing the 2016 Ä’äy Chù event as one example and the more gradual lake changes over centuries as another example. Other parts of the hydrological cycle are being impacted too, such as permafrost thaw, landslide increases, and evolving rivers. It is difficult to predict future changes, but the one guarantee is that change will occur.

Benoit expressed his admiration for the resiliency of Kluane people and communities, and the example this Summit poses as a way to bring together traditional knowledge and science. He noted the importance of these two ways of knowing working together to monitor, measure, and understand processes both in the past and looking into the future to allow for resilient adaptation.

Discussions, and Questions and Answers

Participant question: I am interested in how squirrels have adapted to change?

Stan Boutin : We have studied these animals for a decade and believed we then knew everything about them. But we studied them for another decade and learned that we still had so much to learn about them. These animals have many ways of adapting to change, for example flexibility in when they can reproduce.

Participant question: I’m curious how animals here have adapted to changes?

Regional Chief Adamek: She had spoken recently with her father, they had discussed areas were moose used to graze, and how these areas are becoming dry – which is changing how people hunt.

At Thechàl Dhâl, sheep are coming off the mountain into areas they didn't previously travel, and these are areas where they are not protected from hunting. Conversations with elders are key, as are listening to their stories. Space and place for both traditional knowledge and science is almost of utmost importance when thinking about things like wolf populations, moose counts, impacts of wildfire and emergency preparedness.

Participant comment: When I think more about climate change, resilience is about being prepared for change. That was an important message that I took away from last year's Summit. I wonder if it is all about reacting?

Joe Bruneau shared that when people talk about climate change, it is not just the climate, it is so much more - it is also about the animals and the rivers and little lakes (not just Kluane Lake). What about the land locked fish in those little lakes? Testing their DNA would be interesting to find out more about which species they are related to. The potential pH changes in smaller lakes is also concerning for fish, as is the decreasing amount of king salmon. These things are all part of climate change.

Regional Chief Adamek added that there is a committee on Climate Action and the Environment at the Assembly of First Nations. Norma Cassi, the Yukon Representative, has spent her life advocating for these critical matters. The Climate Action and Environment committee brings together women, youth, elders and Chiefs across the country. Vuntut Gwichin First Nation have also declared a state of emergency on climate change. Chief Adamek wondered if we should react or if we are planning to react. Many communities will state that they are always reacting, though they have traditional knowledge, stories, and languages to guide them. It would be ideal to reach a stage where we are not always reacting to climate change, but instead we are anticipating and planning. This includes shifts to the education system – an example of that is Dr. Alyce Johnson here in Kluane. Planning and anticipating means good roadmaps, working collaboratively with governments and people, and capturing moments of hope.

Benoit Turcotte added that everyone is here to find solutions for Kluane. By working together, we can predict changes and be better prepared. Kluane can be an example for the Yukon. It is a small community facing substantial challenges that can be observed and explained, and thus creative ideas and solutions can be generated.

Sally Wright commented on fossil fuel and energy use - namely electricity, heating, and transportation- and how we can reduce our footprints and look into renewable energy. She commended KFN for their harnessing of renewable energy via solar panels.

Participant comment: One of the other things I look at is greater plant communities. I went out looking for a rare moss. It only exists in 10 sites that we know of. Last year we discovered that one of those sites is gone. I wonder if assisted plant migration has even been considered. It is about moving a plant to a new habitat. The animals have an ability to do that. I'm wondering what people's thoughts are on assisted plant migration?

Larry Joe shared that what comes out of an ecosystem should go back to it: there should not be any deviation. Ecosystems are very delicate and plants are very important to the health of a forest.

Participant question: How do we connect youth to the land. How do we get youth engaged? How do we help Logan share his ideas?

Sharon Kabanak stated the importance of learning from the older generations, who are the keepers of traditional knowledge, and of passing on that knowledge. She suggested a publicly available list of local elders and their areas of expertise.

Heather Johnson believes youth need a little encouragement and emphasized the importance of taking them out on the land or water, as well as incorporating them into various activities to pass knowledge onto them. She mentioned the need for youth to listen to elders, and to gather together.

Kate Ballegooyen remarked that there is an amazing group of youth, though there is no high school in the community, meaning families must move to Whitehorse once youth reach high school age. These are Kluane's future leaders and they need to be engaged in research and knowledge processes.

Pauly Sias stated that younger youth should also not be overlooked (in their ability to participate in knowledge creation and sharing). Taking youth out on the land is of critical importance, and even small conversations about the land and water are important. However, meeting style formats such as the Summit are not optimal venues for Youth and may not be as engaging as time spent on the land (with them). Researchers should be budgeting for Youth involvement in their projects and involve them in all phases of research.

Graham Van Tighem shared some of his story: when he was younger, he had worked at Squirrel Camp under Stan Boutin's supervision, but had never travelled up to Burwash during that time and didn't know much about the Kluane people. He remembers a pivotal turning point in his career, during a conference in Yellowknife about ungulate studies – where the concept of local people conducting the research and sharing their knowledge was highlighted.

Participant question: traditionally we are not trained how to engage with Indigenous people and knowledge. How do we train our young scientists to do this?

David Neufield noted the importance of keeping in mind where we come from and who we are (and any associated biases in our thinking). He also emphasized the importance of cross-cultural connections.

Norma Kassi (Co-Director of the Canadian Mountain Network) reminded people that some organizations have been involving youth in research for a long time, as per Elders guidance on the need to include youth in projects. She noted that youth are intelligent and well-engaged. Norma also mentioned that the Canadian Mountain Network now has funding available for Indigenous communities and is proud to support Indigenous graduate students. She also outlined the importance of sharing conversations with elders.

5.6 Group Discussions: Orienting Ourselves to Change and Resilience in Kluane Region

Change is a common theme at Kluane. In the Summit context, change referred specifically to both the climate crisis that many people living in the north have observed for years, and the broader changes in the north that are occurring within northern institutions (both governments and academia). These sweeping changes not only inform and influence the dynamics of the relationships within our communities but also the relationships that our communities have with their lands and waters. These changes also shape how and where First Nations practice culture.

There is real opportunity to develop effective responses to these changes and contribute to the resiliency of Kluane. Resilience doesn't occur in isolation; resilience, it seems, occurs through a network that can sustain a variety of relationships within the communities and the environment. Building on last year's Summit, the Planning committee recognized the unique opportunity to continue strengthening the relationships between communities and researchers with the hope and expectation that this will lead to better outcomes for communities and strengthen the web of resilience in Kluane.

To engage in strengthening the responses to change in Kluane, Summit participants were invited to break into groups and reflect on “Change and Resilience”:

A. Change on the land (Table Facilitator: Brian Horton)

What are the most significant changes we are observing, experiencing, and happening on the landscape in Kluane? How do we know things are changing/how can we measure change?

- Building of the highway
- Emerging disturbances such as the spruce bark beetle
- “Shrubification:” i.e. Traditional areas that once were grassy are now shrubby
- Kaskawulsh glacier movement (advances and retreats)
- The landscape is dynamic on many timescales
- Rate of permafrost thaw over the past 10 years has accelerated
- Plants suggest that there are very old populations & endemic species

How much more change can/should we anticipate?

