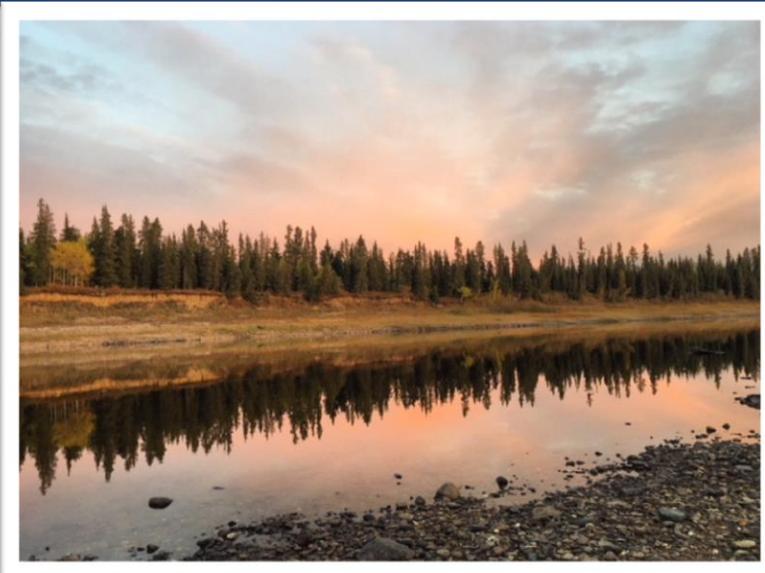


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Local and Traditional Knowledge in Watershed Governance

Culturally Driven Freshwater and Fish Monitoring: Opportunities for Social Learning in the Dehcho Region

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Overview of Project:

This research project, focused on identifying social learning opportunities in the Dehcho region of the Northwest Territories, is being undertaken in collaboration with **Kátł'odeeche First Nation (KFN)**. This South Slavey Dene community has occupied their traditional lands for thousands of years. Situated in the Mackenzie River Basin, **Hay River, Great Slave Lake, Sandy Creek, Buffalo River and Lake** are culturally significant bodies of water and Traditional Knowledge has been passed down for generations through the practice of fish harvesting and monitoring.

Kátł'odeeche First Nation is currently developing a **culturally appropriate community-based environmental monitoring program** that is driven by Traditional Knowledge and built around seasonal traditional harvesting activities.

Key Objectives

OBJECTIVE 1: Document the Traditional Ecological Knowledge indicators used by KFN to assess the health of the water and fish in their traditional territory and identify key socio-ecological indicators of change.

OBJECTIVE 2: Determine what knowledge related to the water and fish in KFN's traditional territory is shared at local, regional, territorial and federal levels (i.e. across communities, between communities and scientists, and between communities and government).

OBJECTIVE 3: Investigate how knowledge related to the water and fish is shared at local, regional, territorial and federal levels. Specifically, this research aims to identify the strengths and challenges of sharing monitoring information at various levels.

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Research Activities

15 semi-structured interviews took place in October 2018 on the Hay River Dene Reserve with KFN elders, fish harvesters and youth in order to ensure diverse perspectives were captured. A community member, Doug Lamalice, was hired as a community researcher to assist with coordinating interviews. Prior to interviews, researchers attended a KFN Traditional Knowledge Indicators / Fish Monitoring Workshop in summer 2018 and participated in a Fall Fish Camp in September 2018.

Research Significance

What are the academic contributions?

With the aim of decolonizing monitoring approaches in Canada's sub-arctic region, along with the growing uncertainty regarding the health of freshwater systems for future generations, community-based environmental monitoring (CBEM) programs are increasingly emphasizing Traditional Knowledge in their design and implementation.¹ According to scholars, community-based monitoring has the potential to foster an environment for learning.² However, studies are often technically driven, and few academic case studies exist that analyze monitoring programs from an Indigenous perspective and through the lens of social learning.³ Overall, this research contributes to emerging literature that documents Traditional Ecological Knowledge indicators of aquatic ecosystem change, and analyzes social learning in the context of CBEM.

Why is this important to the community?

This research will help inform the design of Kát'odeeche First Nation's CBEM program and contribute to establishing a baseline of environmental information, as interviews have captured Traditional Ecological Knowledge, observations and the concerns of elders, harvesters and youth regarding the health freshwater systems. In addition, this project will provide academic support for the methodology of KFN's Indigenous led monitoring program.



(Map Source: GNWT)



Preliminary Findings – What have we learned?

OBJECTIVE 1:

Interviews with KFN have resulted in the documentation of many socio-ecological indicators of change related to **fish health, water quality, water quantity and ice thickness**. Many of these Traditional Ecological Knowledge indicators are place-based, seasonal and temporal. Indicators will be verified with KFN in the coming months.

OBJECTIVES 2 & 3:

The diagrams below illustrate social learning (i.e. how knowledge related to the water and fish is shared within and outside of the community) at various institutional levels. The arrows indicate the direction and flow of information. The size of the bubble coincides with the frequency that this specific transfer mechanism was discussed by community members (larger bubbles = more community members).

