



Weston Family Foundation
Fondation de la famille Weston

Northern Science & Research Northern Community Partnerships in Research Grants – Application Guidelines

Overview

The Weston Family Foundation invites applications to the Northern Community Partnerships in Research Grants pilot. The pilot, in partnership with the Cree First Nation of Waswanipi and Cree Nation of Chisasibi, aims to support northern biodiversity and natural science knowledge creation through the establishment of community-researcher relationships that facilitate knowledge co-production.

Vision: The vision of the Northern Community Partnerships in Research Grants is to invest in knowledge co-production and relationship building initiatives that:

- Provide a platform and opportunity for Indigenous communities to share their natural science research interests with academic researchers and their students;
- Facilitate novel relationship-building initiatives between Indigenous communities and researchers;
- Support the development of co-produced research projects that focus on protecting and preserving biodiversity in northern Canada; and
- Develop knowledge co-production strategies and demonstrate their importance to the next generation of researchers.

Please note this pilot does not support primary research, but rather the preliminary relationship building and project co-design processes.

Basic Structure

1. Participating Indigenous communities will share their research opportunities with the Canadian academic research community through webinars and written summaries. Participating Indigenous communities are the Forest Authority, Cree First Nation of Waswanipi, studying the impact of wildfire on fish, American martens, and moose, and the Chisasibi Eeyou Resource and Research Institute (CERRI) of the Cree Nation of Chisasibi, studying coastal vegetation in Canada geese stop-over sites and James Bay eelgrass.
2. Principal investigators (P.I.s), who are CRA qualified donee's, will apply to the Foundation for funding to travel to the Participating Indigenous community for the purpose of meeting with and beginning to co-design a research project. P.I.s must have graduate student(s) or postdoctoral fellow(s) accompanying them.
3. P.I.s will receive **up to \$28,000** for them and their students/fellows to travel to the Participating Indigenous community to co-design the research project over the summer/fall of 2024.

Application Instructions

The Weston Family Foundation invites applicants to apply after reading through these guidelines. The Foundation and the Communities will internally review the applications for eligibility, substance, and fit within the community.

Please keep your application succinct and adhere to the restrictions indicated in the document.

Questions may be directed to David Bysouth at David.Bysouth@westonfoundation.ca.

Applications are due by 5:00pm EDT on May 15th, 2024, and can be sent by email to northern@westonfoundation.ca with the subject line “Northern Community Partnerships in Research Grants Application.”

Pilot Core Elements

Funding and Pilot Details

- Each Principal Investigator (P.I.) will receive up to \$28,000 for building relationships with community partners and to cover their (and their students’) travel expenses to the community.
- Researcher visits and collaboration with the community should take place in the summer or fall of 2024.

NOTE: This pilot **DOES NOT** support primary research itself, but rather focuses on supporting the initial relationship building between the community and the researchers. Researchers and partners must secure their own funding for executing the co-designed research project. Researchers and/or the Communities are welcome to apply to other funding opportunities offered by the Foundation, such as the [Weston Family Awards in Northern Research](#) (for the researchers’ graduate students or postdoctoral fellows), but receipt of funding through the Northern Community Partnerships in Research Grants in no way guarantees further funding from the Weston Family Foundation.

Research Priorities

Applicants must ensure that their research interests align with those outlined by the Cree First Nation of Waswanipi or the Cree Nation of Chisasibi and that they are committed to co-designing a research project with the community related to one of the following research priorities:

Cree First Nation of Waswanipi

Marten monitoring (already part of the Wapistan project). The primary objective of the project is to conduct a systematic surveillance of marten populations within areas identified as high-quality habitats for the species. Utilizing a network of camera traps, data will be gathered to assess temporal trends in marten presence, aiming to discern any patterns of decline or stability over time. Additionally, the project seeks to investigate the ecological resilience of martens in post-wildfire landscapes. By

comparing marten activity in areas affected by forest fires with those that remain untouched, the aim will be to understand the response to such disturbances. The aim for the future of the research project would be to;

- 1) Monitor the presence of marten in sites that have good quality habitat for this species. With cameras, it is going to be possible to see if the presence decreases with years.
- 2) See if in areas where there were fire forests, the marten stayed or left, and if it will recolonize eventually.
- 3) Integrate climate change in the analyses with the data from the various instruments put in place (the snow rulers, the temperature loggers, and the weather station) and existing available data. Create a data base with weather parameters. [Read more about marten monitoring.](#)

Fish monitoring at Théodat Lake. The aim of the project is to sample the walleye population in Théodat Lake in order to set the baseline or a reference level (since there was no other study done in this lake) to monitor any changes in the fish health or population. It would also serve as a baseline to other lakes in the region in terms of contaminants as this area is considered undisturbed. In order to do that, two main aspects need to be studied:

1. Describe the health status of the walleye (contaminants, but also beneficial elements to human's health).
2. Describe the walleye's population (age structure, sex ratio, condition, growth, length and weight monitoring in relation to fishing methods, reproductive health).

