

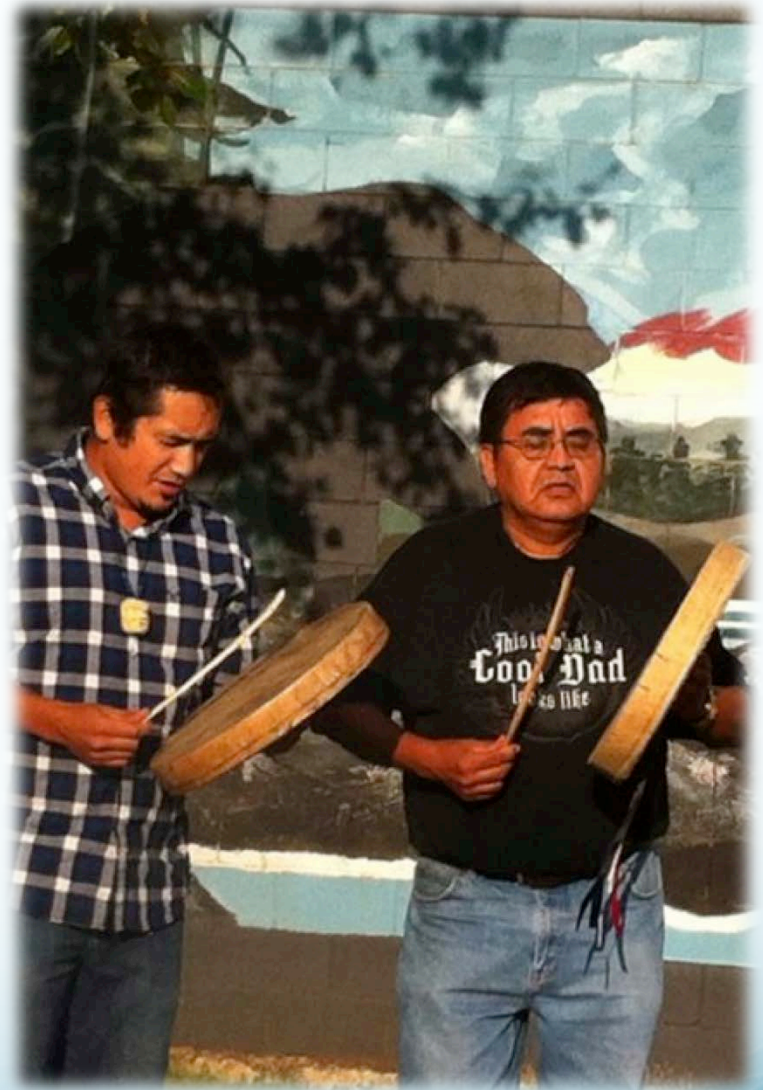
# Community-Based Water Monitoring: Fort Nelson First Nation

LANA LOWE

DIRECTOR, FORT NELSON FIRST NATION LANDS DEPARTMENT  
**BUILDING BRIDGES: CITIZENS, SCIENCE & POLICY WORKSHOP**  
NOVEMBER 1, 2016

