

# Polar Knowledge Canada 2023-24 Departmental Results Report



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The Honourable Dan Vandal, P.C., M.P.  
Minister of Northern Affairs, Minister responsible for  
Prairies Economic Development Canada, and Minister  
responsible for the Canadian Northern Economic  
Development Agency



Polar Knowledge  
Canada

Savoir polaire  
Canada

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Departmental Results Report 2023-24

Catalogue No. R101-4E-PDF

ISSN 2561-195X

# Polar Knowledge Canada's 2023-24 Departmental results report: At a glance

A departmental results report provides an account of actual accomplishments against plans, priorities and expected results set out in the associated [Departmental Plan](#).

- [Vision, mission, raison d'être and operating context](#)
- [Minister's mandate letter](#)

## Key priorities

Polar Knowledge Canada's top priorities for 2023-24 were as follows:

- leveraging the Canadian High Arctic Research Station to advance innovation, knowledge creation and mobilization;
- supporting interdisciplinary science and technology development to create and disseminate new solutions to address the impacts of rapid environmental change in the North and Arctic;
- finalizing the transfer of the administration of the Canadian High Arctic Research Station to Polar Knowledge Canada from Crown Indigenous Relations and Northern Affairs Canada and transitioning to a fully operational state in support of the agency's mandate; and
- fulfilling our obligations under Article 23 of the *Nunavut Agreement* to support the development and retention of Inuit employees, with the support of the Inuit Advisory Council.

## Highlights

In 2023-24, total actual spending (including internal services) for Polar Knowledge Canada was \$32,475,427 and total full-time equivalent staff (including internal services) was 93. For complete information on Polar Knowledge Canada's total spending and human resources, read the [Spending and human resources section](#) of the full report.

The following provides a summary of the department's achievements in 2023-24 according to its approved Departmental Results Framework. A Departmental Results Framework consists of a department's core responsibilities, the results it plans to achieve and the performance indicators that measure progress toward these results.

Core responsibility 1: Polar Science and Knowledge

Actual spending: \$15,836,430

Actual human resources: 47.7

Departmental results achieved

- Canada's polar science and technology research is publicly available and being applied
- Canada's arctic science includes Indigenous local knowledge

- Canada fosters domestic and international knowledge exchange and partnerships in polar science
- The next generation of Canadian polar researchers is developed

More information about Polar Science and Knowledge can be found in the [‘Results – what we achieved’](#) section of the full departmental results report.

# Polar Knowledge Canada’s 2023-24 Departmental results report

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From the Minister

As Canada’s Minister of Northern Affairs, I am proud to present Polar Knowledge Canada’s 2023-24 Departmental Results Report. This report provides an overview to Canadians and Parliamentarians of the work completed during the 2023-24 fiscal year to advance knowledge of the Arctic and other circumpolar regions and strengthen Canadian leadership in polar science and technology.

From the Canadian High Arctic Research Station in Cambridge Bay, Nunavut, Polar Knowledge Canada continues to support and undertake the collection of baseline information, environmental monitoring, scientific research, and technology development to help address the challenges of climate change and strengthen the resilience of Northern communities.

Knowledge mobilization and engagement continue to be key areas for Polar Knowledge Canada. Engagement with Northern and Indigenous organizations and governments, Indigenous Knowledge holders, polar science organizations, academia, industry, and other stakeholders is integral to the success of Polar Knowledge Canada. Engagement ensures that key research priorities are identified, creates alignment of priorities across organizations, and maximises benefit with limited resources.

In 2023-24, Polar Knowledge Canada conducted and supported multi-disciplinary scientific research and piloted sustainable technologies for use in the High Arctic with domestic and international partners. Through these partnerships, Polar Knowledge Canada promotes scientific collaborations, the exchange



**The Honourable Dan Vandal**  
Minister of Northern Affairs, Minister responsible for Prairies Economic Development Canada, and Minister responsible for the Canadian Northern Economic Development Agency

of knowledge, and the sharing of resources in recognition of the global implications of the climate change research done by both Polar Knowledge Canada and its partners.

I am honoured to have Polar Knowledge Canada as part of my portfolio and proud of the work undertaken over the past year to advance the research priorities of the North and promote polar science and Indigenous Knowledge. Through our collaborative efforts, we will continue to foster strong relationships to support Northern and Indigenous communities in improving their quality of life, and that of all Canadians.

From the President and Chief Executive Officer

I am pleased to share with Parliament and Canadians the real and impactful results delivered in 2023-24 by Polar Knowledge Canada.

Polar Knowledge Canada has celebrated numerous successes over its first full operational year since the department gradually resumed its post-covid activities in 2022-23. Polar Knowledge Canada played a critical role in strengthening Canadian leadership in polar science and technology and achieved an unprecedented number of research and engagement activities to advance the knowledge of polar regions since its creation.

On June 9, 2023, Polar Knowledge Canada accepted the custodial responsibility of the Canadian High Arctic Research Station from Crown-Indigenous Relations and Northern Affairs Canada. The ceremony included cultural performances, messages of congratulation from the Honourable Dan Vandal and the Honourable Pamela Gross, and meaningful discussions about the future development of the Canadian High Arctic Research Station.