- Kluane is always going to be changing
- Climate projections
- Very rapid warming at higher elevations link to landslide events like Mt. Steele
- Duration of seasonality
- Change in wind: increase on speed and change in directions
- Increase in invasive species with subsequent impacts to moose and caribou
- Increase in wildfires frequency and magnitude (there are also human factors driving this)

- Bison are driving change (i.e. grasslands in Aishihik)

How do we increase awareness and understanding of these changes?

- There is generally already a high awareness of change
- Clarify the audience
- Study changes we cannot directly detect
- Increased/renewed commitment for researchers to return information to the community:
 - What is working: Giving non-technical summaries to the community
 - What is not working: just sending the paper (to the community) or “ghosting”
- Increased media
 - Speaking notes on climate change at Parks
 - Recognizing importance of partnerships: the community may not be able to speak to the change but can work with people who can
- Not all change is bad; this is a value

B. Change in the water (Table Facilitator: Ellorie McKnight)

What are the most significant changes we are observing and experiencing in Kluane waters?

How do we know things are changing/how can we measure change?

- Inflow vs. outflow of Kluane Lake
 - This is measured using Water Survey of Canada gauges as well as modelling: (University of Saskatchewan)
- Baseline levels of mercury in fish (Kluane has very low levels of mercury)
- Observations of change include:
 - Low spring lake levels
 - Changes to Kluane River
 - ‘Wind tides’
 - Ä’äy Chù ‘new normal’ low water since 2016
 - Groundwater flow and lake-edge groundwater
 - Open-water season fluxes
 - Lake water color
- Glacier changes include:
 - Shrinking
 - Visual observance of differences and change

- Dust impact on Kluane Lake:
 - Total input of airborne particulates to Kluane Lake from Ä'äy Chù riverbed dust is not more now than what the input used to be when river water carried these particulates into the lake
 - There is high arsenic and lead in the windstorms, resulting in exceedances
 - The wind hasn't changed, but the delta is drier so there is more dust
- Lake ice is changing with less pressure ridges, decrease in ice thickness, and a 'different' kind of ice

How much more change can/should we anticipate?

- Potential for another drainage reversal of the Lake?
- Duke River changes and predictions for flow direction (on the long term decline)
- Donjek Glacier, what causes surges? Oral histories speak of this
- Toe of the Kaskawulsh Glacier and Slims may be impacting Canada Creek (direction?) and fan dynamics/shifts

What should we be researching?

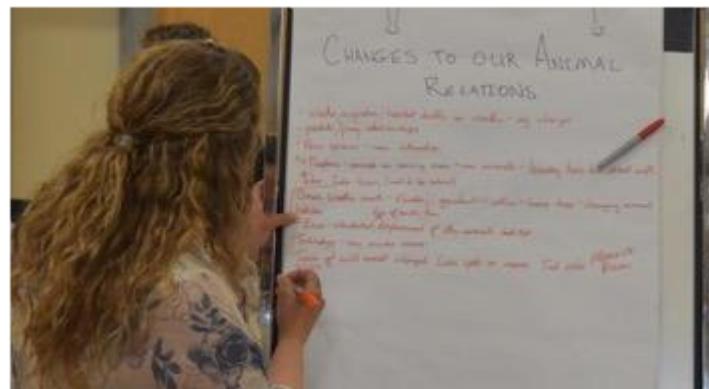
- How are salmon spawning affected from changes to water?
- Are there changes in lake temperature?
 - Surface water temperature? Especially at the south end of Kluane Lake?

C. Changes to our animal relations (Table Facilitator: Pauly Sias)

What are the most significant changes we are observing and experiencing in Kluane?

- Migration and habitat are shifting as weather and vegetation change

- An increased in rain/freeze events in winter results in more challenging travel and foraging/hunting conditions for animals
- Predator/prey relationships are changing
- There are new species as well as new interactions among them
- As animals move to other regions, the dynamics are changing (i.e. deer and re-introduction of bison) including hunting and trapping dynamics
- Changing animal habitat, for example grasslands transitioning to willows then to trees with changes in climate and weather events such as flooding.
- Bison were reintroduced but people are afraid of hunting them and they have displaced other animal habitat... Lesson: don't mess with nature
- Cougars are moving in
- Ticks from the deer are affecting moose
- Elk were introduced and are taking over local food and habitat
- Horses are ranging free and changing landscapes/habitat
- Technology is creating new issues relating to access of animal location and habitat information
- The taste of wild meat has changed, there are increased liver spots on moose; animal fat color has changed.
- Sheep at Thechàl Dhâl have moved off the mountain (and out of the Park) to eat fresh



shoots on the old riverbed, putting them at risk (cars and hunting)

- Bird migrations were much earlier this year (2019) and the land is not ready to sustain them yet
- Gophers are not seen in the same places and they're appearing earlier out of their dens
- Bears don't hibernate as regularly, they are awake and active in winter

- Silt is being observed in the belly of trout
- No more terns observed at the lake
- Swans have different migration times and new places (i.e. Andrew Atlin Lake)
- Air quality is changing with impacts on birds, wildlife and people
- Robins are being spotted as late as November
- Ducks are now living year-round in some areas

How do we know it is changing/measure the change?

- The long-term changes to some of the wildlife (i.e. Muskrat trapping season) are observed only by the elders as the youth experience the ‘earlier’ seasonal trapping as normal
- Water level fluctuations
- Increased dust
- There is a data gap regarding fish: how do they react to water changes, temperature changes, what are their genetic differences, new spawning areas, etc.

How do we increase awareness and understanding of these changes? What has worked? What is not working?

- Problems = opportunities (make the messaging exciting, not “doom and gloom” all the time)
- Education! Education! Education!
- Documentaries
- Publicity
- Information to people
- Tools and empowering teachers
- Signage, posters, media, research
- Youth muskrat camps need to be held earlier to adapt to change
- Land based activities and stories
- Kluane Lake Research Station
- The changes in the Á’äy Chù have put the spotlight on Kluane, creating an opportunity for increased messaging

D. Changes in our research and/or approach to research (Table Facilitator: Sonia Wesche)

What are the most significant changes we are observing and experiencing in our research in Kluane? How are we as researchers adapting to change?

- Increased community-researcher agreements
- Communities are stepping up, identifying their own research needs and approaches

- Within Parks/Yukon context researchers are learning they need to consult and engage with communities to do things in a good way; this has only begun in the last few decades
- Listening to communities has shifted the focus of research over time
- Oral history projects are driven by communities
- Supportive context / institutions can allow collaborative experimentation and evolution of approaches and practices, but this takes time
- Flexibility is required
- Need to match (researcher's) skill sets to communities' needs
- There are changes in the research culture, this is a long-term endeavor and requires constant education, communication and teaching; it's incremental; and "policing" is unfortunately required

What are the challenges? what are the successes in working with communities?

