NWT Cumulative Impact Monitoring Program (NWT CIMP)
FINAL REPORT TEMPLATE 2024-25

Instructions:

Thank you for your providing us with your final report. Please remember:

- Use a **minimum** of font size 11.
- Subject line for all materials sent to NWT CIMP:
  - Fiscal year – REPORT – Recipient organization (Project lead last name) – CIMP project number – brief description
- Submit in PDF format to nwtcimp@gov.nt.ca by **April 30th, 2025.**

Please answer **each** section below. Refer to Table 4 in either the Traditional Knowledge Project Funding Guide or the Science Project Funding Guide for more information.

1. **Project information**
   a. Complete each section.
   b. Provide 2-3 high resolution photos as a separate attachment, with captions, permissions and credits.

2. **Consent**
   a. Check the box.

3. **Key messages**
   a. List 3-5 key messages or results for your project in concise bullets.

4. **Abstract**
   a. Briefly summarize the project's purpose, final results, and how the project results contribute to a better understanding of cumulative impacts in the NWT.

5. **Introduction**
   a. Summarize the project objectives and the project's relevance to cumulative impact monitoring.
   b. Include the monitoring and research questions you investigated and why.
   c. Include any relevant background information.

6. **Methods**
   a. Identify and describe the study area and methods you used to collect and analyze the information/data.
   b. Provide a map of sample sites.

7. **Results**
   a. Identify the project results.
   b. Include figures, tables, maps, and photos, where appropriate.

8. **Discussion**
   a. Discuss your results, how they addressed the project objectives and questions you investigated.

b. Identify how project results contribute to a better understanding of cumulative impacts in the NWT.
c. If applicable, identify how the project has contributed to better understanding environmental trends by completing Environmental Trend Report (ETR)

9. Community engagement, communication, and capacity building

a. Describe how you involved the community(ies) in the planning and implementation of the project.
b. Describe how you communicated project results to the community(ies).
c. Describe how the project contributed to long-term community capacity, training, or employment opportunities.

10. Key information needed by NWT CIMP

a. Identify and provide a brief explanation for all the listed measures that apply to this project.

11. Deliverables

a. Report on the status of each deliverable you outlined in your proposal.
b. Explain any project changes or delays.
c. Add any additional deliverables you produced (e.g. non-peer-reviewed reports, peer-reviewed journal publications, community presentations, scientific presentations, meeting reports, websites, models, posters, videos and/or data).
d. Note that we require copies of all reports and publications resulting from NWT CIMP-funded research, even after funding is complete.
e. Attach the NWT Environmental Research Bulletin (NERB) using guidelines (mandatory).
f. Attach Environmental Trend Report (if applicable).
g. Attach updated Project Metadata and Dataset Metadata.

12. References

a. List all references cited.

Contact Us!

(867) 767-9233 ext. 53084
nwtcimp@gov.nt.ca

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1. Project Information			
NWT CIMP #	CIMP230		
Project Title	Monitoring Good Water for First Nation Water Governance		
Project Lead and Organization	Diane Giroux, Akaitcho Territory Government		
Date Submitted	April 30th	**Project Length:** *years of NWT CIMP funding*	3 years
Type of Research	☒ Science ☒ Traditional Knowledge		
Valued Component *Check all that apply. If 'other' please specify.*	☐ Caribou ☐ Fish ☒ Water ☐ Other:_____		
NWT Area/Region and Closest Community	☒ North/South Slave ☐ Dehcho ☐ Sahtú ☐ Gwich'in ☐ ISR ☐ Wek'èezhii Closest NWT Community(s): Deninu Kue ,Lutsel K'e		
Project Location *(Provide specific coordinates; or if regional, provide 4 coordinates for the bounding box.)*	North:_____ South:_____ East:_____ West:_____ Please use DD.MMMMM format		
Project Keywords *(at least four)*	Water quality Monitoring Traditional knowledge Community concerns		
Contact Information *Include mailing address, email, phone number and website.*	General Delivery, Fort Resolution, NT, X0E0M0 Aarom.coordinator@akaitcho.ca 867-394-3313		
Two high resolution photos have been provided to NWT CIMP with this report, along with associated captions, and credit name. I have the photographer's consent to use the photo, as well as the permission of any people in the photo.	☒ I confirm		
2. Consent			
I acknowledge and permit the completed report and photos to be posted for public access on the NWT Discovery Portal.	☒ I agree		
3. Key Messages			
• Water sources change in the spring and summer (due to changes to water level, ice melt) • Older individuals (>30) used snow and ice as water sources in winter; younger individuals (<30) did not report using snow or ice as water sources • Most individuals said that water is good to drink and that water is likely to change in the future (water levels, contamination/pollution, impacts of development) • Many recommendations/questions going forward - need more monitoring, testing, information; involve youth and Elders			

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4. Abstract

The intent of the work was to monitor certain locations from a western science perspective through sampling and analysis, and co-analyze it with all my relations data gathered from interviews in communities about these locations. Findings were meant be used to generate annual snapshot community status reports, academic articles, manuals, and videos to ensure broad access to the approach and results. The results were to be used as a basis for determining critical local impacts of changing weather patterns on local water quality in order to inform future human and ecological health studies in the region. The results were meant to be used to establish an *all my relations* monitoring system in addition to mainstream Traditional (Ecological) Knowledge environmental monitoring in the region. In this way, decision-making can be informed by evidence across knowledge systems instead of preferencing western knowledge.

