



# NWT CIMP

Northwest Territories Cumulative Impact Monitoring Program

Canada

## NWT Cumulative Impact Monitoring Program

### Reporting Templates 2012-13

#### A) Annual Project Status Report

**NWT Cumulative Impact Monitoring Program, 2012-13 A) Annual Project Status Report**

1A) Project Information			
<b>Project title</b>		Investigating the cumulative impacts of environmental change and human activity in the Tathlina watershed	
<b>Date submitted</b>		April 17, 2013	
<b>Valued component (Check all that apply. If 'other' please specify)</b>		<input type="checkbox"/> Caribou <input checked="" type="checkbox"/> Fish <input checked="" type="checkbox"/> Water <input type="checkbox"/> Other	
<b>Geographic area/region</b>		Cameron Hills, Tathlina watershed, Kakisa	
<b>Project keywords (at least 4)</b>		Environmental change, oil and gas, Cameron Hills, Kakisa	
<b>Name of project lead</b>		Shawn Laidlaw	
<b>Report prepared by (if not lead)</b>		Mike Palmer	
<b>Project lead organization</b>		Ka'a'gee Tu First Nation	
<b>Contact information</b> Include mailing address, email, telephone and website		Ka'a'gee Tu First Nation  PO Box 4428  Hay River, NT  X0E 1G3	
<b>Project collaborators (insert rows as required)</b>			
Team member name	Role	Organization	Contact information (email address & telephone)
Shawn Laidlaw	Project coordinator	Ka'a'gee Tu First Nation	ktfnenvironmental@gmail.com
Mike Palmer	Scientific coordinator	CIMP	michael.palmer@aandc.gc.ca
Krista Chin	Researcher	CIMP	Krista.chin@aandc.gc.ca
Chief Lloyd Chicot	TK and project direction	KTFN	kakisalloyd@hotmail.com
Fred Simba	TK	KTFN	None
George Simba	Field support	KTFN	
Chris Chicot	TK and field support	KTFN	none

Jules Blais	Researcher	UOttawa	Jules.blais@uottawa.ca
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<b>Year and month project started</b>		May 2012	
<b>Anticipated completion year of project</b>		September 2015	
<b>Execution year of project (eg. Yr. 1 of 3)</b>		Yr. 1 of 3	
<b>If project continues a previous CIMP-funded project, provide project name</b>			
<b>Project status</b>		<input checked="" type="checkbox"/> on schedule <input type="checkbox"/> behind schedule <input type="checkbox"/> completed	
<b>Location</b> In decimal degrees (dd.mmm) provide coordinates for the general study location; or if regional, provide 4 coordinates for the bounding box.			
<b>Sample locations</b> Attach spreadsheet with sample locations in decimal degrees (see template)		<input checked="" type="checkbox"/> completed	
<b>Consent</b> I acknowledge that CIMP will post this completed report for public access on the NWT Discovery Portal with the exception of financial information in Sections 8A and 3B.		<input checked="" type="checkbox"/> I agree	

## 2A) Project objectives and rationale

*Please summarize the rationale for the project and provide a list of the objectives for the project, as approved in the original proposal. (Suggest 1 paragraph rationale and a bullet list of objectives)*

The Tathlina Lake area is a culturally and economically significant area for the Ka'a'gee Tu First Nation, as Band members and their ancestors have lived, hunted, trapped and fished in the area for thousands of years. The lake supports a small commercial fishery, which employs KTFN members and contributes significantly to the economy

of the community. The area is also downstream of one of the only producing oil and gas fields in the NWT, in the Cameron Hills. Multiple resource pressures and environmental change in the region have led the KTFN to question the cumulative effects of these influences on the current and future health of the aquatic system of the Tathlina watershed.

The objectives of the project are to:

- 1) Coordinate monitoring and research efforts in the watershed between the community, government, and universities;
- 2) Understand current aquatic health of the watershed using water quality, macroinvertebrates and fish as indicators of ecosystem health;
- 3) Understand historical environmental change and contaminant loading in the watershed using paleoecological techniques from lake sediment cores; and
- 4) To develop a regional community-based water quality monitoring program for the watershed to monitor disturbance and future change in the watershed.