- Anticipating change is a challenge
- With earlier springs/fires, we need to adjust the timing of research and make other modifications as needed such as evacuation plans, flexibility in funding, timing of work
- There are financial constraints affecting research (i.e. helicopters may be on standby for emergency measures)
- Kluane Lake drainage timing influences salmon monitoring, sheep, frogs, ponds, ice, etc.
- Kluane Lake temperature and fish populations (female fish declining?) are impacting people who rely on these food sources, safe travel routes on ice, etc.
- Science projects are usually targeted at specific times of year for specific reasons but this may not align with appropriate timing for communities

How are we (researchers) privileging indigenous knowledge in research?

- Pre-emptively ask First Nations: what are your interests and how can we support them?
- For the Red Squirrel Project, researchers were more involved with Champagne Aishihik First Nations with regards to incorporating Indigenous Knowledge and obtaining permits. There are challenges regarding communicating in a respectful way; don't want to create more harm
- Researchers need to learn about Yukon context and be aware of the land their work occurs on
- Context: reconciliation is a new prerogative for researchers; understand First Nations concepts and values (i.e. respect)

How do we increase awareness and understanding of these changes among other researchers? What is working? What is not working?

- Researchers need to take personal actions towards climate change, not just in their work

- Monitoring needs to be ongoing
- Traditional knowledge observations can tell us more about small changes over time
- Research needs to involve community members
- Communities are overwhelmed with number of researchers and opportunities: how can we support the communities?
- Build relationships and create ‘community champions’
- Increase available funding for projects which successfully incorporate work with Indigenous communities
- Create a booklet with practical guidelines for researchers on how to engage better, what processes they should follow, how to behave respectfully
- Avoid overburdening the community and avoid negative impacts
- Invite First Nation Lands and Resources employees to research camps
- Set community priorities for research
- Some community monitoring is occurring (ex. fish and wildlife) since the land claims were signed but how can we incorporate this into existing community activities?
- Continue to support DKRRC wildlife observation reporting program
- Engage youth in forums (ex: jobs for Youth)
- Gathering regularly with elders for teaching, monitoring, etc.
- Community monitoring can be easy

E. Changes in our Communities (Table Facilitator: Nadia Joe)

What changes are we observing in our communities?

- Students have to leave communities to attend high school, do they return to the community when they finish school?
- The environment is changing
- More people are being educated in school and not on the land
- Kluane First Nation has increased renewable energy initiatives, including Housing is with solar energy; so successful that this has maxed out ATCO returns
- Elders in Whitehorse are unable to return to the community because of health issues and requiring care only available in larger centers. This results in a loss of access to knowledge keepers, impacts to mental health of Elders, and increased financial resources require to travel to/from Whitehorse and the community
- What is driving the loss of Elders and students from Kluane?
 - Elders don’t have access to assisted living in the community, though KFN has requested housing for Elders with care needs

- Lack of jobs for Youth
- School only goes up to grade 8
- Homeschooling requires resources
- Yukoners have a stronger sense of co-management and relationships with First Nations, but we need to continue to increase awareness and education

What is changing in the community with regards to researchers and/or the ever-increasing demands for consultation and engagement?

- Back in the 80s, there was no interaction between First Nations and researchers; today there are more invitations and opportunities for researchers to participate and collaborate with First Nations
- Researchers are helping to increase capacity
- Researchers have shown a greater interest in First Nations
- Sharing (with Youth and others) and protecting Indigenous knowledge and information is important
- Cultures within organizations can be limiting – for example, there are shifts happening within Parks Canada that better reflect First Nations co-management
- A challenge is for First Nations to respond to funding proposals that have immediate deadlines
- In Iqaluit, researchers sit down together to figure out who is doing what, as a coordinated effort. As a result, the Inuit Board doesn't experience the same response burden as we see here in Kluane, or Yukon. This requires trust as well as money for both researchers and community members but is effective for communication in the long term. The group setting also eases stress for researchers.
- There is a need to share resources and knowledge.

What are our priorities for responding to change?

- Revitalizing First Nation languages, cultural protocols and customs ex: Kluane First Nation harvest camps, with Youth and Elders attending
- Keeping the community (Elders and students) together in Kluane instead of having to leave
- Involving youth is critical, this can include research programs for Youth, such as Ikaarvik – which is a great example of a project addressing knowledge gaps and bridging the local and researcher communities
- We need to be responding to effects from a variety of changes including changes resulting from the highway establishment and development, climate change, and changing fish and wildlife populations

What responses build resilience? What are strategies that we can take or continue to build on?

- Taking care of each other
 - For example, harvests by Outfitters are shared among community and Elders in particular, with KFN and DKRRC hosting sausage-making workshops
- Practicing cultural activities such as muskrat trapping or harvest camps
- Communication and connecting:
 - Hosting community events and making good food available
 - Locally based “Robo calls” have been used as a way to keep community informed and connected
 - Individual relationships with community matter (not just institutional relationships)
- Reconciliation:
 - Parks Canada “gave” Kluane National Park and Reserve back to First Nations after removing First Nations from it.
 - First Nations are land guardians
 - The Park offers new revenue streams
 - The Park needs the spirit of First Nations
 - Mountains need to be revisited (both physically but also renamed with local languages)
- More ideas for building resilience:
 - Build tiny homes: train youth to build a home to return to
 - Renewable energy training program- create energy champions
 - Training First Nations to become pathfinders
 - Social enterprise initiatives in Alaska; opportunity to attend a learning exchange
 - Have childcare available for visitors
 - Official welcome from Kluane First Nations
 - Shared platform for researchers to see what others are working on and to identify projects that should be jointly coordinated either between First Nations and Renewable Resources Councils
- Staying positive and highlighting what is good
- Respecting diversity: everyone comes with their own cultural perspectives (even scientists)
- Regarding research partnerships, people/researchers from the south need to understand:
 - Proposals cannot simply be photo-copied and sent to the community as sole communication

- The community may not have time to respond within the timeline requested
- Learning has to occur on both sides (community and researchers) and this takes time
- Increased work with the Renewable Resource Councils
- Having an annual forum to let people know what work is happening (like the Kluane Summit)

5.7 Thechàl Dhâl Site Visit (Parks Canada and Yukon Government)

Carmen Wong (Parks Canada) and Monica Johnson (Parks Canada & KFN Citizen) provided an overview of park history and ecology. Shawn Taylor (Yukon Government) shared a summary of sheep ecology and surveys in the area.

