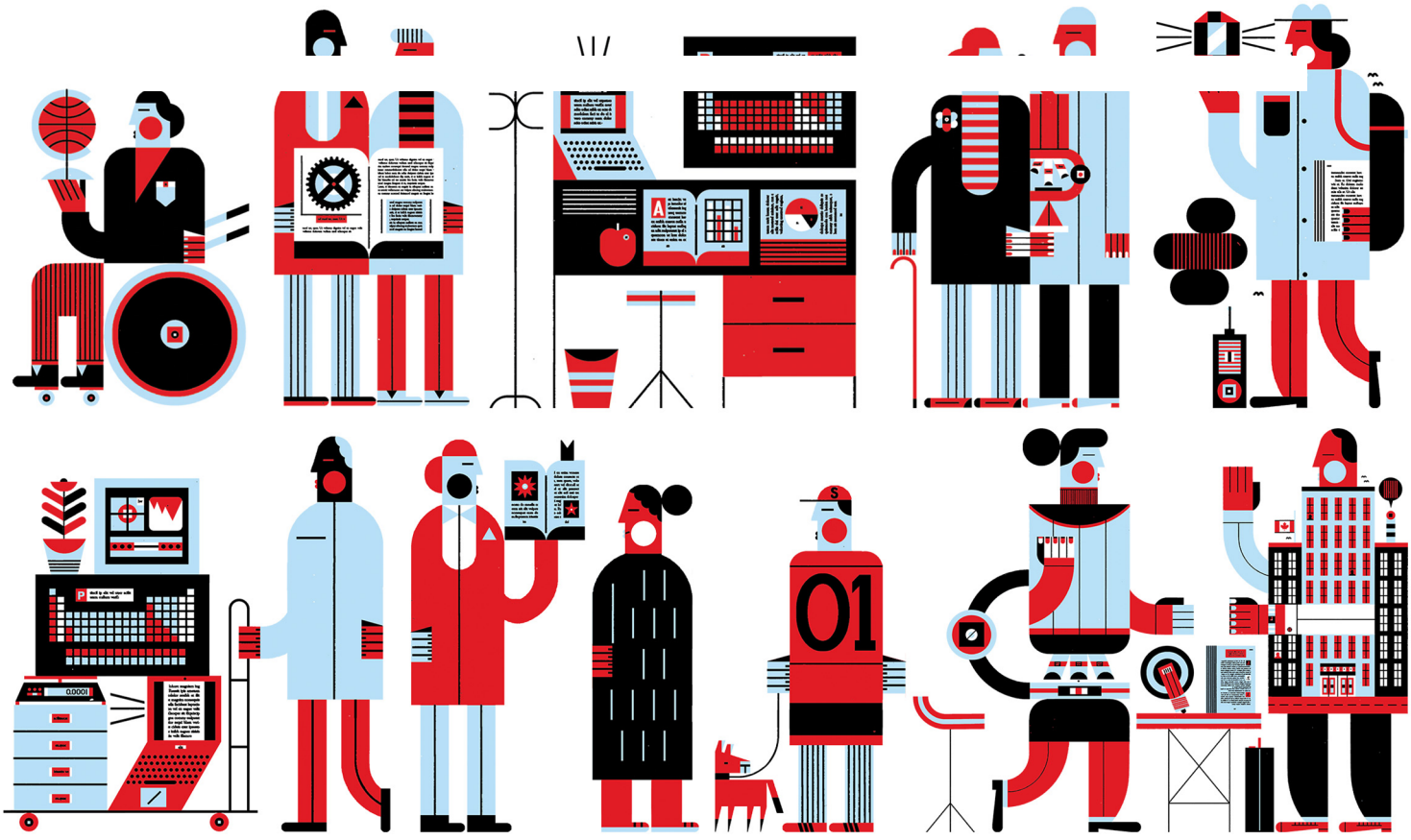
NSERC
CRSNG

Written evidence to the Senate Standing Committee on Fisheries and Oceans

NSERC Funding for Research on Canada's Seal Population

November 2023



Natural Sciences and Engineering Research Council of Canada
Conseil de recherches en sciences naturelles et en génie du Canada
Canada

NSERC MANDATE

NSERC invests in People, Discovery and Innovation through partnerships and programs that support post-secondary research in the natural sciences and engineering. It is funded directly by Parliament and reports to it through the Minister of Innovation, Science and Industry. The functions of NSERC, based on the authority and responsibility assigned to it under the *Natural Sciences and Engineering Research Council Act* (1976-1977, c.24), are to:

- promote and assist research in the natural sciences and engineering, other than the health sciences; and,

- advise the Minister in respect of such matters relating to such research as the Minister may refer to the Council for its consideration.

SUMMARY

NSERC supports people with bold, promising ideas and gives them the freedom to explore when their research points them in exciting, unexpected directions. Although the agency does not currently have any specific priorities in the area of seal research, funding awarded for research related to Canada's seal population has been primarily through open, investigator-led, peer-reviewed competitive processes. We welcome individual applications that may organically cover this topic, either as a direct outcome or variable of interest.

