

RESILIENCE WORKSHOP REPORT

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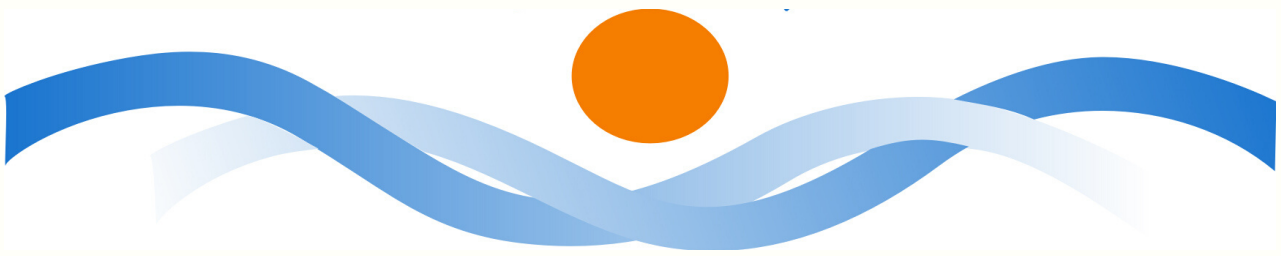


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On September 17, 2019 in Fairbanks, Alaska the Yukon River Inter-Tribal Watershed Council (YRITWC) hosted a Resilience Workshop. The Workshop brought together 14 participants from 10 Indigenous, rural communities within the Yukon River Watershed, and two urban centers. The purpose of the Workshop was to support community resilience.

First, we built an understanding of environmental changes from observations based in traditional knowledge, and the scientific understanding of current and expected changes. These two ‘ways of knowing’ were brought together, not to test one against the other, since we believe each stands on its own, but instead to build a more holistic understanding of current and future changes.

Second, we built on this understanding and discussed responses to change and resilience, with the goal of learning from each other. Alaska Native and Yukon First Nations are the first responders to environmental change due to their close relationship to the land and animals, and the fast rate of change we are experiencing in the north. People are responding to change now, because they have to. Often northern residents can’t wait for scientific certainty and planning. We focused our discussion on what people are doing now, on-the-ground; and what actions communities can take to build resilience based on strength within community and culture.

Participants comments are in *italics*. These are summarized by the author from hand written notes, and are not verbatim. Unless otherwise specified photo credits are those of the author.

"We need to preserve the Yukon. Scientist are trying to figure out what is happening to our food and our fish out on the Yukon, but can we wait for them?"

The Workshop

This report summarizes what was discussed during the Workshop. Observed changes are in black text, and what communities are doing to respond (or adapt) are in **orange text**. Insights from the scientific community that were presented at the Workshop are included in **blue**. Not all observations have a response, or scientific insight. This doesn't mean there aren't responses or scientific insights, just that they weren't discussed during this Workshop.

Observed changes weren't limited to environmental change, as many things are related and it doesn't make sense in this context to try to separate social and environmental change. Participants were asked to discuss any big change that is affecting their community.

Not Cold Enough

'We can't trust Yukon River for winter travel anymore. It used to be 50 below for a long time and the river would freeze hard. Those that travel on the Yukon River to trap or collect firewood can't do it sometimes, because there is open water or



thin unpredictable ice. Every year you hear about people going through the ice.'

People have also seen an increase in extreme wind, and fog, that impacts safety.

Talk to each other about current ice conditions, especially areas you are concerned the ice may not be thick enough, and make sure younger people know about the danger. It's a good idea to travel with Elders that know the land and waters.

River ice is less predictable, thinner, freezes later and breaks up earlier (Brown et al. 2018).

There is concern about invasive species. *'We don't have the long cold snaps of 40 below, or even colder, like we used to.'* These cold winters would kill many invasive species, and now with warmer temperature, we can expect more invasive species.

Know how to identify and report invasive species.

Alaska is warming at twice the rate of the global average. Past warming is between .1 - 1.1 degrees Fahrenheit, but scientist expect this to accelerate and warming to happen even faster in the future (4th NCA 2018).

*'When we were young
there were no 'target'
fish. We ate all the
different kinds of fish,
whatever we caught, all
fish were target fish.'*

Big lakes drain suddenly; we think because changes in permafrost.

Permafrost thaw can cause lake to drain rapidly, which has been occurring more frequently (Lantx & Turner 2015).