5. Introduction

The Akaitcho Territory Government and the University of Saskatchewan collaborated from the beginning to carry out a project that was in the interests of the community, that would address community concerns, and that would eventually lead to a better understanding of the water and the changes it is undergoing. By working directly with community members and incorporating western science where necessary, the plan was to develop a manual for monitoring from a TK perspective, through observation, through knowledge gained from land users over time, and through an understanding of the different factors affecting the water and the reasons for the changes. By using this manual, our Guardians and monitors would have an inexpensive way to understand the changes in the water, watch them, and report back to the community with their findings and understandings. These perspectives are invaluable for the relationship that communities have with water, for trust to be garnered in monitoring efforts, and for quicker responses to these changes than western science has been able to provide.

6. Methods

- Objectives:
    - Identify the ways in which human health is affected by “good” and “bad” water;
    - Understand beliefs and perceptions associated with water-related health;
    - Begin to understand gender differentiated beliefs and perceptions of water-related health;
    - Determine appropriate TK indicators to assess “good”/“bad” water and effects on human health; and,
    - Address the difference between “safe to drink” (WS) and “good to drink”
- Community Based Participatory Research
    - Equitable and active participation, collaboration, and mutual learning in research activities
    - Academics and community work collectively throughout the planning and duration of the project (creating methods, engaging participants, social learning, building capacity, answering research questions)
    - Community situated, collaborative, action oriented
    - Creating new knowledge and understanding of problems with practical relevance to the community, driven by a genuine centering of Indigenous knowledge throughout the research project
    - Equitable sharing of control including active and reciprocal involvement in the research design and implementation; meaningful reflection; culturally sensitive exchanges of ideas and co-creation of dissemination products, and co-creation of knowledge that is useful to community members in making positive change
    - Focuses on Respect, Relevance, Reciprocity, Responsibility, Relationality, and Reconciliation (the 6 Rs)
- Mixed Methods
    - Informal conversations at ATG around water/human health; collaborative Indigenous research workshop (GWF, 2018); AAMP technical committee decisions to submit funding applications
    - consultations over research agreement (to 2022)
    - Implementation (2023/24)
    - Solidifying research partnerships (leadership, Elders/TK holders, general community members); community engaged in designing research questions for survey and interviews (community meetings to discuss and design questions)
    - Engaging youth - trained in research methods and ethics by USASK grad student, all youth got TCPS2 Certificates, were leaders in data collection (surveys and interviews)
        - selected by Chief and Council
    - Data collection (by youth)

- Survey - anyone in community over 16; demographic information, water sources and uses, concepts of good and bad water; water and its impacts to health (physical, social, mental, spiritual, financial)
- TK Interviews - water stories, changes over time, future of water
- Key Informant Interview - local land and water management experts

- Co-analysis with Elders and TK holders to contextualize results

Presentations to Akaitcho and CIMP

We also intended on conducting scientific monitoring but couldn't get that part of the work completed.

7. Results

Unfortunately the 3 year project did not work out as planned. We faced a number of setbacks in our planning including COVID and travel restrictions, uncertainty with carrying over of funding from our main sources, and staffing and capacity issues and changeover in the communities. There was also an unforeseen issue that forced the withdrawal of the Yellowknives Dene from the project very late in the effort. Due to these issues, we were only able to carry out an abbreviated version of the project though still managed to obtain some good results for discussion.
Some indicators of good water were discussed identified in detail. Some further concerns about water and water treatment were identified.

- 146 surveys; 18 TK interviews; 4 KI interviews
- water sources change between winter/summer and on the land/at home
- water is good to drink when it comes from a clean and trusted source OR when it is treated
- water is bad to drink when it is dirty OR it smells OR it has color (green, black, brown, discolored, etc.)
- All My Relations
  - Water that is good:
    - **Source** (clean, away from people, looks good, flowing, animals drink from it, community knowledge/known source, depends on location)
    - **Smell** (good or no smell)
    - **Taste** (good or no taste)
    - **Color** (clear, not black/brown or murky)
    - **Appearance** (no bugs, no foam, no sludge, no contamination, fish and plants look healthy, the surrounding land)
    - **Particles** (not sandy/cloudy)
    - **Temperature** (cold)
  - Water that is bad:
    - **Smell** (smells bad, smells like chemicals)
    - **Taste** (bad taste, metallic, tastes weird, tastes off, tastes like chemicals, overtreated, tap water, chlorine, bleach)
    - **Color** (brown, black, green, white, dark, not clear, unclear, discolored, dark)
    - **Appearance** (floaties, film, scum, foam, looks bad/dirty/like a lagoon, murky, swampy, marshy, sludge, gross, ponds, contaminated)
    - **Temperature** (warm)
    - **Particles** (cloudy, mucky, sand/dirt, muddy, moldy, algae, dust)
    - **Source** (low levels, river/pond/lake)
    - **Still** (stale, standing, dead, not moving)
    - **Fish & Animals** (no frogs, animals don't drink it, dead fish, sick animals, waterfowl, muskrats, rodents)
    - **Weather** (wind)
    - **Seasons**
    - **Different vegetation** (changing environments, bad environments, dying plants)
- Water and Health
  - Mental Health: good water leads to good mental health; bad water leads to bad mental health
  - Emotional health: good water is good for the soul and gives emotional stability; bad water makes you feel bad
  - Spiritual health: water is life, connection, balance
  - Physical health: good water makes you healthy; bad water makes you sick
  - Financial wellbeing: cost of water; needing to buy bottled water instead of water from the land

