SUBMISSION TO THE HOUSE OF COMMONS STANDING COMMITTEE ON SCIENCE AND RESEARCH

STUDY ON TOP TALENT, RESEARCH, AND INNOVATION

ARCTIC RESEARCH FOUNDATION

MAY 2022

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About the Arctic Research Foundation
The Arctic Research Foundation (ARF) is a private, non-profit organization building a new scientific landscape in the Canadian Arctic with a novel approach to infrastructure. ARF is driven by collaboration, relationship-building, respect for Indigenous knowledge, and a dedication to putting Arctic communities first.

Through our unique operations and continued development of innovative, cutting-edge research vessels and self-powered mobile labs, we coordinate and catalyze scientific, cultural, and economic research. We partner with governments, universities, and other institutions requiring innovative infrastructure to successfully deliver essential Arctic programs. We build relationships with Arctic Indigenous peoples to shine a light and bring expertise to the region's issues, increase economic opportunity, make important archaeological discoveries, and enhance humanity's understanding of the Arctic world.

Community engagement is the core of our work. ARF is proud to have its northern operations embedded in the communities of Yellowknife, Northwest Territories, and Gjoa Haven and Cambridge Bay, Nunavut. ARF hires locally and invests in employment opportunities for local young people through skills training programs.

Local residents, hunters, and elders know their land and history better than anyone else. Our research partners are leaders in their fields with unique knowledge and insights. Our experienced crew draws on their years at sea just as Inuit artists pull from their past to create new works in a legacy spanning millennia.

Arctic Research Foundation's work is critical in bringing scientific and infrastructure innovation to Canada's North.

Arctic Science and Data Management
Arctic Science encompasses the diverse fields of natural and applied scientific research and engineering in polar regions and ecosystems, including biological and environmental science. The field encompasses research into topics like permafrost and polar ice shelves, marine exploration and mapping, and vegetation and wildlife. Arctic Science includes and centres the traditional knowledge and wisdom of the region's Indigenous peoples.

As we face the imminent global threat of climate change, it is imperative that all stakeholders work collaboratively on understanding and innovating in Arctic Science. Investments in Arctic Data Management are investments in the critical infrastructure necessary for Canada's Arctic future. Efficiency requires collaboration and coordination, and ARF is well-positioned to lead the way in "de-siloing" and decolonizing Arctic Science so that communities, governments, and research institutions can effectively share data to improve Arctic research, environmental stewardship, and economic development in the North.

The Importance of Emphasizing Arctic Science Research Capacity
The need for an emphasis on Northern and Arctic research is more critical now than ever before.

Arctic sovereignty will become an increasingly important topic, given ongoing environmental, climate, economic, and geopolitical concerns. Compared to other countries with claims to the Arctic, Canada lags in terms of its monitoring activities.

Furthermore, Canada's Arctic contains large repositories of rare earth metals, which will become increasingly important as Canada progresses towards electrification across various industries. As such, supporting Arctic Science is part and parcel to supporting economic development, particularly as it pertains to natural resources and environmental protection. Supporting Arctic Science will provide invaluable knowledge that will enhance innovation across several sectors.

The Government of Canada's Arctic and Northern Policy Framework details the Government of Canada's goals to build a more vibrant and economically resilient North. The Government frequently touts that the Framework is currently moving to co-implementation, however without significant funding allocation and capacity the Framework remains an aspirational document.

Decolonizing Research and Building Indigenous Research Capacity in the North and Arctic
Indigenous knowledge is one of the greatest scientific resources in Canada, yet it is often underutilized. Through our work with Indigenous communities in the North and Arctic, ARF has learned that there is untapped local talent in Northern and Arctic communities–individuals with knowledge and expertise who want to support ongoing research efforts.

Colonial legacies, including those of Residential Schools, Indian Day Schools, and the Sixties Scoop have harmed the trust of state-run education in many Indigenous communities. As a result, Indigenous peoples are dramatically underrepresented in academic spaces, including scientific research. Nonetheless, Indigenous peoples are resilient and their knowledge of their lands, resources, and environments have persisted through generations. Unfortunately, this knowledge is often underutilized and undervalued in the western academic context.