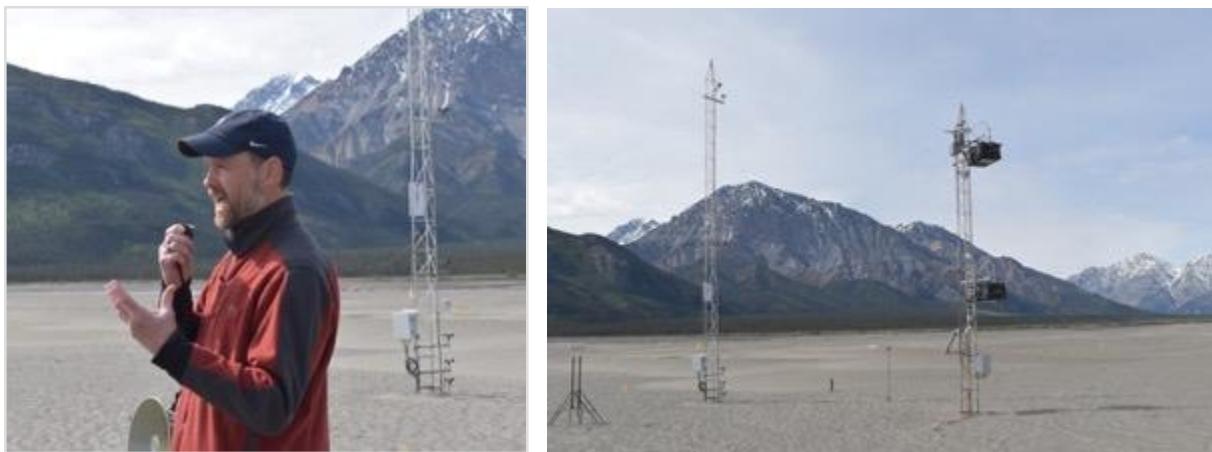


KFN Elder Margaret Johnson recounted stories of growing up in the area, travelling between her family's trapline south of Kluane Lake to Burwash, encountering the highway and Ä'äy Chù bridge for the first time, and people offering her family a new barge ride across the water.

5.8 Ä'äy Chù Site Visit (J. King, University of Montreal)

Dr. James King offered a short overview of his research on dust from the Ä'äy Chù. His research team took measurements of dustfall for three weeks in May 2018 using a particle counter, then processed the samples using chemical analysis which determine the chemical compounds of the dust. Results show increased wind and dust events in the afternoon due to katabatic winds. The amount of dust in the Ä'äy Chù valley exceeded acceptable limits for all of the dust storm events

by ~3-4 times. Analysis also showed arsenic was present in the dust, and although the concentration of arsenic was fairly low, the amount of dust means an exceedance of safe quantities.



Participant question: Dust levels are very high during dust storms in the valley here, but what about when the wind travels up to the North end of the lake, are there stations or estimates for what dust levels look like down there?

James and his team have submitted a proposal to establish dust stations in the communities for both dust and indoor air quality. The amount of dust decreased significantly outside of the valley area.

Participant question: Can you tell us about dust in the lake?

Kluane Lake has fairly low levels of heavy metals and arsenic. A lot was coming in from the river originally. Now, there is more from the air but less from the river.

Participant question: Did dust exist before the water level drop?

My supervisor was here in the 1970s to measure dust, so the answer is yes. At the end of the glacier there is a very fine material (which creates dust).

Participant question: Is dust not caused by humans but by nature?

It is a natural process, but it is increased by the human influence on glacier retreat.



Participant question: There is old (~1940s) data from people who went up to assist researchers, do you look at that data?

We have not looked that far back but it would be interesting to look at it.

Participant question: How much is dust vs silt?

Silt is included in dust, as well as clay.

Participant question: Could there be an ecosystem approach on the dust research, like studying the effect of dust on plants?

Researchers have been in conversation with some people collecting rabbits and their fur – this may be a good way to examine arsenic level changes over time. Although the total amount of arsenic here exceeds acceptable levels, it doesn't necessarily mean that the kind of arsenic that is dangerous to humans is exceeded.

5.9 Video Presentation: Kluane & Climate Change

The film is produced by The Prairie Climate Centre (University of Winnipeg) and Kluane First Nation. The two groups partners to tell the story of Ā'āy Chù and decreased lake levels – and the impacts of these changes on the community. The full length film should be completed next year.

Jared Dulac spoke a few words following the film, on which he assisted with filming. This documentary presents a larger perspective about what is happening in Burwash, and how dramatic and sudden the 2016 Ä’äy Chù event was. He noted that a lot of people come to Burwash and take information, but do not engage with the community. Many researchers want to come and study the lake, but don’t engage. Jared emphasized that researchers need to speak to the community to better understand how climate change is affecting them, to better understand the community’s problems and concerns.

5.10 Water and Ice in Kluane

Panelists: Michel Baraer, Gwenn Flowers, Luke Copland, Heidi Swanson & Norma Kassi, Dhongan Zhu, Ellorie McKnight

Panelist self-introductions:

Gwenn Flowers is a glaciologist based out of Vancouver – she studies the health of glaciers, which has downstream implications. Her research group has observed that glaciers are losing ice and mass, with melt rates outpacing snowfall and accumulation rates. Near the Kaskawulsh glacier, glaciers have been thinning on average about by 40-50cms per year. Not all glaciers respond the same to change, however, with bedrock material likely having an impact on differing reactions of glaciers to warming. Surging glaciers are also reacting differently to change – some small glaciers that used to surge now no longer surge. Gwenn first visited Burwash 25 years ago and considers Yukon a special place.

Luke Copland is a professor from the University of Ottawa and has worked in the Yukon since 2006. Since then, he has observed considerable change at Kluane, remembering how the Ä’äy Chù used to be so impressive and how the Kaskawulsh used to be so different. He reminded participants of Kluane Lake’s dynamic history, and how the lake used to flow south instead of north and wondered if the flow reversal could occur again in the future. Luke’s research team also studies glacier in Kluane, particularly surging glaciers. They have found that surging glaciers are now surging more often but with less strength – he referred to the surging Donjek glacier and the consequences of surges and retreats on downstream water levels and flow.

Heidi Swanson is an Associate Professor from the University of Waterloo. She has been working with KFN and the DKRRC on various lake-related topics for many years. When she first came to Kluane, people were concerned about the health of Kluane Lake fish and if they were safe to eat. Heidi and her team took samples from the lake and from harvest camp, and hired Youth (Jared, Lenita, Nadaya) to help them throughout their research project. The Youth reported results back to the community, finding fish were low in mercury in Kluane – lower than anywhere else in the arctic. She stated the importance of healthy land and waters.

Norma Kass is the co-founder of the Arctic Institute of Community-Based Research (AICBR) and spoke of the food security project she worked on with KFN and Heidi. AICBR trained local Youth to conduct the research, with Jared Dulac executing the filming work. The Youth travelled to the University of Waterloo to assist with labwork to identify fish health and contaminant levels – it was the first time many of these Indigenous Youth had been in such a lab.

Michel Baraer is a hydrologist and an Associate Professor from University of Québec. His research team is interested on the impact of glaciers to water resources. Michel remarked that glaciers are retreating extremely fast, and he is concerned about future downstream water resources. At Kluane, Michel's team is noting many changes particularly in rivers, including shifts in the timing of peak water flow in response to climatic changes and glacier sizes decreasing.

Dongnan Zhu is a senior hydrologist for Yukon Government. He believes in good communication and for community involvement during all phases of research. He also noted the importance of observing long-term change. Dongnan noted that an interesting local research initiative could be looking into how much groundwater contributes to Kluane Lake, since groundwater has an important role in salmon spawning habitat – one estimate is that groundwater contribution could be up to 40% of the lake's volume of water, which is significant. More research is required to obtain an accurate estimate.