Analyses of various chemical element would be done, some of which can be contaminants and negative for human health. Routinely, 5 elements are quantified in the meat and in the eggs. Mercury, cadmium, arsenic and lead are important to quantify as they can negatively impact human health. Selenium is also quantified, but this element as beneficial properties to human health. For example, it has been found to have a structural and enzymatic role as well as being important for the good functioning of the immune system. Moreover, a deficiency in selenium can alter the mood. [Read more about fish monitoring at Théodat Lake.](#)

Willow tree planting for wildlife habitat restoration. The objective of the investigation is to rehabilitate vital habitat for moose by implementing willow plantations. The primary research goal is to confirm the suitability of willow as a forage source for moose populations and to facilitate rapid habitat restoration following extensive, high-severity wildfires. The study will primarily target areas affected by the 2023 wildfires, specifically those near or within conservation zones in the Waswanipi territory, including Mishigamish—Théodat Lake and Waswanipi Lake regions. The following questions on the Willow research project need to be addressed: 1) What type of willow (*Salix* sp.) is common in the boreal forest east of the James Bay; 2) What type of willows can be reproduced in nursery with minimal equipment; 3) Can willow nutrition (*Salix* sp.) contribute to sustain the moose population in boreal forest, especially after wildfires (3-5 years); 4) Can willow plantation also be used for beaver reintroduction? [Read more about willow tree planting for wildlife habitat restoration.](#)

Cree Nation of Chisasibi [Read more.](#)

Assessing the distribution and types of coastal vegetation in Canada geese stop-over sites. The Canada goose (*Branta canadensis*) holds significant cultural, health, and subsistence value for the Eeyou people of Chisasibi, Eeyou Istchee, Quebec. Their tradition includes two annual "Goose Breaks," a communal hunting practice deeply rooted in Eeyou culture and practiced by local businesses. This practice, led by a "Goose Boss," ensures ethical, sustainable, and equitable distribution of the harvest, reflecting traditions that span generations. Notably, the James Bay Northern Quebec Agreement (1975) safeguards these hunting rights, guaranteeing harvest levels comparable to pre-1975, contingent on conservation and population availability. However, the introduction of hydroelectric dams in the late 1970s correlates with a notable decline in local goose populations despite a rise in the overall North American population of Canada geese. This anomaly may be attributed to changes in migratory patterns, potentially influenced by altered food availability, such as blackberries, a known favorite of geese. To address this, a study is needed to determine the relationships between terrestrial plant productivity and goose migration patterns, offering insights that could guide efforts to restore these high-value habitats and critical components of northern biodiversity. The study involves mapping berry fields, heaths, and wetlands and measuring their levels of productivity and quality. Fieldwork and developing a habitat value index based on biophysical parameters and traditional ecological knowledge are key components of the study. The study would require an MSc or PhD student in marine or coastal ecology or geomatics, physical geography, or wildlife ecology.

Microbiome of James Bay eelgrass. Microorganisms, including fungi, bacteria, and viruses, serve as key indicators of environmental health and change, yet our understanding of these tiny life forms in James Bay remains limited. Gaining insights into these marine microbes could illuminate the ecological dynamics of the Bay and their potential to cause disease in aquatic plants, and other impacts on endemic biodiversity. There's a particular interest in studying how microbial communities might be contributing to the ongoing decline and lack of recovery of eelgrass (*Zostera marina*) beds in James Bay. Eelgrass, crucial for the marine ecosystem and migratory waterfowl, is facing a decline due to various stressors, possibly including microbial infections. By focusing research on identifying the microorganisms living on the eelgrass's leaves, roots, and rhizomes, and pinpointing those capable of causing disease, we can enhance efforts to restore these vital underwater meadows. This research will employ microbiology and genomics techniques and is suitable for a graduate student (MSc or Ph.D.) or PostDoc specializing in plant pathology, molecular and cell biology, or marine microbiology, with a strong foundation in genetics, genomics, and bioinformatics. Applicants must indicate on their application which of the above research priorities they hope to collaborate on.

Applicant Details

Eligible Applicants must be:

- CRA qualified donee
- Associated with/employed by accredited Canadian universities or equivalent research institutions;
- Studying a field of natural sciences that is applicable to the community research priorities described above;
- Committed to building a relationship with the community and understanding of the importance of building relationships with Indigenous communities for the purpose of research co-production;

- Committed to co-designing a research project with the community that focuses on the community's research priority;
- Supportive of Indigenous data sovereignty and committed to co-owning data and results of research with the community;
- Committed to including students (Master's, Ph.D., or postdoctoral fellows) in travel to the community and co-design of the research project.

Project Details

Applicants must demonstrate that they have experience in developing and executing research projects related to the research priorities of the community and why they are best suited for this project.

Applicants must have students or postdoctoral fellows that will travel with them for the purpose of relationship building and project co-design.

Applicants must demonstrate a plan for co-design once in community, including what training or skills development will be passed along to community members or youth in the community.

Applicants must be able to travel to the community for the purposes of this pilot in the summer/fall of 2024.

Budget - Eligible Expenses

Applicants may use their allocated funding for the following expenses:

- Travel for researcher and students (flights, ground transportation, etc.)
- Accommodation for researcher and students
- Materials needed for in-community project development.
- Indigenous knowledge training and education courses/activities for researcher or students
- Other costs associated with relationship building activities.

Relationship building activities can include, but are not limited to:

- In-Community Workshops
- Training experiences for Community members
- On the land initiatives
- Cultural experiences
- Conversations
- Youth engagement
- Presentations