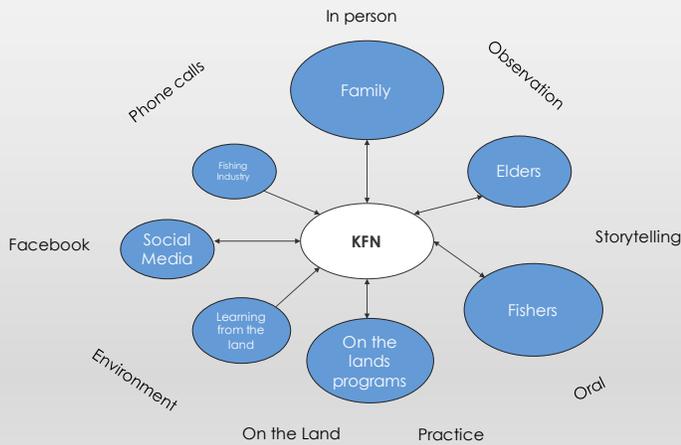


Diagram 1 – Local Knowledge Sharing

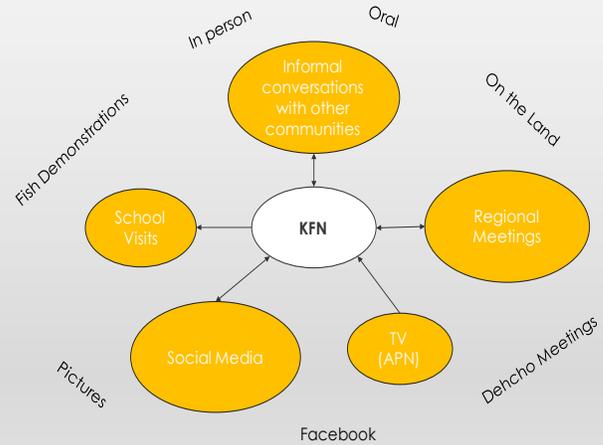


Diagram 2 – Regional Knowledge Sharing

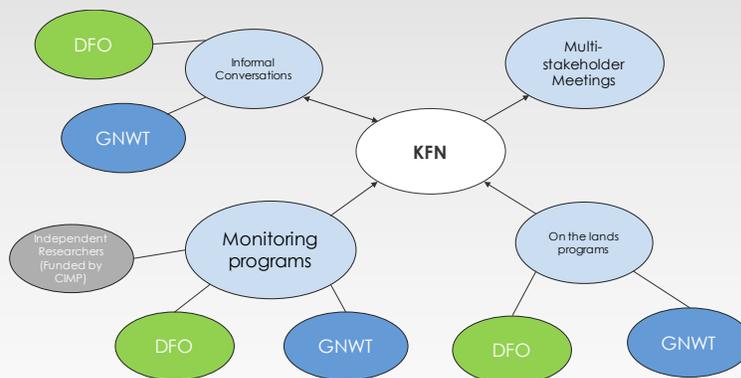


Diagram 3 – Territorial and Federal Knowledge Sharing

Overall, fewer community members reported sharing their knowledge, and/or receiving information at the territorial and federal levels in comparison to local and regional levels. To better understand the strengths and challenges of sharing freshwater and fish monitoring information across communities, between communities and scientists, and between communities and government, more interviews will be conducted with GNWT and scientists.

For More information visit our website:

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Brenda Parlee

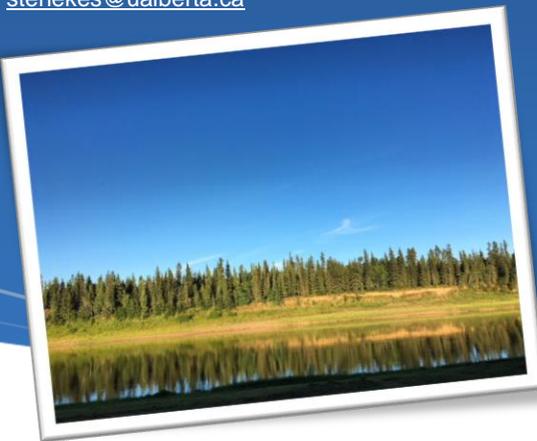
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References:

¹Kouril, D., Furgal, C., & Whillans, T. (2016). Trends and key elements in community-based monitoring: a systematic review of the literature with an emphasis on Arctic and Subarctic regions. *Environmental Reviews*, 24(2), 151-163.

²McKay, A. J., & Johnson, C. J. (2017). Confronting barriers and recognizing opportunities: Developing effective community-based environmental monitoring programs to meet the needs of Aboriginal communities. *Environmental Impact Assessment Review*, 64, 16-25. doi:10.1016/j.eiar.2017.01.002

³Johnson, N., Danielsen, F., Fidel, M., Pulsifer, P., Iversen, L., Eicken, H., Lee, O., Hauser, D., Poulsen, M.K., Strawhacker, C., Bell, T., Loseto, L., Druckenmiller, M., Cunsolo, A., Gillis, D., Shiwak, I., Nickels, S., Divine, L. & Chapin III, S. (2018). Community-based monitoring infrastructures for pan-Arctic observing: Policy-regulatory, technological, social, and economic dimensions. Retrieved from http://www.arcticobservingsummit.org/sites/arcticobservingsummit.org/files/ID_026_2018_CBM%20AOS%20Statement%203-04-18_Submitted.pdf

"I'd like to offer a huge thank you to the community partners, especially Peter Redvers and Patrick Riley for their support, kindness and time during my visits to KFN!" – Sydney



PHOTO CREDITS:

All photos were taken by
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