

NWT Environmental

Research Bulletin (NERB)



NWT Cumulative Impact Monitoring Program (NWT CIMP)

A source of environmental monitoring and research in the NWT. The program coordinates, conducts and funds the collection, analysis and reporting of information related to environmental conditions in the NWT.

NWT Environmental Research Bulletin (NERB)

A series of brief plain language summaries of various environmental research findings in the Northwest Territories. If you're conducting environmental research in the NWT, consider sharing your information with northern residents in a bulletin. These research summaries are also of use to northern resource decision-makers.

Fish in the Liard River Watershed: Observations from community harvesters provide a baseline for future studies

The Liard River is an important watershed in the Northwest Territories that supports many species of fish and other aquatic life. The river provides communities with sustenance and cultural connections. Fish represent an integral part of the Acho Dene Koe First Nation (ADKFN) diet and culture, both historically and presently. To better understand the health of the Liard River and its watershed, information from ADKFN land users was gathered. This project found that land users have concerns about the abundance of fish in the watershed and the impacts from development on Fisherman Lake.

Why is this research important?

The ecological health of the Liard River watershed is important to ADKFN members and there was concern that there were gaps in the available documented information. Having documented baseline information about fish populations is important for making good management decisions, and for understanding future impacts.

What did we do?

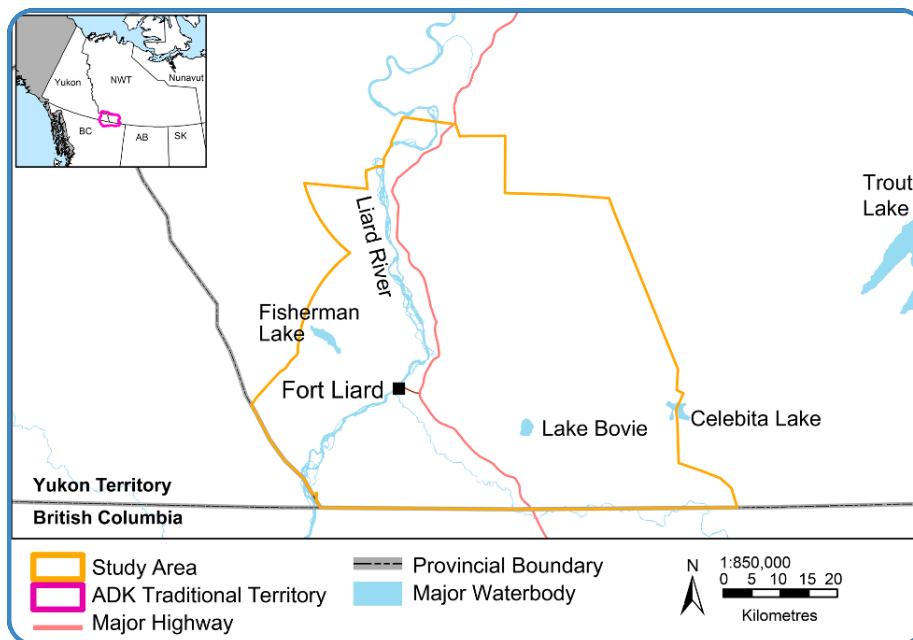
ADKFN land users were surveyed to gather and document their observations related to fishing practices. Survey questions included where people are fishing, what they are catching, how many fish they are catching, what changes they've observed over time, where the important fish habitat areas are and whether they've noticed invasive species.



ADKFN Camp on the Liard River
(Credit: A. Fanni)

What did we find?

- ADKFN land users harvest fish from many water bodies in the Liard River watershed. These include the Liard River, the Kotaneelee River, Fisherman Lake, Bovie Lake, Hook Lake, Celebita Lake, and Trout Lake.
- Various fish species are caught by community members from these waterbodies, including grayling, pike, pickerel, suckers, and whitefish.
- Community members have found that fish are less abundant in the Liard River, Kotaneelee River, Bovie Lake, and Fisherman Lake are lower than they were in the past.
- The ecological health at Fisherman Lake is particularly concerning for ADKFN land users. They feel that contamination from historical gas development at and around the lake is having persistent impacts on water quality, fish numbers, and the lake's ecological health.



The project study area. (Adapted from: Landmark Resource Management Ltd. and Acho Dene Koe First Nation. 2021. A Traditional Knowledge Study of Fish Within Acho Dene Koe First Nation's Traditional Territory.)

What does this mean?

Disturbances to water bodies, such as from oil and gas activities, can have long-lasting impacts not only to the ecological health of those water bodies, but also on the attitudes and perceptions of land users about the safety and viability of their resources.

Harvesting and Processing Methods

ADKFN Land users use a variety of methods to harvest and process fish, depending on location and type of fish:

- Harvest methods: snare, spear, jig, traps, nets, rod, and reel
- Processing methods: dry, freezing, smoking

Recommended Reading

Landmark Resource Management Ltd. and Acho Dene Koe First Nation. 2021. *A Traditional Knowledge Study of Fish Within Acho Dene Koe First Nation's Traditional Territory*. [<https://nwt.discoveryportal.enr.gov.nt.ca/geoportal/documents/2019-2020-2020FINAL%20REPORT%20-%20ADKFN%20CIMP203%20-%20ADK%20Fish%20Study%20NWT%20Cumulative%20Impact%20Study%20Final%20Report.pdf>]

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