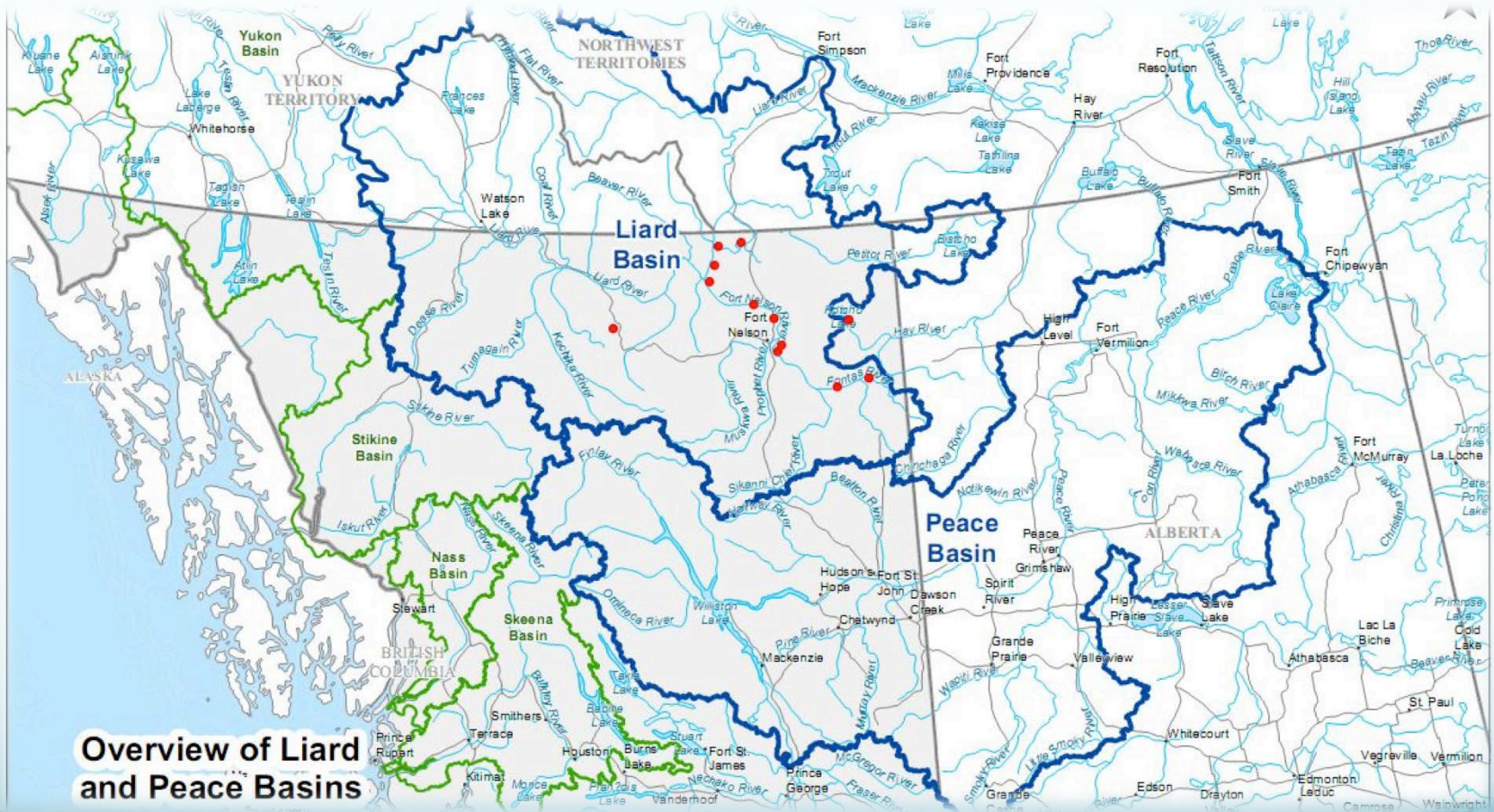
# FNFN: Who We Are

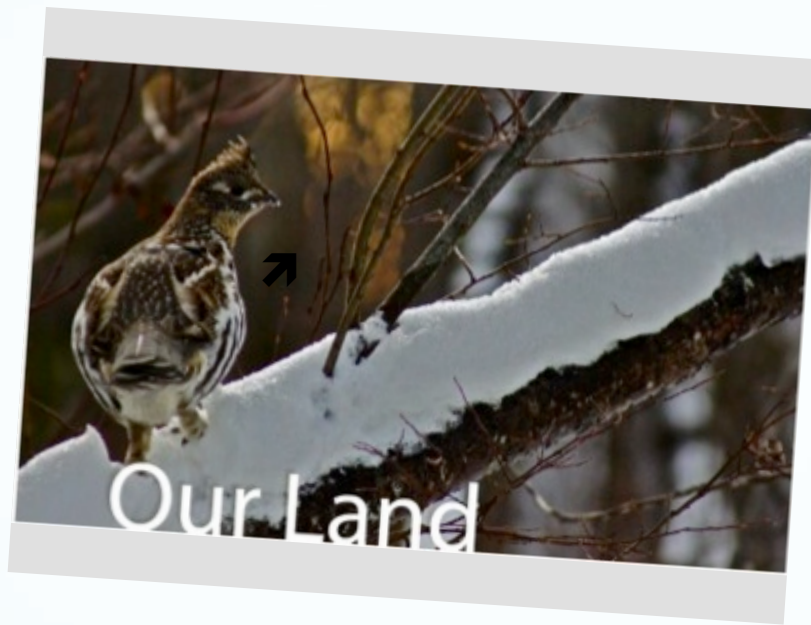
- We are Dene & Cree people;
- Southern Denendeh in the Liard River watershed is our homeland;
- 800 members from 14 major families;
- 10 villages all connected by rivers & overland trail;
- Our vision: A nation, a people—strong, healthy and self-reliant





# Our Homeland: Southern Denendeh





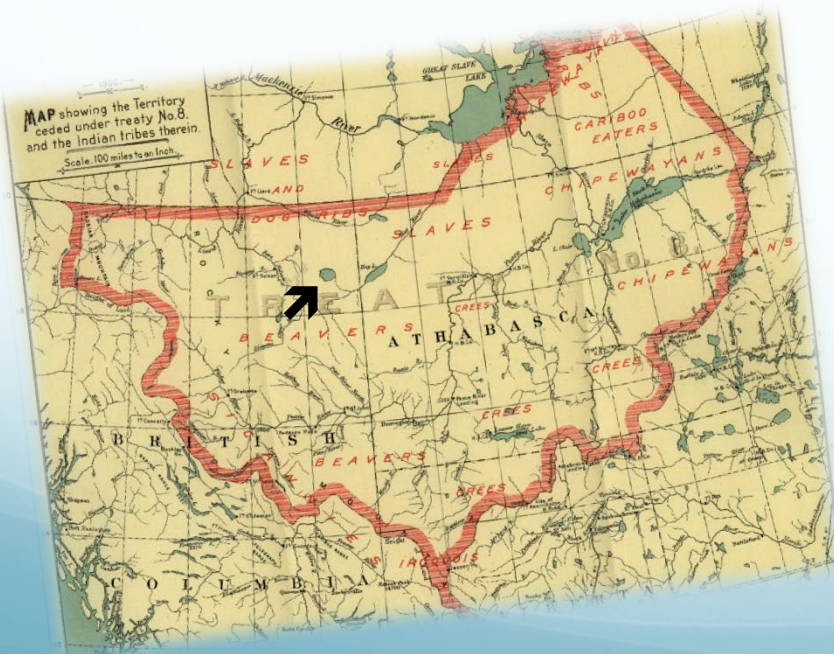
# TREATY NO. 8

~ We signed in 1910

~ Our ancestors agreed to share our lands and to live in peace with our new neighbours

~ Treaty 8 guarantees our rights to our territory and to practice our traditional way of life, undisturbed by newcomers

~ Treaty 8 confirms our inherent rights & responsibility to govern our lands for the benefit of our people now and into the future