Ellorie McKnight is a PhD candidate from the University of Alberta. She first visited Kluane in 2012 as a student taking a glaciology and geography course. Ellorie's interest in water and water health brought her back to Kluane for graduate studies. She lived at Kluane for some time and realized how powerful and unifying Kluane Lake is for everyone at Kluane. Ellorie worked closely with KFN and DKRRC to establish baseline monitoring of lake water properties in 2015, leading to the establishment of a long-term thermal monitoring program. Water temperature is important to the ecosystem and is relatively easy and inexpensive to measure. Future work includes looking at the 2015 data and comparing it to the post 2016 data to investigate whether the Ä'äy Chù shift has caused any changes in lake water temperature dynamics.

Questions and discussion

Participant question:

There is a lot of permafrost here. In Quill and Burwash Creek area, there used to be a lot of ground and surface water. Could sinkholes happen here (as permafrost thaws)? What about aquifers (and impacts to aquifers)? Are they healthy, are they potable?

Answers/comments from panelists & other participants:

- There was the community permafrost mapping project done in conjunction with Yukon University – that study concluded there is not a lot of potential for massive slumps (or sink holes). In the Burwash, Quill and Nickel creek areas, the slopes are very steep which helps to move material off the slopes. However, there is much less permafrost in the valleys there. Wetlands in those areas are created by hydrological conditions and seem to be very stable. Having said that, there is still much research and documenting to be done.
- A participant shared that Elders are observing climate change, and that the Creator will bring water back but we have to learn how to look after everything and preserve it.
- In this region there has always been change, but the changes we are seeing today are happening at an accelerated pace. Human influence is impacting this change. Water loss is accelerating and there are no indications of this stopping.
- There is a lot of ice in the Kluane area.

- This area has changed very much over the years, and it encourages wonder of what will happen over the next 50 years. Where we are sitting now used to be covered by ice with only the mountain tops sticking out above it. As ice melted, it went in many directions. Some people call this climate change, but I don't think it is (things – the climate- is always changing).

Participant question: Can the rock retain heat and impact the glaciers' melt?

Answers/comments from panelists & other participants:

- Probably not at the scale that people can see. There is a potential for warm water to move along the faults. But, we are not sure what is under the glaciers, and whether there are faults or not. It is unlikely that rocks (retaining heat) would melt glaciers.

Participant question: We heard in September last year that there was a slush lake on the upper Lowell. Could you please tell us more?

Answers/comments from panelists & other participants:

- This is a relatively common phenomenon on glaciers, which is why glaciologists do not work on glaciers in June. It is a natural process and common every summer.

Participant question: That water (on glacial ice) cannot refreeze, right?

Answers/comments from panelists & other participants:

- Some of that water will percolate into the glacier or run off its surface and sides. Usually these slush flows make channels in the snowpack. This event is common, usually occurring annually and can be more, or less, pronounced depending on the spring.

5.11 Roundtable Reflections: Adapting to Change and Rebuilding and Renewing Resilience

Participants broke into groups and discussed the following questions:

What relationships in Kluane are most vulnerable to change?

- Physical, human, plant and animal relationships
- Vegetation (permafrost is supporting many plant communities, hydrology, etc.)
- Winter lake hydrology (and lake ice) can be a controlling factor of change (especially for animals and humans, as the lake stays open longer and freezes later, as we see water pooling on ice, and as the ice becomes thinner)
- Changes in winter snowpack have impacts on animals and permafrost
- Relationships with language are changing – for example, chú means water but we've lost the water from Ä'äy Chù, therefore the title no longer has the same meaning
- Everything is related to the hydrologic cycle: as the water flow decreases, the lake levels decrease, and the water table is lowered. This will affect wells and well depths, as well as plants and wetlands
- The communities' relationships with animals and food sources are vulnerable to change
- Heavy metals in the dust potentially affects the health of the wildlife and humans

- The environment is vulnerable to abrupt change
- Abrupt change is unpredictable making it difficult to prepare or respond to
- Dramatic weather events such as flash floods pose risks to infrastructure, inter-community connections and safety
- Trappers are vulnerable: warmer weather is not good for fur, nor are degrading ice conditions for travel
- Youth are vulnerable: no high school results in loss in community
- Wildlife populations are vulnerable
- Culture is vulnerable to loss and change
- Examples of animals experiencing vulnerability:
 - Alpine species have nowhere else to go (i.e. pika)
 - Spruce beetle and warmer temperatures increase vulnerability to wildfires
 - Salmon and warmer water temperatures increases spawning vulnerability
 - Small animals are vulnerable as it is more difficult for them to relocate
 - Large ungulates and warmer winter temperatures impact food and competition
 - Insect populations are changing in Kluane

What characteristics are most resilient to change?

- Ability to choose how you want to live
- Commitment to completing tasks
- Being open to dialogue
- Variation in populations
- Multiple perspectives
- Proactive leadership
- People who relate to each other and the land
- Traditional activities and values, such as sharing and doing activities together.
- "You get what you get and you don't get upset!"
- Community relationships
- Water and glaciers can be resilient
- Animals can be resilient

What tools/strategies are needed to build resilience?

- Investigate available opportunities and identify alternative options
- Recognize there isn't a single solution to everything
- Good and continuous communication
- A community that is receptive to ideas but proactive about their needs

- More regular connections and breaking down barriers
- Identify common interests

In communities:

- Be positive
- Thinking about the future
- Know when to ask for help
- Move away from fossil fuels and towards renewables
- Community greenhouse and less reliance on highway for bringing food into communities
- Creativity and independence from standard economic systems
- Within-community health and social programs (ie: care for Elders)
- Eat local, grow local
- Transfer traditional knowledge
- Community composting
- Sharing through community freezers & harvest camps
- Training hunters in traditional ways
- Partnerships and gatherings

In Research:

- Involve local people and Youth
- Increase exposure to opportunities
- Build local capacity and skills
- Build curricula for research with local perspectives
- Teach how to build good relationships
- Diversity research
- Focus on non-climatic stressors (i.e. fish - working with anglers / harvest)
- Takes risks and deviate from original plans – be flexible
- Learn from mistakes and successes
- Focus on in person visits rather than email or phone communication
- Connect community needs to appropriate researchers

What other examples exist that we can learn from to help respond to change and rebuild resilience?

- Local solutions tend to work well
- Using tools from outside the community (i.e. people coming in to teach different skills) can work well

- There needs to be common interest between communities and researchers
- Community health not available for Elders – this is an example of something that needs to change to build more resilience
- Examples that have worked well to respond to change and rebuild resilience:
 - Yukon River Inter-Tribal Watershed Council
 - Ikaarvik program - connecting youth amongst the north
 - Yukon Youth Ambassador program
 - Arctic Institute of Community Based Research
 - Networking with neighboring jurisdictions in the north
 - Declaration of Climate Change Emergency - Old Crow
 - Learn from traditional stories and become more prepared
 - Virtual reality: KFN citizens across Canada utilize skills / relationships

5.13 Ceremony in research

As previously mentioned, participants were asked to bring a jar of water to the Summit. They were invited to participate in a water ceremony to close the Summit, to acknowledge and give thanks to *chù* (water) and to each other. The water ceremony provided a holistic opportunity to expand thinking about *chù* - a powerful element which connects all life together. Respect and honor of *chù* is an important part of indigenous cultural beliefs, and sharing that understanding with visitors and researchers alike is also important.