### 3A) Changes to the project

*Report any substantial changes to the key activities, timelines (completion dates), and funding arrangements for the project as approved in the original proposal. Please explain the changes and any corrective actions that will be taken, if applicable. If there were no changes, please indicate that. To provide a cumulative record of changes, please copy and paste entries to this table from each previous year.*

- 1) The portion of this project directed at investigating contaminant concentrations in aquatic furbearers was not initiated. This was due to a lack of samples collected by the community and by a lack of capacity at the GNWT to undertake the work. This part of the project has been eliminated for the coming years.

### 4A) Key outputs

*Identify the key outputs for the reporting year (insert rows as required). Key outputs can include non peer-reviewed reports, peer-reviewed publications, presentations, meetings, websites, models, software, and posters. Note that CIMP requires copies of all reports and publications resulting from CIMP-funded research, even after funding is complete at [cimp@aandc-aadnc.gc.ca](mailto:cimp@aandc-aadnc.gc.ca). The project lead must also upload the reports and publications, or a list of publications if copyright is a concern, to the NWT Discovery Portal <http://nwt.discoveryportal.enr.gov.nt.ca>*

Key output	Intended user(s) of output (be specific)	Significance of the key output. 'So what?'	Where is the output available? Provide links
Presentation at CIMP Annual	Community groups,	This was an	NWT Discovery Portal

Results Workshop	regulators and government researchers	opportunity to showcase the study design, research approach and early results from the program.	<a href="http://sdw.enr.gov.nt.ca/nwtdp_upload/Chicot-Palmer-Tathlina.pdf">http://sdw.enr.gov.nt.ca/nwtdp_upload/Chicot-Palmer-Tathlina.pdf</a>
Meeting with Paramount Resources Ltd	Operator of the oil and gas field in the Cameron Hills	An opportunity to introduce the research program to Paramount and to invite them to participate in the program.	
Several meetings with Chief Chicot in Kakisa	Community representative	This was an opportunity to share the work that had been undertaken to date and to get feedback from the Chief regarding the program.	
Meeting with Mackenzie Valley Land and Water Board	Board Staff	Introduce MVLWB staff to the research program and to discuss how research results can be incorporated into their decision making processes	Commitment by CIMP members of the project team to engage in WL and LUP review process if required.
CABIN stream sampling data uploaded to the CABIN website	Public – regulators, industry, communities	Biodiversity baseline data - available for public download and use in CABIN reference condition approach modelling	<a href="http://www.ec.gc.ca/rcba-cabin">http://www.ec.gc.ca/rcba-cabin</a>

## 5A) Project progress

Please complete Sections 1 and 2. These sections are where you demonstrate the progress that has been made with the project. The information will be used, in part, to determine future funding levels for the project.

**Section 1:** Check all boxes that apply for the reporting year, and provide a link to a text explanation in Section 2.

**Section 2:** Provide a description and explanation of each of the areas checked in Section 1. Explain the significance for moving the project forward. Use clear language that will be understandable by those who are not experts in the project area. Provide enough detail to give an understanding of the progress that was made and its significance.

(Suggest Section 2 is at least 1 page)

**Section 1**

Monitoring and research conducted during the year led to:		Numbered link to Section 2
New or enhanced knowledge in the field of study	<input checked="" type="checkbox"/>	1.
New or enhanced knowledge of cumulative effects	<input type="checkbox"/>	
Directly impacted a current decision-making process	<input type="checkbox"/>	
Could contribute to a future decision-making process	<input checked="" type="checkbox"/>	2.
Development of a standardized monitoring protocol(s)	<input type="checkbox"/>	
Adoption of standardized monitoring protocol(s) by decision-maker <sup>1</sup>	<input type="checkbox"/>	
Responded to a community concern	<input checked="" type="checkbox"/>	3.
New or enhanced community capacity	<input checked="" type="checkbox"/>	4.
New or enhanced analytical tool	<input type="checkbox"/>	
New or enhanced modeling capacity	<input type="checkbox"/>	
Other (please specify, insert rows as required)	<input type="checkbox"/>	