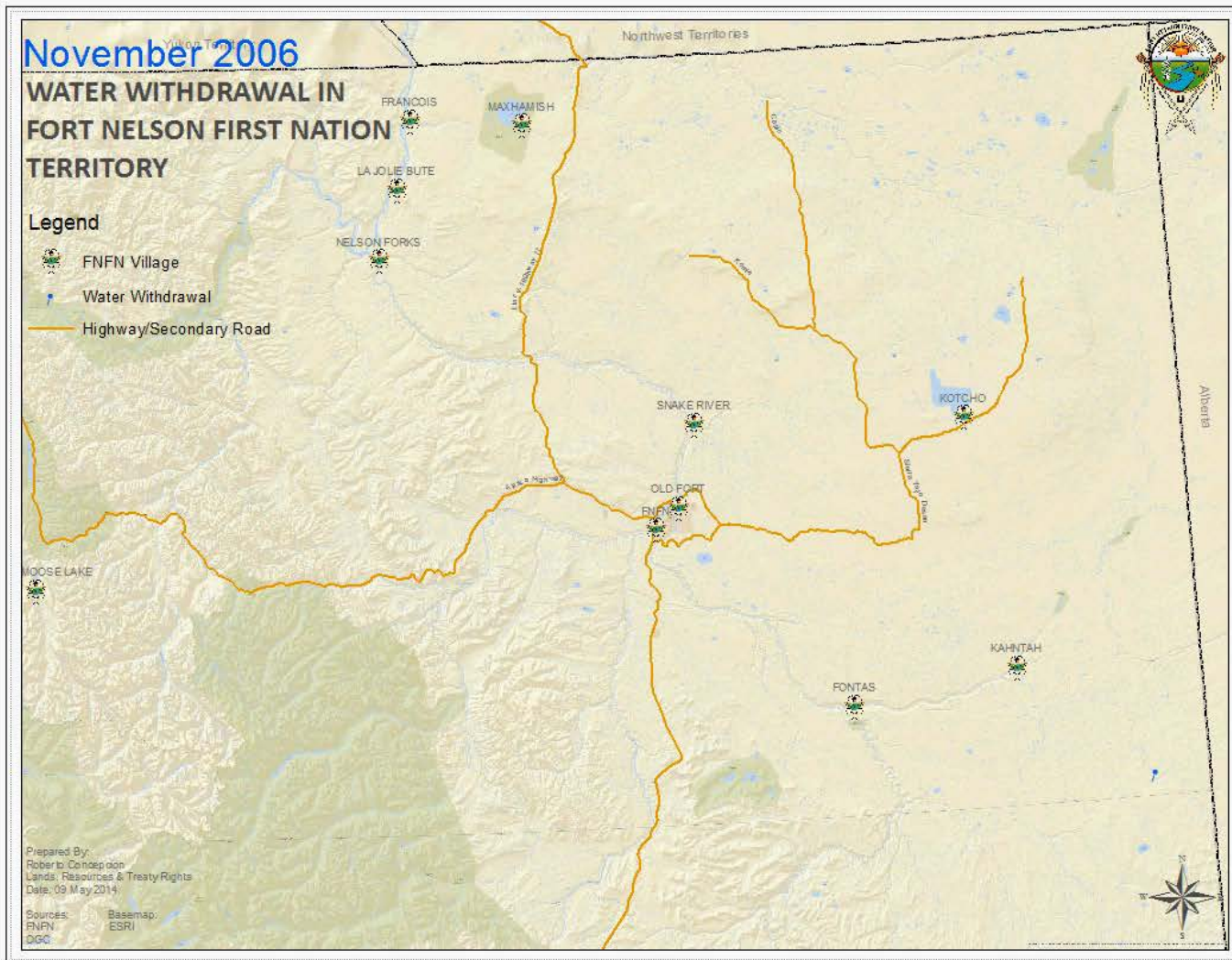
We have the right and the responsibility  
to govern our homelands

# Shale Gas Plays in our Lands





# Water Withdrawals 2006 - 2014



# FNFN Approach to Watershed Management and Governance





# FNFN APPROACH

To Protect, Conserve and Manage  
FNFN Territory for Future Generations

*Mobilizing our traditional values & practice toward responsible and knowledgeable governance of our lands*