Conclusions

This second Kluane Research Summit successfully brought researchers and community members back together to continue conversations from last year's inaugural Summit. Participants met the objective of building the collective knowledge of the people of Kluane and discussed solutions and strategies for a resilient community. Due to the more holistic theme for the Summit this year (Change and Resilience), a more varied subset of researchers were invited and in attendance, diversifying the conversation and research topics. Most participants appreciated the theme and felt some connection to it in their respective fields of study or everyday lives.

The Summit fostered the (re)building of relationships, and respectful and meaningful two-way knowledge exchange between groups. All participants seemed committed to working together for better outcomes in the future. Most participants appreciated having a Summit format that was less presenter-style based, though others wished the opposite. Most participants also expressed their appreciation for a respectful and unique environment which was conducive to sharing and exchanging thoughts and information.

Many of the outcomes of the Summit(s) are not quantifiable - for example, one objective is simply for researchers and community members to spend time together, but tangible outcomes from this are not necessarily evident. Although some participant feedback appreciated this, other participants wished for clearer and more tangible objectives and outcomes from the Summit.

Recommendations and feedback from participants are included as an Appendix, with key points summarized below:

- The importance of Elders and Youth, as well as the involvement of community in all phases of research, cannot be overstated
- A ‘best practices guideline for researchers’ from KFN would be valuable to guide researchers on ‘doing research in a good way’
- These types of gatherings – and simply spending time together (community and researchers)- are beneficial and key to rebuilding relationships and knowledge sharing and should happen regularly
- How can we ensure more community members, including Youth and Elders, attend these events?

Next steps and words from the planning committee

We would like to extend a sincere thank you to all participants for sharing your time and thoughts at the Summit. Thank you for making space in your busy schedules and for coming with an open mind and heart to create a respectful space. Particularly, we would like to thank Elders Lena Johnson and Margaret Johnson for so generously sharing their words and stories.

We have received feedback requesting regular Research Summits. Although hosting these events annually may not be feasible, having a Summit every few years could be a realistic goal. The resources needed to organize and host such a Summit are substantial – both fiscally but also in terms of capacity – and may vary from year to year, in part determining the frequency of Summits. If you or your organization can contribute to, or lead future summits, Kluane First Nation and the Dän Keyi Renewable Resources Council would love to hear from you!

Appendix A. Participants by Affiliation

AFN Yukon Region

Chief Kluane Adamek
Emily McDougall

Aishihik Renewable Resource Council

Larry Joe

Burwash Landing

Jennifer Asselstine
Samantha Asselstine
Taylor Penner

Canadian Mountain Network

Norma Kassi

Champagne Aishihik First Nation

Meagan Grabowski
Melina Hogen

Community Nursing

Lydia Grenon

Council of Yukon First Nations

Merran Smith

Dän Keyi Renewable Resources Council

Sandra Johnson
Sian Williams
Joseph Bruneau
Suzanne Flumerfelt
Pauly Sias

Destruction Bay

Cecile Cox

EDI Environmental Dynamics

Dawn Hansen

Haines Junction

Michael Schmidt

Icefield Discovery

Kluane First Nation Staff
Geraldine Pope
Jason Tapp
Kate Ballegooyen
Kelli Backstrom
Lee Tapp
Ron Bouvier
Nichole Williams
Jennifer Chambers

Kluane First Nation Citizens

Chief Bob Dickson
Dennis Dickson
Lena Johnson
Margaret (Grace) Johnson
Maureen Gloria Johnson
Michael Johnson
Sharon Kabanak

Kluane Lake Research Station

Craig Gerlad
Henry Penn
Kristina Miller

Kluane National Park Management Board

Michael Riseborough

Kluane Red Squirrel Project

Erin Siracusa

Outpost Research Station

Kelly Hurley

Parks Canada

Carmen Wong
Linaya Workman
Tom Buzzell
David Neufeld (retired)
Silver City
Sally Wright

Simon Fraser University

Bernhard Rabus
Gwenn Flowers

University de Montreal

James King
Melyna Laplante
Marie-Pierre Bastien-Thibault

University of Alberta

Ellorie McKnight
Stan Boutin

University of British Columbia

Christian Schoof
Lael Parrott
Valentina Radic

University of Calgary

Dan Shugar

University of Maine/University of Ottawa

Will Kochtitzky

University of Ottawa

Luke Copland
Sonia Wesche
Stephanie Woodworth

University of Quebec

Michel Baraer

University of Sask/Squirrel Camp

Dylan Baloun
Jeff Lane

University of Waterloo

Heidi Swanson
Jared Ellenor

White River First Nation Citizen

Charles Eikland Sr.

Note takers

Moya Painter
Lucyanne Kay

**Yukon Environmental and
Socio-economic Assessment
Board**

Christina Guillemette
Helena Ouskine

**Yukon Fish and Wildlife
Management Board**

Graham Van Tighem
Tecla Van Bussel

Yukon Geological Survey

Kristy Kennedy

Yukon Government

Dongnan Zhu
Emma Seward
Cathy Merkel
Benoit Turcotte
Bruce Bennett
Shawn Taylor
Aynslie Ogden

Yukon Research Centre

Brian Horton

**Yukon Salmon Sub-
Committee**

Al von Finster

Silver City

JP Pinard

Appendix B. Agenda

Thursday, May 30, 2019

5.00pm Doors open

6.00pm Welcome prayer and dinner

7.30pm Cultural activities

9.00pm Doors close

Friday, May 31, 2019

8.30 Doors open and registration

9.00 Maintaining the sacred fire

9.30 Summit Welcome and Opening Remarks

- Chief Dickson, Kluane First Nation
- Sandra Johnson, Co-Chair, Dän Keyi Renewable Resources Council

9.50 Summit 2019 Orientation

- Participant introductions (All)
- Overview of workshop objectives and agenda

10.05 Background: Where we've been

- Presentation: Advancing recommendations from Summit 2018 (P. Sias and K. Ballegooyen)
- Update: Kluane First Nation Traditional Knowledge Policy (Kluane First Nation)
- Update: KFN – Bringing Research Home & Research Protocol Development (E. McKnight and S. Wesche)
- Questions, discussion

10.45 Group Exercise: Reflecting on the year

10.50 Health break

11.20 What ancient wisdom teaches us of resilience and change

- Introduction to Summit Theme
- Storytelling Session with Kluane First Nations Elders: L. Johnson and M. Johnson

12.00 Lunch

Special Youth Presentation - Logan Moore, Recipient of a National Indigenous Science Camp Award

1.00 Experts Circle: Lessons from the land

- Circle of experts share perspectives on resilience and respond to questions on changes observed and experienced on the land
- Questions, discussion

2.30 Health break

2.45 **Small group discussions: Orienting ourselves to change and resilience**

Discussion Questions:

- What are the most significant changes we are observing and experiencing in Kluane? On the land, in our research, within our communities?
- How do we increase awareness and understanding of these changes?
- How much more change can/should we anticipate?