8. Discussion

We weren't able to carry out the western science portion of the project, the part that CIMP funding was meant to support. Though we had still intended on completing this part when we were using the funds for travel to communities, and participation in the CIMP reporting workshop. The communities that we worked in carry out their own scientific monitoring through their Guardian programs, so it is possible, with more time for review and analysis, that we can co-analyze data from certain areas around the lake.
Seeking this funding was a first attempt at a regional project that originally, all communities were on board with. Over the delays and the changing of staff, it was difficult to maintain momentum in the project and, as things often do, they can slide to the back-burner if momentum is not maintained. We learned a lot through this project, and know what to improve on if we attempt a large scale regional effort like this in the future.

From what we were able to achieve:

- presentation matters - using icons to represent ideas
    - e.g. for water sources, we used icons of water bottles, lakes, taps, cisterns, rivers, etc. to show different sources at different times of year
- importance of co-analysis
    - e.g. during winter, not many people responded that they used ice/snow as sources of water, Elders/TK holders noticed this and asked us to look at the age/gender of who did/didn't use snow/ice as a water source and together we were able to find that there is a gap in knowledge between younger and older generations about how to use ice/snow as a water source in the winter
- water teachings
    - Tu Beta Tuna water is life
    - respect the water
    - pay the water before travelling
    - be quiet when travelling through sacred points
    - take care of the land
    - keep the water strong
    - protect the water
    - water stewardship
    - be aware of changes to ice and water from climate change
- what does water mean?
    - Gives life to everything in the world (land, animals, trees, people, the whole world)
    - Important to human beings because we drink water all the time
    - We are lucky to have clean water in the lake
    - We can't live without water
    - Water means everything to everybody (plants, animals, everything)
    - Means a lot
    - Water is life

9. Community Engagement, Communication, and Capacity-building

This project was driven by communities from the start, and USask supported all the way through. The communities were directly responsible for design, development, and carrying out of the project, as well as reporting, and future planning to grow off this project. USask, DKFN, and LKDFN continue to communicate about future partnerships and expanding on this program to start.
In terms of capacity building, 7 youth in communities trained for interviews, received Tri-Councils Ethics Certificate.

10. Key Information Needed by NWT CIMP

Check all boxes that apply for the project and provide a brief explanation.

This project …		**Briefly explain/describe**

Directly impacted a current decision-making process	☐	
Could contribute to a future decision-making process	☒	More work is needed, but monitoring efforts continue through Guardian programs in community, and what they see and record on the land and water will influence decision-making in the communities
Responded to a community concern	☒	Elders and knowledge holders were very happy to discuss these important issues that they have seen and never seen anything done about. They have wanted to see more studies and discussion on water in their communities, and we have started, and look to continue to address concerns.
Led to new or enhanced knowledge of cumulative impacts	☐	
Developed or used of a standardized monitoring protocol(s)	☐	
New or enhanced community capacity	☒	Trained interviewers
Led to new or enhanced analytical tools, modeling capacity, or other	☐	
Presented to a community audience	☒	In communities, as well as to the leadership of all three First Nations.
Other:	☐	

11. Deliverables

Deliverables identified in proposal	Fiscal Year	Who was it provided to?	Sent to NWT CIMP? Yes/No (*if no, state reason*)	I acknowledge and permit posting for public access on the NWT Discovery Portal
Annual Report	24-25	CIMP	Yes	☐ I agree
Financial Report	24-25	CIMP	Yes	☐ I agree
Community Report	24-25	DKFN, LKDFN	No - internal	☐ I agree
Final Report	24-25	CIMP	Yes	☐ I agree
Additional Deliverables	**Fiscal Year**	**Who was it provided to?**	**Sent to NWT CIMP? Yes/No (*if no, state reason*)**	**I acknowledge and permit posting for public access on the NWT Discovery Portal**
Video	24-25	In progress	No - incomplete	☐ I agree
				☐ I agree
				☐ I agree

12. References

Thank you for your submission!

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