## Stewardship

1. Land and Treaty
2. Co-Governance
3. Cultural Integrity
4. All our Relations

## Presence

1. Harvest
2. Occupy
3. Patrol
4. Inspect

## Knowledge

1. Data Collection
2. Data Management
3. Info sharing
4. Communication

## Self-Reliance

1. Fee-for-Service
2. Revenue-sharing
3. Data Ownership
4. Capacity Building

**TREATY and INHERENT RIGHTS**

# CBM: Mobilizing Traditional Knowledge, Values and Practice

- 2009 FNFN Traditional knowledge database
- 2011 Horn River Basin Water Study
- 2012 *Tu nee ttheh. We need the water.*
- 2013 *Tu oh-seh? Can I drink the water?*
- 2014 Liard Basin Water Monitoring program



# Horn River Basin Water Study

- HRRPG & Geoscience BC installed an “environmental monitoring network” in the Horn River Basin:
- To determine baseline water quantity and quality;
- FNFN field crew trained in water monitoring;
- Study completed last year;
- BC taking over operations;
- 3 stations re-deployed to Montney Shale play this year.

# *Tu nee ttheh. Tu oh seh?*

- Tested for pollutants associated with oil and gas activity in 25 traditional drinking water source areas in FNFN territory;
- “To explore the question of whether water quality is an actual or perceived concern in FNFN territory”;
- Lab results provided a scientific baseline of drinkable water at 24 out of 25 sources sampled;
- Project results showed that the steady shift away from the experiential baseline of once drinking water off the land without fear rendered the water undrinkable.



# Liard Basin Water Monitoring

- In 2013 FNFN established the Liard Basin water monitoring network with Apache;
- Apache agreed to purchase equipment and train FNFN in installation, operation and maintenance:
  - 4 river monitoring stations
  - 2 climate stations (real time)
  - 100 water level loggers
  - 20 barometers
- Used the same equipment and methods as HRPBG to assist in proper analysis across the territory.
- Data owned by FNFN and shared with Apache.

# Liard Basin Water Monitoring

- In 2015 Apache sold all assets to Chevron;
- Chevron took over relationship with FNFN;
- Took 8 months to negotiate a new contract for the monitoring system—missed spring freshet;
- New contract expired March 2016;
- FNFN still owns equipment and data collected;
- FNFN still has human capacity but not financial;
- No monitoring conducted since March 2016.



# Community-Based Monitoring: Challenges

- Cross-cultural understanding;
- Data Management: storage & analysis;
- Building and sustaining internal capacity;
- Sustainable financing.



We must honour our treaty and work together for the benefit of all.

# Cross Cultural Understanding & Learning





FORT NELSON FIRST NATION & WEST COAST ENVIRONMENTAL LAW

A pink beaded flower with five petals, made of small pink and white beads, is centered on a brown textured background. The flower has a dark brown stem and leaves. The text 'The RELAW Project' is overlaid on the flower in a white serif font.