3.45 **Summary and Review Agenda for Saturday**

4.00 **Invitation to observe ceremony**

5.00 Dinner

Saturday, June 1, 2019

8.00	Registration and hot breakfast available
9.00	Depart on field tour (transportation provided) <ul style="list-style-type: none">▪ Thechàl Dhâl (Kluane First Nation and Parks Canada)▪ <i>Ã'qy Chù</i> Site Visit (J. King, Université de Montréal)▪ Congdon Creek wildlife monitoring (Kluane First Nation and Partners)
12.30	Lunch at Jacquot Hall
1.30	Video Presentation: Kluane Climate Change (Prairie Climate Centre and Kluane First Nation)
1.40	Lhù'âàn Mân Study Update – Kluane Lake Water Chemistry Summary (Environment Canada)
1.50	Roundtable reflections: Adapting to Change & Rebuilding and Renewing Resilience Small Group Discussion Questions: <ul style="list-style-type: none">▪ Which relationships in Kluane are most vulnerable to change? What's at risk?▪ How do we successfully respond to these changes? In our research? In our communities?▪ What can we learn from others to help respond to change and rebuild resilience?
3.00	Co-discovery: Exploring next steps for collaborative research
3.40	Summary of Summit and next steps (Summit Rapporteurs)
4.00	Invitation to observe ceremony, and closing

Appendix C. Summary Evaluation Forms

1. How would you rate the overall Research Summit?

- Loved the traditional discussion format and water ceremony!!! And the blend of locals and researchers!
- My only comment is that I would have loved to know more about the community (activities, rituals, practice, food...) but I really enjoyed my experience. Thumbs up!
- Very instructive
- Was not here last year and this Summit made me realize how important the glaciers/lake relationship is.
- More can be done with research people especially building opportunities for youth
- Very useful
- Great presentations – good mix of people
- Wonderful to have created a forum where everyone – indigenous and non-indigenous – feels comfortable and welcome
- I would like to see some actual presenters next time. Not all, but one per day to give a nice balance.
- Incredibly well organized with many different modes of interaction
- Wonderful again. Congratulations to the committee for planning something unique and powerful and important. Not a small accomplishment!
- This was a great opportunity to listen to community experiences and gain knowledge of how the ways information is shared differently.
- I've never attended a Summit before, so while I have nothing to compare to, I must say this was one of the most respectful gatherings between communities, researchers and government that I've ever been to (Summit or not).
- I think the platform is getting better
- I enjoyed it and the experience but missed the goal or objectives, if they existed.
- Well organized, the field trip a great addition, breakouts are great.
- I really appreciated the round the table discussions and the round chair set up.
- Learned a lot.
- The Summit was energizing, well-paced and a good balance between knowledge sharing, group discussions & relationship building.
- Great balance between discussions, lectures, field trips, team discussions, panel time. Excellent logistics.
- Thank you so much to the planning committee for making this event happen. What a wonderful opportunity to bring these communities together.
- Excellent – as good if not better than last year.
- Such an amazing couple of days! Can't say enough positive things about this gathering. Thank you for inviting me
- Thank you for organizing!
- The Summit agenda was great – I really enjoyed a great mixture of local knowledge, discussions with scientists, and field trips.

- Getting better in terms of participation of local, not only “staff”
- Very informative, nice to meet the researchers and discuss what their interests are and for KFN and myself I like the collaboration
- Very eye opening and informative; well attended; diversity of approaches was effective
- Great to know that KFN is interested in being engaged with researchers and that researchers are keen to learn from local people.

2. What did you like about the Research Summit?

- I liked the smallish size of group which made it easy to feel comfortable and meet people
- First time at the Summit and in the Kluane community and I felt already welcomed by all the members of the community. I could already see all the great value shared by the community. So you should keep all the discussion about the community (Elders, Pauly, etc.) especially for the new researchers in the area!
- Creating a network, relationships; listening and learning from elders (stories, sewing); casual mood, welcoming people; mix between activities and talking
- Proximity; easy to participate; great initiative – congratulations
- Great food and like the new format; would have liked the ice and water circle of sharing info on the first day so we could ask questions of the researchers throughout event
- I was very interested in water issues and the changes occurring. It was nice to meet so many people from other parts of Canada and outside of our country.
- Nice to have people return and help with community issues; share and build
- It's a unique way to exchange information, learn about community concerns, history, plans, etc.
- It was great to be able to connect with everyone and hear their stories
- Nice to see community and researchers work together. This is a great change.
- Great balance between community involvement and research information. I really enjoyed the panel where anyone can ask questions and answers given. Amazing group of organizers (and also fantastic food).
- Feeling I am starting to build relationships with individuals within KFN but also with the KFN as a community.
- The mixture of people, youth, elders working together. Resilience comes through in many forms.
- The opportunity to learn from so many knowledgeable people → networking. I enjoyed the field trip component. That should be done each year.
- Loved the new flow of things. Just missing a little meat (i.e. some key note speakers)
- Appreciated diversity of activities (panels, meals, breakout groups, stories, field trip) and time to connect with many community members. Very good facilitation of activities. Great food! I really liked time ‘speed-dating’ style introductions of meeting people.
- Field trip to the dust station, elder’s stories, Saturday video, break out groups, many shared meals and opportunities for informal conversation. Sewing and museum!
- All aspects were excellent!
- Broad nature of community and different groups of researchers

- I loved all of the different perspectives and knowledges; sharing collaboratively; asking thoughtful questions; hearing community concerns, ideas, solutions and questions for the researchers. Everyone was kind and respectful. LOVE the FOOD!
- It's ideas – now if we can move to the step “Compiling and implementing our ideas.”
- I enjoyed the storytelling by the elders and that they were given the opportunity to share. The food was fantastic!
- The circle meeting space and couches. The field trip to Thechàl Dhâl. Having Stan Boutin come to Burwash!
- Food was SOOO good! The format was good! Not presentations all the time!
- Structured group activities – especially museum visit / beading which allowed for more informal relationship building; field trip – nice to do more hands on learning; the food! Amazing; panel discussions; circle format
- Everything: people, atmosphere, food...
- I loved the space that was provided to let the KFN elders tell their stories to the group and the way in which the discussion was organized in a circle to facilitate discussion by all.
- I feel like the Summit is creating a platform for creating a real network and research family in Kluane that incorporates community and researchers – which is awesome!
- Opportunity to listen to youth and elders; opportunity to hear community ideas for research; opportunity to catch up with attendees; opportunity to spend time in Lhù’àn Mân Keyi; field trip and learning more about scientific activity in the region.
- The opportunity to talk with a wide variety of people. Nadia the facilitator was awesome. Hearing directly from KFN people. Food.
- Seeing the video with uncle Dennis. Why? Because he’s funny and my uncle, sooo...do I really need to go on.
- I found solutions are possible because we as a people were heard. The food was superb. A feast in the land of plenty.
- Listening to the researchers and how we’ve progressed together and finally get to meet and discuss our accomplishments and endeavors.
- Good diversity of attendees; very well planned, organized and executed; thank you for creating the space
- Great to hear about the local peoples’ knowledge and concerns

