

Guiding Water Protection Through Traditional Knowledge in the Akaitcho Region of the Mackenzie River Basin

Tracking Change: The Role of Local and Traditional Knowledge in Watershed Governance

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Deninu Kue First Nation (Fort Providence)
Dettah (Yellowknives Dene First Nation)
Lutsel K'e Dene First Nation
D'hilo (Yellowknives Dene First Nation)
Smith's Landing First Nation
Akaitcho Aquatic Monitoring Program
Technical Board
Akaitcho Territorial Government

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Project Outcomes: TRENDS

Water Levels

- Losing shoreline
- Decreased large flood events
- Sloughs and ponds on the landscape drying up and disappearing

Water Flow

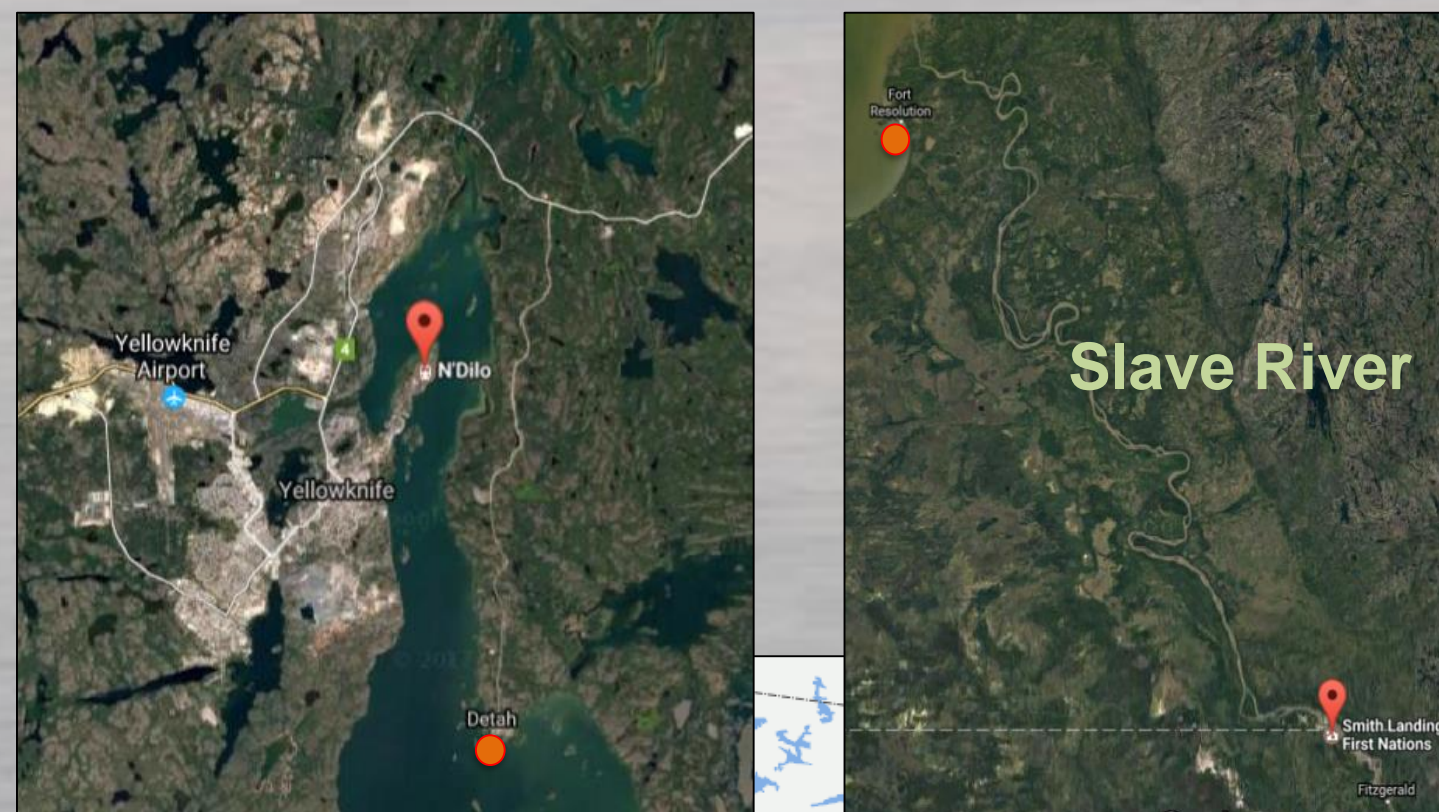
- Slave River current significantly weaker
- Decrease in driftwood flow into Great Slave Lake
- Decrease in winter ice thickness (from 6 feet to 2 feet)

Water Quality

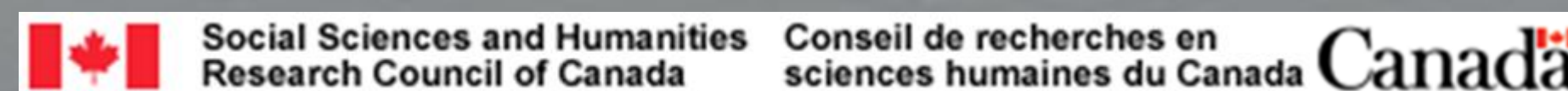
- In some areas the water is drinkable (East Arm) Some not (Dettah - arsenic)
- Effect of Bennett Dam – increased river siltiness

Changes in Fish Health

- Increased observations of flesh sores and soft flesh



Yahoo map: <http://caskaorg.typepad.com/.a/6a00d83452410969e20133ec6b5813970b-800wi>
 Google maps Fort Resolution, Dettah/D'hilo



INDICATORS of CHANGE for Future Monitoring

- **Loche Liver** (observed to be dark green, should be white)
- **Fish Habitat Migration** (salmon in unexpected places)
- **Animal Habitat Migration** (deer and cougars moving north, muskox displacing caribou)
- **Muskrats** (sharp decline, linked to loss of water in Slave River Delta and on the landscape)
- **Frogs** (do not hear them any more: where are they?)
- **Human Health and Illness** (Elders suggest no diseases in the past, seemingly high rates of cancer in the present)
- **Ice Color** (blue-green to grey)



Slave River in Winter

<http://www.enr.gov.nt.ca/programs/water-management/slave-river-environmental-quality-monitoring-program>



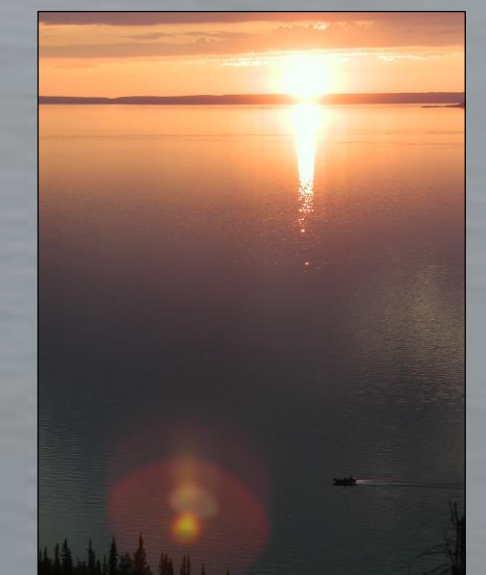
Mackenzie River at Jean Marie River, NWT
 Photo Credit K. Wray



Great Slave Lake at Hay River, NWT
 Photo credit K. Wray



Ice Road North of D'hilo & Dettah
 Photo credit K. Wray



Lutsel K'e, NWT
 Photo credit K. Wray



Raven Lutsel K'e, NWT
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