The river is cutting into permafrost, we see more 'caving' (erosion); erosion is impacting bigger areas and happening faster than before.

Both coastal and river erosion are increasing as permafrost thaws (Lininger, et al. 2019, Jorgenson et al. 2018). There is also evidence of increased river erosion in the Yukon River Basin (Toohey et al. 2016).

There were two large salmon die-offs this summer (on the Koyukuk River, and in the Yukon Delta Region). These were likely due to historic high temperatures on the river and tributaries in June and July.

Need to continue monitoring water temperature and increase efforts to get this information out there, as it could contribute to better understanding the problem. It could help those who manage salmon populations do a better job.

YRITWC coordinates the Indigenous Observation Network (ION). ION is a community-based, water quality, monitoring partnership with Alaska Native Tribes, First Nations, and the USGS. Community members collect water samples, which are then analyzed and included in a data set for the entire Yukon River Basin.

Wildlife Changes

'The Chinook we get now are different. We don't see any of the big 7-year fish anymore. Now they are smaller, and younger.'

A resident from the Yukon River Delta Region (Mountain Village) said there are more moose now than before, while someone from the mid-river region (Nulato) explained that they have fewer moose than ever. Someone from Hughes (also mid-river region) said that there are less moose there too. A resident from the Delta Region doesn't want the same thing to happen to them, as what happened up river, where moose populations have declined and people are having a hard time getting moose for winter food. One participant expressed concern about outside hunters, 'moose have arrived, white hunters follow in all their gear'. He is also the postal worker, so he goes to the planes every day and sees all the things coming in, and going out of the Village. He has seen more racks than meat going out, and wonders where the meat is.

More forest fires are bringing more willows, which is good for moose.

There have been more forest fires in the Yukon River Basin (YRB) in recent years. From 1960 – 1980 .4% of the YRB burned, and from 1990 – 2006 1.1% of the YRB burned (Yuan et al. 2012). More fires contribute to changing habitat, which is one of the reasons caribou and moose are going to different places, since caribou like old forest with lichen, and moose like young forest with green new growth that comes in after forest fires (Manning 2018).



'We use the whole animal, all the parts – liver, heart, head, which makes great soup. Sport hunters ought to give these things that they aren't using to the Village. Someone ought to work with outfitters to arrange for hunters to share what they aren't using.'

In one Village that has observed a large decrease in the moose population, they worked with the Alaska Department of Fish and Game on an intensive moose management program to better manage the influx of trophy hunters. This helped save some of the remaining moose for residents who are dependent on moose for food.

It was observed that the sport hunters don't use all the things that Alaska Native peoples do.

There is a desire to work with outfitters, and 'outside hunters' to have better communication, so that they can share what they aren't using with people who will use it. Importantly, using as much of the animal as possible is the respectful way to treat a harvested animal.

Yukon First Nations have a government to government relationship. They have a Game Guardian program that employs people who spend a lot of time out on the land. The Guardians are important for interacting and communicating with outside hunters. Perhaps this model could be used in Alaska too.

On the Koyukuk River there is a check point, 15-mile, but people were not sure how effective it is. It would be great if the Villages could run check points.

Human Impacts

More camp related trash on the river.

There is a need to teach children and do more outreach to encourage people not to litter on the river. Concern was expressed that the message isn't getting out, perhaps signs, 'keep the river clean', in English and the local Native language would help.

The 'dam dam' on the Yukon near Whitehorse likely has some impact on the decline of Chinook we have seen in recent years. Salmon are tired after swimming all that way, then the pregnant females have to bounce up this fish ladder. It can't be good for their reproduction.

Someone from lower river expressed sadness that up river communities aren't able to harvest salmon anymore. *'I feel bad for you. We need to do something fast.'*

Carcross/Tagish First Nation is working on a project 'The Fate of Our Salmon'. Partners include other First Nations, academia, government, and non-profits. This project will provide a better understanding of the effects the dam has on Chinook salmon. A set of recommendations will come out of the research which will 'ultimately help us with progressive, informed decision-making for our future generations' (https://www.ctfn.ca/media/documents/CTFNNewletterFall2019_FINAL_DRAFT.pdf).

Side note on partnerships:

Indigenous knowledge is from the heart, while science is not attached to emotion, it is numbers and graphs. *'Often scientist don't get our ways and are difficult to work with.'* But there is a shift happening that many scientist, especially younger scientist 'get it'. They understand the importance of Traditional Knowledge and Wisdom, and maintaining traditional ways of life. They can be allies in working on many of these issues.