3. What didn’t you like about the Research Summit?

- Not many details were provided ahead of time so it was difficult to prepare and know what to expect
- As a researcher, I often found myself interacting with other researchers; I would like to see more explicit objectives; it did seem some attendees had agendas to push that didn’t seem to align with the Summit objectives
- No supper on last day
- Sitting in the chairs
- Would be great to see younger community members (i.e. on Saturday when they’re not in school); more local artists to showcase, books to sell; workshop on local language
- N/A

- Not a negative but it would have been nice to have some funding agency representatives at the meeting
- Unfortunately, too many old white men trying to dominate the conversation but I really appreciated the moderator's efforts to limit this.
- N/A
- Wasn't long enough; would be nice to have more time/activities that focused on the community i.e. community walks
- Well, overall was great. But some of the section weren't (??) very technical. Which some of the scientists may not very interested!
- No name tags. Took me too long to meet other attendees.
- I would have liked more firm objectives of the Summit stated earlier / at all. I think it would have put everyone on a more similar page than allowing everyone to only function based on their own objectives.
- Didn't get to question for the public.
- Not long enough.
- The lack of preparation in the aspects of community developed information awareness within the community. Perhaps there is a way to have a preparatory question/answer session/meeting before the Summit
- A little too much sitting. Sometimes group discussion felt too big for everyone to participate.
- There is nothing I didn't like about it but it would be great to have more stories from the elders if possible.
- Need some presenters.
- Nothing that I didn't like. The facilitation was excellent to keep us moving along schedule.
- A little too much sitting.
- Nothing I can think of.
- Very few youth present
- Notice to make resolutions could be more useful in getting fish and wildlife monitored on-going.
- Nothing (sorry this is not that constructive)
- That there wasn't more outdoor activity. And it seemed strange to do the field trip Saturday morning as opposed to afternoon because a bunch of people left directly from Thechàl Dhâl

4. Do you have any suggestions for improving the content or delivery of the Research Summit?

- General introductions of everyone would've been nice so we know who was in the room, though also loved the mini introduction exercises – a combo approach would be best
- More activities like the sewing and more expert circle (Very interesting way to share)
- Maybe, I don't know in fact
- Maybe have storytelling (oral history) of KFN elders in a forum. This is an idea for next Summit
- Filming by KFN youth on quarterly basis to monitor changes
- I don't because I think it needs to be community driven and as a researcher I should respond to that
- Involve more youth. They will help us solve our problems. Maybe travel to the institute and squirrel camp to see research in action

- Maybe have a little more movement, especially on the first day. It was really nice to get out of the building on day two
- We should wear name tags maybe? Day 1 required a lot of active listening which was tiring
- Nice balance with breakout groups → maybe give time to summarize after this?
- It might be helpful for participants from outside the community to have some more structured opportunities to meet community members (ex. Assigned partners or small groups for short activities)
- Short walks to sites in town during the day? Summer timing is good for many reasons, but one drawback is that it is competing for time in the field. Having a winter meeting might be more manageable for many participants and maybe show them the region at a time of year they haven't seen it before
- The format of the Summit was greatly improved over last year but some prepared questions for panels from community and scientists would/could help the efficiency (productivity of the panel led discussions)
- Like the idea of bringing someone from different northern jurisdiction that is a forefront of integrating communities and researchers. Of course, many experts already here but like idea of cross – fertilization across jurisdictions – like Alaska.
- More time for reflecting and bringing back to main group for summaries of small group discussions. Asking folks to keep a commitment like last year.
- I think if we can convey our intent on to screen with discussion and showing sights that are implicated
- I might have split the Summit in two: first day is collecting issues, stories, objectives and goals. Second day is workshopping solutions to take advantage of expertise in the room. Would have liked to see more young researchers! Would have like opportunities to learn how I can do my science better, more respectfully, and in an integrated sense.
- It would have been nice to have a list of participants/researchers and their projects. An outdoor getting-to-know-each-other event at the very beginning.
- Maybe make topic more specific, so we can choose the one we like?
- More icebreaking sessions/activities to build relationships. Researchers tended to group together during meals; perhaps more activities that lead to decisions/recommendations to bridge the gap between community and researchers; success of breakout sessions varied and some people dominated discussion. Would be nice to have a World Café or partners and reporting back
- Would be great to post a summary of the meeting online with some take home messages. Possibly include list of participants' emails so people can stay in touch
- I would love to see more focused discussion on what research projects could come from this Summit. What are the identified projects that need work and how can the researchers present work ...(??) questions into their next research proposal / grant proposal / etc.? I think the connections (??) built in this Summit are wonderful but I think it would be hugely beneficial to capitalize on the number of researchers present and identify actionable items that we can move forward in the coming year.
- Maybe some kind of icebreaker activity to help meet people at the start of the meeting
- Forced interactions are really good, like the sticky notes on the chairs. Is there a way to do more of this? Name tags would be really helpful → could also be an opportunity for assigning groups.
- Nope do your thing ☺
- Good time of year to gather and share ideas on resilience and changes in our communities

- Not right now
- Potentially pairing researchers and community members to encourage more interaction? I would like to hear more explicitly from the community / First Nation as to what they view their research needs are.
- Having some scientific presentations to get updates on main topics would have been useful (ex. For half day)

5. Do you have any other feedback for the Planning committee?

- Please provide name tags for everyone; please provide the dates of the Summit much earlier. I could have easily coordinated the trip with fieldwork if I had known earlier the dates
- Great job! Thanks!
- We should have these information and sharing of knowledge sessions “quarterly” (at least)
- This was a more useful experience than any science conference I have ever attended. Thank you for all the hard work!
- Extremely well done! Other than engaging youth in research, I am unclear what tangible actions we can take. Can you help us better understand what the most helpful things to do are?
- Thank you, thank you, thank you for your work to make this happen! I have learned a great deal that I will take with me as I move forward with my career as a scientist.
- Many many thanks – an energizing / informative experience and very memorable
- Just like it! Will come again if I have a chance!
- This is a very important Summit. Applied scientists and engineers need to be encouraged to attend.
- Consider adding on energy component to research presentation; talk more about capacity building in community research.
- Bring outside FN reps that have experience with similar issues so we don’t have to reinvent the wheels
- Door prizes
- I LOVE YOU ALL! Also had a comment from community member to invite energy folks (also geologists)
- Anything that would give a better picture of the community (ex # and names of KFN elders; # citizens in D Bay, Burwash, Whitehorse)
- Have the same chefs next year!
- Thank you! It was an honor to be invited and to participants. I appreciated all the hard work.
- Be nice to develop a researcher’s guidelines to give people wanting to research in the area.
- The food was great!
- Please publish a “best practices” guide for researchers wanting to work in the traditional territory.
- Thanks for your hard work
- Do this more often so that what is monitored can be discussed as “Climate Change” concerns
- No – it was a very great learning experience
- Could be announced earlier
- Keep the first evening with the museum and the sewing! It was nice! And it’s a good way to exchange with members of the community!

- Could include some carpooling suggestions so people could come together. More icebreaker between community members and others felt a bit siloed. A compost would be good too.