NWT CIMP Water Monitoring and Research Blueprint

NWT CIMP focuses on three valued components: caribou, water and fish. Please see the other Blueprints if your project has the potential to overlap. For more information, visit our Action Plan and Funding Guides at www.nwtcimp.ca.

Background

What is the Water Monitoring and Research Blueprint and how is it to be used?

The Water Blueprint informs NWT CIMP funding applicants of water-related monitoring and research priorities of key land and water decision-makers and subject-matter experts. It describes information that is necessary to understand cumulative impacts to water.

For science projects to be considered for NWT CIMP funding, project submissions *must* demonstrate that they meet Blueprint priorities. The Blueprint guides the NWT CIMP Steering Committee and staff on the allocation of funds. See the NWT CIMP Science Project Funding Guide for more information on the funding process.

Who informs the Blueprint?

NWT CIMP annually engages subject-matter experts with direct involvement in water monitoring, research and management to update specific monitoring and research priorities. Experts include co-management boards, government scientists and regulators, and the NWT CIMP Steering Committee.

NWT CIMP's Key Principles

NWT CIMP's principles guide us in meeting our mandate and inform project funding allocation. Funding applicants should be aware of these principles, and, where possible, align their proposals with them. Important principles for applicants to consider are:

- Monitoring cumulative impacts that are relevant to land and water use decisions is a strong focus.
- Indigenous Knowledge and scientific knowledge are equally important sources of monitoring information and data.
- Community-based monitoring and capacity building are supported in monitoring cumulative impacts.
- Effects- and stressor-based approaches are encouraged.
- Use of common and standardized data collection and analysis protocols is encouraged.

The Water Monitoring and Research Blueprint

This section details locations, methods and topics of focus that are priorities for NWT CIMP.

Where: Geographic locations of study

NWT CIMP prioritizes monitoring and research in areas impacted by disturbances, or vulnerable to disturbances. These include:

- Areas of past, current or future development interest;
- Areas impacted by climate change related disturbances; and
- Areas vulnerable to impacts by climate change.

How: Approach(es)

NWT CIMP supports several monitoring and research approaches. These include:

- Synthesis and analysis of existing monitoring or research data;
- Collection and analysis of new data, using standardized methods where possible;
- Model development and/or implementation (e.g. empirical or physically-based models); and
- Collection and synthesis of Indigenous Knowledge.

What: Priorities

NWT CIMP's priorities are summarized below in Tables 1 and 2. To be considered for funding, the project proposal *must* identify one or more priority areas *from each column* in Table 1 OR identify one or more priorities from Table 2.

Table 1: Water priority areas related to disturbances, water related factors of interest, and scales of study

Many of NWT CIMP priorities can be grouped according to the statement: **"The impact(s) of** [*disturbance(s)*] **on** [*water-related factor(s)*]**, at the scale of** [*scale(s) of study*]**."**		
Disturbances *(identify one or more)*	***Related factors*** *(identify one or more)*	***Spatial scale(s) of study*** *(identify one or more)*
• Human activities (e.g. roads, mines, pipelines) • Climate change-related and/or natural disturbances (e.g. permafrost thaw, precipitation change, forest fires)	Lakes, rivers/streams, or wetlands: • water balance (e.g. flow, water level) • water quality (e.g. levels of metals, nutrients) • other biotic elements* or indictors of aquatic health (e.g. macroinvertebrate communities) * Except fish. Please see the Fish Blueprint.	• Regional-scale (e.g. Dehcho, Mackenzie Delta, Ts'udé Niljné Tuyeta) • Catchment-scale (e.g. Marian Watershed, Baker Creek catchment, community catchments) • Local/point-scale (e.g. a landslide, around a mine, a specific lake)

Table 2: Additional water priorities

Additional Priorities
▪ Identifying key aquatic ecosystem indicators of stress or the components of the system most susceptible (and measurable) to change. ▪ Identifying predominant drivers of variability, and their relative importance. ▪ Increasing our understanding of processes governing disturbance-impact relationships. ▪ Increasing our understanding of resilience and ecological thresholds in aquatic ecosystems. ▪ Establishing baseline conditions, seasonal variability, and/or long-term trends.