Concern was expressed about the greedy attitude of modern main stream culture. Some people have to have all the new stuff, appliances, clothes, shoes, electronic, etc. They want to be modern and 'cool', as this is what they see the rest of society pursuing. This consumptive attitude is bringing more stuff to the Villages, and it ends up in the landfill. It doesn't ever go anywhere it stays right there, and some of it leads to contamination of waters and lands, that can be harmful to human health.

Regulations

There was concern expressed about the Central Yukon Resource Management Plan that is going through public review now. *'The intent of the BLM Management plan is to open the country for others, especially mining, it isn't for us to live off the land. We are doing everything we can to protect our way of life, and now we have this BLM Management Plan to deal with. Tribes are part of the plan, but they don't tell you that.'*

There is concern about rules and regulations that limit subsistence activity. *'They don't allow us flexibility and are result of greed; greed of the commercial fishing industry, mining, dams and pollution. These things are damaging the plants and animals we depend on, and to save these animals subsistence is regulated, not the outside pressures that are really harming them.'* *'Greed and the almighty dollar is ruining us.'*

Moose did not move a lot during early hunting season (the Workshop took place in the middle of the fall moose hunting season for most communities). *'It has been such a warm fall, and usually moose wait until it cools off to move around. It is hard to hunt them while they aren't moving, but the season still closes on the same day as always. There are too many rules and regulations governing how we harvest food. They don't allow us to be flexible.'*

Get involved. Subsistence Boards, Fish and Game Boards, take opportunities for public comment, write letters, etc.

The land claim agreements in Yukon Territory, in Canada, position those First Nations to exercise self-determination and sovereignty regarding land use and management. The context that community resilience plays out in, is different in between the two Nations (Alaska U.S.A, and Canada, Yukon Territory).

'We need to not be ashamed of who we are. We need to speak up, don't shut up, practice sovereignty and self-determination. We need to know our rights. As Indigenous people we have a responsibility to be good stewards of the land, and sometimes this means working to fix bad management.'

'Educate yourself about the science. You have every right to ask scientist and managers to explain things in plain terms. Ask them what that word means, and for them to use words that you will understand. Educate yourself about the science but remember where you are from.'

In Alaska there is a critical need to document traditional use areas, and other land uses. This documentation may help your voice be heard when decisions are being made that will impact traditional ways of life. Documentation could help Tribes in practicing stewardship. Creating 'conservation economies' could help protect the land.

"Train and educate yourself. We need to find balance by staying rooted in our culture, and knowing where we are from, but also educate yourself in modern ways."

Other observed changes included:

Low water on tributaries can make summer travel difficult; air boats that can go over land and create channels; animals changing where they are found including moose, bear and beaver; difficulties finding drinking water because beavers and plants are growing in the water that weren't there before; on the ocean we see big ice breakers ships that cut through ice and there is no more big blue ice (old, multi-year ice); more fog; more gnats, wasps, moths and different bugs that haven't seen before; berries not where you usually find them; berry season (ripening) is early; more storms, and more intense wind; where there used to be snow its now rain; rain then refreeze happens more often which makes it easy for predators to kill moose which can cause a decrease in the moose population; Nulato has seen a decrease in black bear, and an increase in grizzlies; bears (especially young bears) waking-up in winter because dens get flooded then sometimes coming into the Villages looking for food.



Kids learning to process salmon in Stebbins, AK photo credit: Tania Snowball

Some general solutions, and responses included:

Monitoring, can give you information needed to respond, or apply for funding to mitigate. There are opportunities for Tribes to partner on statewide and federal efforts in adaptation planning and mitigation. For example, AkHealthyCommunity.org is a web portal from the Alaska Native Tribal Health Consortium that shares tools and lessons learned about resiliency. They have a climate impact response team that can support Villages with technical support and applying for mitigation funds. There are international efforts like the Arctic Council that has done work on resilience and food security.

'Social cohesion is an important aspect of resilience. This is how we cooperate with each other, or how different institutions work together, to achieve well-being. Many times a Village has more than one governing institution, the Tribe, the Village Corporation and the City, these entities often need to cooperate to get things done. This colonial system imposed on us isn't the best set-up for working effectively, it fragments us.'

'It is good to hear from each other. We need more opportunities for this.'

It is important to listen as Elders share. They pass on Traditional Knowledge and Wisdom to help current generations deal with challenges.