# The RELAW Project

REVITALIZING INDIGENOUS LAW

FOR LAND, AIR & WATER

# Mackenzie DataStream

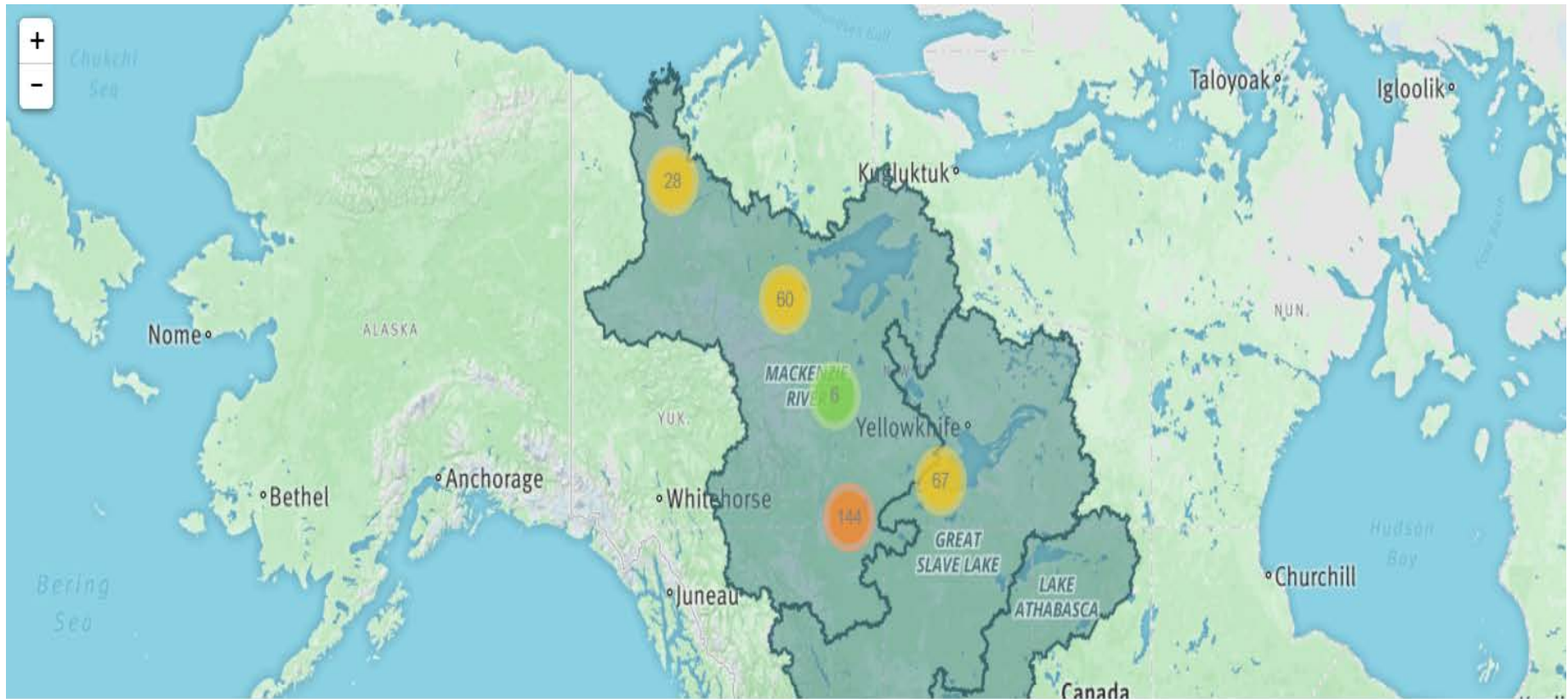


- Open Source and **Open Access**
- **Mission:** to promote knowledge sharing and advance collaborative, **evidence-based decision-making**
- Users can view full datasets and **visualizations** using our graphing tools
- **22** communities in the **Northwest Territories and B.C.** contribute data to Mackenzie DataStream.



## Community datasets

- **22** communities in the **Northwest Territories and B.C.** contribute data to Mackenzie DataStream.
- Vision moving forward is to incorporate data from throughout the Mackenzie River Basin.





# Building Capacity




# Sustainable Financing

- Largest source of instability and uncertainty;
- Industry & Government driven projects dissolved when oil and gas prices dropped;
- We are now funded solely by project funding;
- Project – based funding is ad hoc, uncertain and usually tied to one or two champions;
- Social enterprise & innovation?

# Social Enterprise & Innovation

- Potential to address these challenges;
- Requires strong, equitable partnerships;
- Leverage the strengths of each partner
  - Aboriginal Title & Treaty Rights
  - Traditional and local knowledge
  - Sharing of practice and techniques for common goal
  - Organizational and Entrepreneurial excellence
- True reconciliation will require significant and innovative shifts away from status quo.





Mussi Cho – Sah lo Dene

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More Information:

[https://www.youtube.com/watch?](https://www.youtube.com/watch?v=6of6SAvFSvg)  
[v=6of6SAvFSvg](https://www.youtube.com/watch?v=6of6SAvFSvg)

*Winter Hawk Images*