<sup>1</sup>Decision-maker is defined in the 2012-13 CIMP Proposal Guide

[http://sdw.enr.gov.nt.ca/nwtdp\\_upload/call\\_for\\_proposals\\_2012\\_13\\_proposal\\_guide\\_final.pdf](http://sdw.enr.gov.nt.ca/nwtdp_upload/call_for_proposals_2012_13_proposal_guide_final.pdf)

**Section 2**

**1. New or enhanced knowledge in the field of study**

Researchers at the University of Ottawa are developing a methodology to measure PAH concentrations in benthic invertebrates. The goal of the laboratory technique is to measure PAH concentrations and to determine the proportion of parent vs alkyl PAHs. This is important as alkyl PAHs are much more difficult for organisms to metabolize and remove from the body. This laboratory technique is applicable to a wide audience in the field of environmental toxicology beyond the Cameron Hills.

**2. Could contribute to a future decision-making process**

Paramount Resources Ltd. operates an oil and gas field in the Cameron Hills. To date there has been very little monitoring of the aquatic system in the Cameron Hills and the surrounding watershed. Results from this research project will help to inform regulators on the need for environmental monitoring in the watershed and will help them to establish appropriate environmental management plans.

**3. Responded to a community concern**

The community of Kakisa has been concerned about the influence of upstream oil and gas development for many years. This program was developed to assess this influence and therefore, addresses a community concern.

**4. New or enhanced community capacity**

As part of this project an Environmental Coordinator is hired to work in the community. This person receives training and mentorship in environmental monitoring and it also gives the community a contact person to whom they can bring their concerns.

**6A) Project linkages**

*Please state how NWT decision-makers and communities are engaged in the project as approved in the original proposal. Identify any new linkages that have emerged during the reporting year and the value of those new linkages. Eg. A new decision-maker has been identified that can use the data or results. (Suggest 2 paragraphs)*

This is a multidisciplinary project that is coordinated by the Ka'a'gee Tu First Nation, and is a direct result of specific research questions developed by the community. The community will play a lead role in logistical and administrative support for the project and will provide field support to the various research teams. Information generated in the program will be directly relevant to industry and regulators responsible for oil and gas operations in the Cameron Hills area. The research team had the opportunity to discuss the project with the Mackenzie Valley Land and Water Board and has committed to providing technical advice during the water license and land use permits process if required.

**7A) Key project tasks for next year**

*Please briefly describe key activities and outputs that are planned for the next year, unless this is the final year of the project. To provide a cumulative record of progress, please copy and paste entries to this table from previous years and organize by year. (Suggest a bullet list for each year)*

**2013-14**

- a. *Regional water quality monitoring program (Simba, KTFN; Palmer and Chin, AANDC; Kelly, ENR-WSS)*
  - Continue quarterly sampling program in local streams that was initiated in 2012-13
  - Undertake regional lake water quality sampling program in the Cameron Hills area
  - Include passive hydrocarbon and dissolved metals samplers in the regional stream monitoring program
  
- b. *Fish health in Tathlina Lake (MacLatchy, Lister, and Wilkie, WLU; Gallagher, DFO; G. Low and M. Low, DFN-AAROM)*
  - Continue fish health studies that were undertaken in 2012-13
  - Sampling in early June for hormone levels, fat reserves and general fish health
  
- c. *Investigating environmental change in the watershed (Pisaric and Thienpont, Carleton; Korosi, Ottawa U; Palmer, AANDC; Blais, UOttawa)*
  - Undertake aerial photograph interpretation of landscape change in the area between Tathlina and Kakisa Lakes. Investigating changes in lake area and collapse of permafrost supported peat plateaus.