For decades, Arctic research has involved sending researchers—usually non-Indigenous academics from southern Canada—to research stations scattered across the region. While an increased emphasis on arctic research is critically important given current climate, sovereignty, and geological considerations, the historic approach to research in Arctic communities has not sufficiently included and cultivated Indigenous talent.

ARF recognizes the importance of building capacity for Indigenous peoples to be active stakeholders and participants in the research happening in their communities. ARF runs several programs designed to promote Indigenous involvement in its research activities. For instance, ARF's runs a marine safety training course in Cambridge Bay, invites youth and locals to job shadow scientists and crew on its research ships, and provides training in electrical systems, welding, construction, and other trades to its crew working in the Naurvik Plant Production Pod project in Gjoa Haven. These programs help build research capacity among community members interested in participating in this research.

ARF is also capable of catalyzing and facilitating research partnerships between Indigenous communities and post-secondary institutions. Currently, ARF has over 40 partnerships with post-secondary institutions, research institutions, non-governmental organizations, and government agencies.[1] ARF is developing environmental monitoring kits to provide to local communities in Nunavik, is planning youth-elder camps in Gjoa Haven and Tutoyaktuk and is working on initiatives to train community members to be involved in the data collection and monitoring process.

Programs of this nature create opportunities for community members to apply their knowledge of the local environment to the research process, which enhances the overall quality of data. While ARF has the requisite infrastructure to facilitate these partnerships, it requires additional funding to do so. Each kit costs approximately $30,000. Ideally, each of the 75 communities in the North and Arctic regions would have a monitoring kit and the support to build research capacity among community members.

Recommendations

ARF believes the federal Government must act to build research capacity among Indigenous communities in the Arctic, and that this is crucial to the future of Arctic Science. As such, ARF proposes the following recommendations:

1. Include Northern post-secondary institutions and other Northern and Indigenous research organizations in federal research funding opportunities.

2. Promote and increase Northern and Indigenous research leadership and capacity through funding.

3. Adequately fund the Arctic and Northern Policy Framework to meaningfully move to co-implementation of the goals and objectives with Northern and Arctic partners and Governments.

4. Support organizations (especially non-profits) that exist outside normal federal funding regimes to develop and deploy science and job training programs.

[1] See Appendix A.

Conclusion

ARF will continue to work with the Committee and the Government to advance Arctic Science and reconciliation. Building this capacity is a key step toward reconciliation. It will enable these communities to set their own research priorities, determine how, where, and when to conduct science, and to benefit economically and improve self-sufficiency and self-determination when they do.

Should the Committee or any of its members wish to connect with ARF, please contact Tom Henheffer at tom@arcticresearchfoundation.ca.

ARCTIC RESEARCH FOUNDATION

APPENDIX A: Arctic Research Foundation Partners

1. Arctic Basecamp
2. Arctic Council
3. Arctic Institute of North America
4. Canada Foundation for Innovation
5. Canadian Energy
6. Canadian High Arctic Research Station (CHARS)
7. Canadian Hydrographic Service
8. Canadian Ice Service
9. Canadian Northern Economic Development Agency
10. Canadian Space Agency
11. Centre for International Governance Innovation
12. Ekaluktutiak Hunters and Trappers Organization
13. Fisheries and Oceans Canada
14. Future Earth
15. Gjoa Haven Hunters and Trappers Association
16. Government of Northwest Territories
17. Government of Nunavut
18. Ideal Supply
19. Inuit Qaujisarvingat
20. Kitikmeot Inuit Association
21. Kitnuna Group of Companies
22. McGill University
23. Memorial University
24. Ocean Networks Canada
25. Ocean Tracking Network
26. OpenCanada
27. Parks Canada
28. Polar Bears International
29. Polar Knowledge Canada
30. Queen's University
31. Royal Canadian Navy
32. The Dark Mountain Project
33. The University of Alaska Fairbanks
34. Tradition + Transition
35. University of Windsor
36. University of British Columbia
37. University of Calgary
38. University of Manitoba
39. University of New Brunswick
40. University of Tromsø
41. University of Victoria
42. University of Winnipeg
43. Wilfrid Laurier University