

KNOWLEDGE HUB SUMMARY

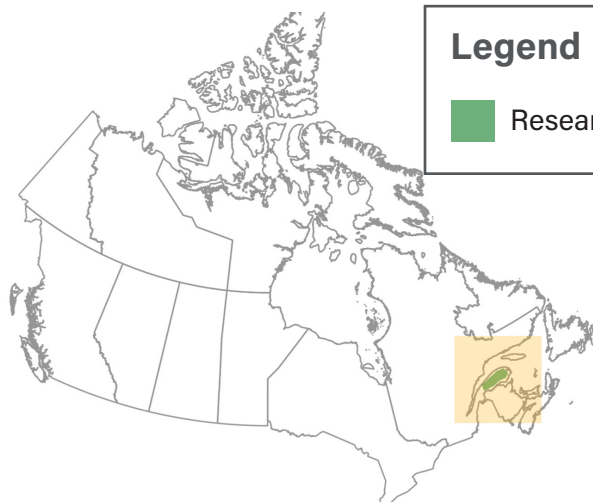
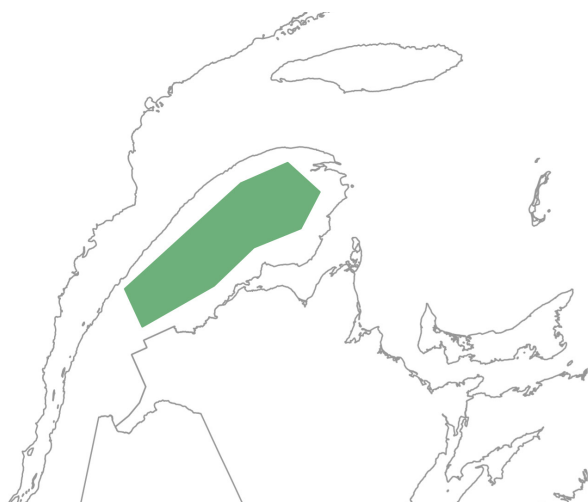
Developing Knowledge on the Status of Aquatic Ecosystems in Chic-Choc Mountains (CREA-CC)

The Chic-Chocs are an Appalachian mountain range in the Gaspésie region of southeastern Quebec, named from the Mi'gmaq word "sigsôg," meaning "impenetrable barrier" or "rocky mountains." Located in Gespe'gewa'gi, the seventh District of Mi'gma'gi, it includes the Mi'gmaq communities of Gesgapegiag, Listuguj, and Gespeg. Their economy is based on fisheries, forestry, tourism, and arts and crafts. The Chic-Choc wildlife reserves and Parc de la Gaspésie, managed by Sépaq, are major tourist destinations, especially for recreational fishing, which generates significant revenue (~\$15M annually from brook trout). Protecting the landscape's quality and integrity is crucial for sustaining these activities and the industry.


Principal Investigators: Catherine Lambert Koizumi (The Mi'gmaq Maliseet Aboriginal Fisheries Management Association), Louise Chavarie (The Norwegian University of Life Sciences)

Collaborators: Heidi Swanson, Milla Rautio, Pierre Magnan, Christophe Kinnard, Andrea Bortelo, Jean-Sébastien Moore, Jean-François Lapierre, Olivier Morissette, Marie-Claude Richer, Danielle Gauthier, Claude Isabel, Amélie Gilbert, Julie Leblanc, Guillaume Blanchet, Denis Duteau, Aurelie Rivard, Thronn Haugen, Robert Lennox

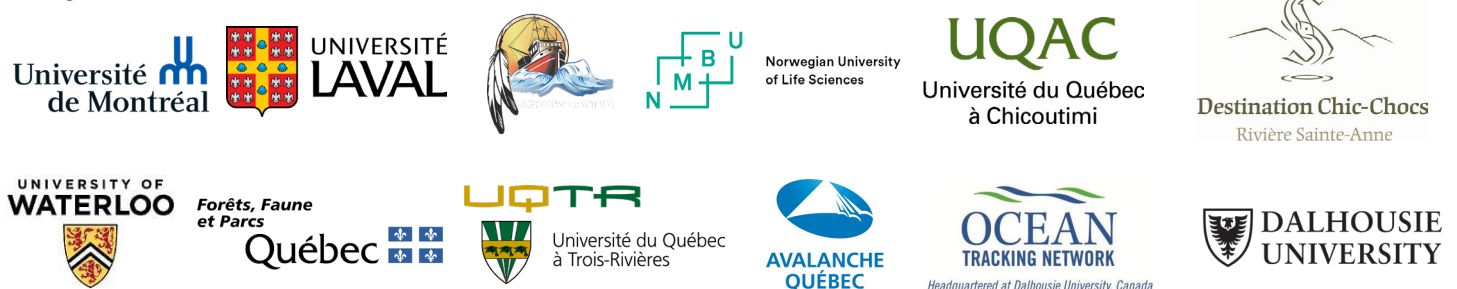
Trainees: Thomas Jourdan, Adrien Simonette, Thanuri Kasthuriarachchi, Marie-Hélène Rondeau, Mathias Lunner Andersen, Marie-Amélie Blais, Matthew Gilbert, Leah Strople, Imane Mehdi, Maxime Vigneault, Pierre Alexis Drolet, Peter Adam Jerome, Perry Martin, Louis-Phillippe Collins, Linda Lemmens



Legend

 Research location

Project Partners



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Objectives

The Knowledge Hub aimed to foster collaborative research and management efforts between the Mi'gmaq, university researchers, and management organizations. Its specific goals were to:

- Facilitate knowledge exchange among Mi'gmaq, university researchers, and management organizations to form a sustainable network for improved aquatic management in the Chic-Choc Mountains.
- Address the lack of historical and current data (both summer and winter) on climate change and anthropogenic impacts in the aquatic environments of the Chic-Choc Mountains.
- Consolidate multidisciplinary research and management activities in the Chic-Choc Mountains to develop applied and sustainable solutions for aquatic environments.
- Establish long-term collaboration between management and academic partners to strengthen a research network and sustainable management expertise in the Chic-Choc region.

Key Outcomes & Impact

One of the project's most significant discoveries was identifying the biodiversity across 30 lakes in Gaspésie Park using eDNA surveys. This research is key to advancing our understanding of biodiversity changes across seasons and contributes to the broader development of meta-community and meta-ecosystem theories. The team also developed a standardized winter monitoring protocol, which will have lasting impacts on both research and management efforts in freshwater ecosystems, particularly in addressing the effects of climate change.

A notable achievement of the project is the establishment of standardized winter protocols for sampling all components of lake ecosystems. This protocol will have lasting effects on the emerging field by creating baselines and enabling the detection of climate change impacts in freshwater ecosystems. The project has thus contributed to the broader goals of enhancing social, economic, technological, and health benefits by improving environmental monitoring and management practices in Canada and beyond.

Locally, the project strengthened collaboration with organizations such as SEPAQ and Destination Chic-Chocs, providing first-time data for lake management. Regionally, the team worked with the provincial government to address the lack of information on alpine freshwater lakes. Nationally, the project aims to close the knowledge gap in winter limnology through ongoing research and publications, significantly contributing to the emerging field of winter ecology.



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