2021 Volume 5, Issue 19

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.

Cumulative impact monitoring: Improving practices for informed decisions

Cumulative impact monitoring is a legal requirement in the Northwest Territories (NWT). But do monitoring programs provide the information needed by regulatory decision-makers to identify and manage cumulative impacts? This project assessed the information needed to make decisions about cumulative impacts to water quality in the Mackenzie Valley to find out if information about cumulative impacts is available through existing monitoring programs.

Why is this research important?

Cameron Falls, NWT. (Credit: Lauren Arnold)

The Northwest Territories Cumulative Impact Monitoring Program (NWT CIMP) is tasked with identifying what information about cumulative impacts decision makers need and turning those needs into key monitoring questions that deliver meaningful information. This challenge highlights the expectation for cumulative impacts in the NWT to be monitored and managed. This means that monitoring programs must align with the needs of those responsible for land use planning and regulatory decision making.

What did we do?

Water quality monitoring programs were reviewed, and decision makers and practitioners were interviewed to determine:

1. How cumulative impacts are considered by decision makers and what the challenges are to making decisions on individual projects.
2. If proponent and government water quality monitoring programs are informing the identification, understanding and management of cumulative impacts.

Representatives from NWT CIMP, the Department of Environment and Natural Resources, the Mackenzie Valley Environmental Impact Review Board, independent mine oversight boards, land and water boards, and several environmental practitioners and project proponents provided input into the study.

What did we find?

- The monitoring conducted by different proponents and by government is not consistent.
- There is some consistency in what is monitored, so it may be possible to develop a common set of indicators to better understand cumulative impacts.
- Monitoring conducted by proponents under project water licenses are context-specific, meaning that across projects data is often incompatible, rarely accessible, and insufficient to understand cumulative change.
- Current regulatory decisions about project approvals and impact management focuses on the project at hand, making it difficult to ensure that the project's impacts in combination with the impacts of all other activities are properly managed.

What does this mean?

To manage cumulative effects and provide regulators with the information needed to make informed decisions:

- Monitoring efforts need to be better coordinated across proponents and government.
- Proponents, communities and decision makers need better access to monitoring results.
- Community input is needed to help interpret the monitoring results, so that decision makers can better understand cumulative change.
- A framework to guide cumulative effects assessment, monitoring, interpretation and decision making is needed in the Mackenzie Valley.

Cameron Falls, NWT. (Credit: Lauren Arnold)

What's next?

This project provides key recommendations to NWT CIMP, regulators, and resource management agencies on the priority actions for continuing to strengthen cumulative impact monitoring, understanding, and decision making in the NWT.

What are cumulative impacts?

Described as the 'tyranny of small decisions' or 'death by a thousand cuts,' cumulative impacts are changes in the environment caused by human activities and natural processes that add up across space and time. Cumulative impacts are best understood from the perspective of the valued component being affected – such as caribou, water, or fish – in that what matters is the total impact.

Recommended Reading

Arnold L, Hanna K, Noble B. 2019. Freshwater cumulative effects and environmental assessment in the Mackenzie Valley, Northwest Territories: challenges and decision maker needs. *Impact Assessment and Project Appraisal.* https://doi.org/10.1080/14615517.2019.1596596

Wong, L, Noble B, Hanna K. 2019. Water Quality Monitoring to Support Cumulative Effects Assessment and Decision Making in the Mackenzie Valley, Northwest Territories, Canada. *Integrated Environmental Assessment and Management.* https://doi.org/10.1002/ieam.4179

Contact B. Noble for copies of these readings.

Contacts

Bram Noble
University of Saskatchewan
b.noble@usask.ca

Kevin Hanna
University of British Columbia
kevin.hanna@ubc.ca

NWT Cumulative Impact Monitoring Program (CIMP176)
nwtcimp@gov.nt.ca