'Sometimes we are too hard on each other. We need to be non-judgmental and forgiving, and build partnerships and unity, which sometimes requires one to not be selfish.'



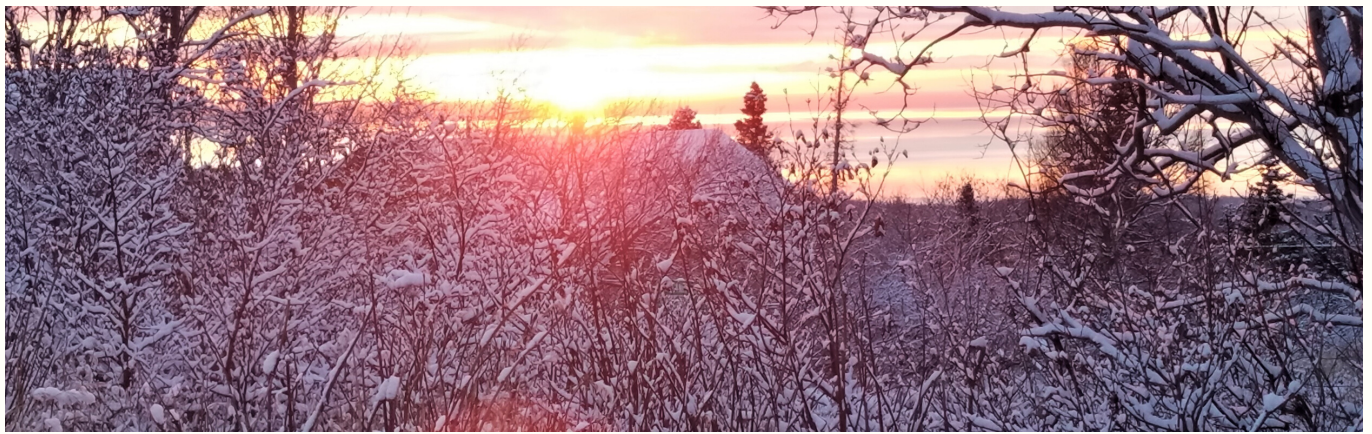
Workshop participants were challenged to think about: What is in your cache?

Traditional, what is in your cache gave a person resilience through the winter, and kept our ancestors strong and healthy. What makes you a resilient person? What makes your community resilient?

'Clean water, clean pristine environment, friends and family, safe supportive home.'

'I did good this summer have lots of moose, fish, berries. This food demonstrates our love for and connection to the land. It shows our love for each other, and our love for our culture. Most of my food is from the land. We depend on it.'





Winters Doctrine

The Winters Doctrine was mentioned at the Workshop as a way Tribes could potentially protect their waters. Because life depends on water, whoever controls the water controls life on the reservation. In the U.S. Supreme Court case of *Winters vs. the United States* it was affirmed that when reservations were created in the lower 48 it was intended that they would become self-sufficient, and this implies that Tribes also have water rights, even if water rights were not specified in the treaty. How this could apply in Alaska is unclear, since Alaska Native Corporations hold land, while Alaska Native Tribes are the sovereign governments.

'How do you plan for resilience in the future, while faced with hardships in the present?'

Acknowledgements: I'd like to thank all the participants of the workshop for generously sharing ideas and inspiration. While I was responsible for putting this report together the ideas in this report are not mine, but those of Tribal members who are meeting the challenges of a rapidly changing environment.

What does resilience mean to you?

Adaptation to change, flexibility, overcoming circumstance, evolving, endurance, powerful, achieving sustainability, togetherness, survival, no lasting effects from hardship, diversity, forward thinking, planning for future generations, innovation, surviving through hardship, leading and making decisions from the heart and not fear, being strategic

Closing thoughts

'The Yukon River is a lifeline, we depend on it for food and life. It's one of mother Earth's main veins. It was put there by the creator to feed the people.'

'I have seen big changes and am concerned for the future. I am worried that my kids won't be able to enjoy what we do.'

We need to think about compounding impacts and how that plays out in life. How that impacts people. For example, this was the warmest April and July, and there was a greater intensity of extreme events.

'When thinking about resilience, how do we take action at multiple levels?'

A limitation of science is that it takes time and change is occurring rapidly.

'Solutions are general, and inspiring, but what actions can we take on the ground? We need solutions to take it to the next level and include actions in adaptation strategies.'



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