AWARD DATA

A keyword search of project abstracts yielded a total of $1,622,153 in funds awarded since 2017 related to seals and seal research. A summary table of the results is found below, and further details are available on the NSERC Awards Database (https://www.nserc-crsng.gc.ca/ase-oro/index_eng.asp).

Table 1: NSERC awards with seal-related keywords in their abstracts (2017-2022)

Application ID	Program	Project Title	Total Award Value
CRC-2021-00486	Canada Research Chairs	Human Impacts on Wildlife / Impacts de l'activité humaine sur la faune	$ 100,000
RGPIN-2015-04374	Discovery Grants	Physiological and biochemical insights into the biology of marine vertebrates and the ecosystems within which they function	$ 120,000
RGPIN-2015-05711	Discovery Grants	New statistical tools for quantitative fatty acid signature analysis and the development of an accompanying R package	$ 33,000
RGPIN-2015-06627	Discovery Grants	Climate Change Impacts on Mercury and Methylmercury Sources to Arctic Ecosystems	$ 100,000
RGPIN-2016-05934	Discovery Grants	Adaptation of arctic marine mammals to climate warming	$ 139,200
RGPIN-2017-04831	Discovery Grants	Climate and the ecosystem of the Arctic cod (Boreogadus saida)	$ 132,000
RGPIN-2018-04354	Discovery Grants	Architecture of fitness-related traits in wildlife populations	$ 312,000
RGPIN-2018-05403	Discovery Grants	Life history variation in pinnipeds	$ 140,000
RGPIN-2019-04679	Discovery Grants	Effective and census size, connectivity and the temporal dimension of genetic diversity in aquatic organisms	$ 188,000
RGPIN-2020-04740	Discovery Grants	Exploring long-term variation in arctic marine ecosystems through stable isotope analysis and fatty acid biomarkers	$ 84,000
RGPIN-2021-04319	Discovery Grants	Developing ecosystem-based approaches to address fisheries and climate change impacts for Newfoundland & Labrador marine ecosystems	$ 66,000
RGPIN-2022-03457	Discovery Grants	An infectious personality: immune personalities and their role in the transmission of wildlife infectious diseases	$ 33,000
RTI-2023-00124	Research Tools & Instruments	An urgent replacement and upgrade in isotope ratio mass spectrometry at Trent's Water Quality Centre	$ 149,999
EGP-533357-2018	Engage Grants	Development of novel food products with improved health benefits from seal byproducts	$ 24,954
Total			**$ 1,622,153**

ADDITIONAL, HIGH-VALUE FISHERIES RESEARCH PROJECTS THAT MAY HAVE INCLUDED RESEARCH RELATED TO CANADA'S SEAL POPULATION

In addition to the specific research awards highlighted in Table 1, the following highlights point to several high-value research projects that may relate to Canada's seal population. The scope of the research supported was broad and the extent to which this covered seal research is unclear.

- In 2009, NSERC funded a five-year, $5.3M Strategic Network Grant for the establishment of the Canadian Capture Fisheries Research Network, led by Robert Stephenson at the University of New Brunswick. NSERC had previously awarded two $25,000 Strategic Workshops Program grants towards developing the network.

  The focus of the network was to increase knowledge that would enhance ecological sustainability, viability, and improved management of Canadian fisheries. It included research to overcome information gaps in relation to important fisheries, improve the use of industry information in assessment and management, enhance ecological sustainability while achieving operational efficiency, and improve the basis for the ecosystem-based approach to fisheries management.

  The network involved 33 academic co-applicants from 11 universities working closely with collaborators from the Canadian fishing industry, researchers and managers from the Department of Fisheries and Oceans and other federal and provincial departments. The network was unique in that it was industry-driven and focussed on projects that had the active collaboration of industry with academic and departmental researchers. The network increased research and training and provided information, knowledge and technology that assisted the capture fisheries industry to improve viability. The understanding and tools developed by this network had a significant impact on sustainability, viability and competitiveness of Canada's capture fisheries industry and provided environmental and socio-economic benefits.

- Through the Network of Centres of Excellence (NCE) program, NSERC funds ArcticNet, a network of collaborators from several universities and other post-secondary institutions across Canada and internationally, working in arctic and northern research. ArcticNet is led by researchers at the University of Ottawa and Université Laval and received $146.2 million in NCE funding for 2003-2025. The NCE was created in 1989 as a joint initiative of NSERC, the Social Sciences and Humanities Research Council (SSHRC), the Canadian Institutes of Health Research (CIHR), Industry Canada and Health Canada

  ArcticNet is funding over 200 researchers on 78 projects led by senior academic researchers, early career scientists, and Inuit researchers at more than 50 universities, colleges, and Inuit organizations Canada-wide. The network has completed over 200 projects and published more than 16,500 papers on Arctic and Northern issues.

- In 2022, NSERC awarded a 3-year PromoScience award totalling $349,800 to the Arctic Eider Society to support empowering Northern youth to lead community-driven climate research projects using SIKU: The Indigenous Knowledge Social Network, a web platform application that, among other features, allows users to create posts about wildlife observations such as seal interactions.