**Jennifer C. Hubbard**  
President and Chief Executive Officer,  
Polar Knowledge Canada

Throughout the year, the Science and Technology Program team made impressive progress in implementing Polar Knowledge Canada's [2020-2025 Science and Technology Framework](#). The team prioritized research issues identified by Northern and Indigenous communities and ensured that local and Indigenous Knowledge was incorporated throughout the research and development process. Several sustainable technology and monitoring projects on permafrost, lichen and mosses, invertebrates, migratory birds, and country foods were initiated, which provided valuable information on potential climate resilient technology solutions for Northern and Arctic communities.

The Knowledge Management and Engagement team helped successfully expand awareness of polar research through community engagement and knowledge sharing seminars. These leveraged the knowledge and expertise of visiting domestic and international researchers, covering a variety of research topics such as permafrost thaw, coastal erosion, goose banding and population changes, and Northern housing. The collaborative work among Indigenous Peoples, researchers, and technological experts helps Northerners to better understand and adapt to the climate change impacts they're experiencing. Science and Indigenous Knowledge were effectively shared through workshops in 3 Arctic

regions: Arctic Security and Sovereignty (Kitikmeot Region, Nunavut), Anguvigaq Wildlife Research (Nunavik, Quebec), and Climate Change in the Gwich'in Settlement Area (Inuvik, Northwest Territories).

In 2023-24, Polar Knowledge Canada increased its high level of collaboration with territorial governments and Indigenous and Northern communities to support them in making climate action decisions and building a future in which communities are healthy, secure, and thriving. The Agency also continued work on internal policies and processes to create a workplace consistent with the realities of the North and to increase opportunities for Inuit, in accordance with our commitments under Article 23 of the *Nunavut Agreement*.

Finally, we helped build Canada's Arctic research profile internationally, including the conclusion of an agreement to explore increased cooperation between Polar Knowledge Canada and the US Arctic Research Commission.

As Polar Knowledge Canada's President and Chief Executive Officer, I am pleased to present our 2023-24 Departmental Results Report.

Results – what we achieved

Core responsibilities and internal services

- Core responsibility 1: Polar Science and Knowledge
- Internal services

Core responsibility 1: Polar Science and Knowledge

In this section

- Description
- Progress on results
- Key risks
- Resources required to achieve results
- Related government-wide priorities
- Program inventory

Description

Polar Knowledge Canada is Canada's polar science agency operating out of the world-class Canadian High Arctic Research Station campus in Cambridge Bay, Nunavut. Polar Knowledge Canada performs and publishes multi-disciplinary polar research. Through our grants and contributions program, we fund external partners such as academia, Northern communities and organizations who conduct research and related projects. Polar Knowledge Canada aims to include Indigenous and local knowledge wherever possible and increase domestic and international research coordination and collaboration by leveraging resources with partners. Through workshops, conferences, social media, and other tools, Polar Knowledge Canada shares and promotes the exchange of knowledge across polar scientific and policy communities and the general public. Throughout all of its core activities, Polar Knowledge Canada aims to fund and train the next generation of polar research personnel, with a focus on Northern youth.

Progress on results

This section presents details on how the department performed to achieve results and meet targets for Polar Science and Knowledge. Details are presented by departmental result.

Table 1: Targets and results for Polar Science and Knowledge

Table 1 provides a summary of the target and actual results for each indicator associated with the results under Polar Science and Knowledge.

Canada's polar science and technology research is publicly available and being applied

Departmental Result Indicators	Target	Date to achieve target	Actual Results
Percentage of research publications led or supported by Polar Knowledge Canada that are available online to the Canadian public	30%	March 31, 2025	2021–22: 83% 2022–23: 45% 2023–24: 39%
Number of citations of research led or supported by Polar Knowledge Canada	At least 100	March 31, 2025	2021–22: 91 2022–23: 188 2023–24: 252

Canada's arctic science includes Indigenous and local knowledge

Departmental Result Indicators	Target	Date to achieve target	Actual Results
Percentage of arctic research projects led or supported by Polar Knowledge Canada that include Indigenous or local knowledge	90%	March 31, 2025	2021–22: 47% 2022–23: 81% 2023–24: 88%
Percentage of arctic projects led or supported by Polar Knowledge Canada that involve Northerners	90%	March 31, 2025	2021–22: 69% 2022–23: 78% 2023–24: 90%

Canada fosters domestic and international knowledge exchange and partnerships in polar science

Departmental Result Indicators	Target	Date to achieve target	Actual Results
Number of knowledge exchange activities or initiatives led or supported by Polar Knowledge Canada	At least 100	March 31, 2025	2021–22: 217 2022–23: 716 2023–24: 251
Percentage of leveraged investment by Polar Knowledge Canada-supported projects	100%	March 31, 2025	2021–22: 66% 2022–23: 103% 2023–24: 179%
Percentage of projects led by Polar Knowledge Canada that involve external partners	75%	March 31, 2025	2021–22: 45% 2022–23: 81% 2023–24: 85%



The next generation of Canadian polar researchers is developed

Departmental Result Indicators	Target	Date to achieve target	Actual Results
Percentage of Polar Knowledge Canada-led or supported projects that involve youth or early career researchers	80%	March 31, 2025	2021–22: 62% 2022–23: 62% 2023–24: 71%

Additional information on [the detailed results and performance information](#) for Polar Knowledge Canada’s program inventory is available on GC InfoBase.

Details on results

The following section describes the results for Polar Science and Knowledge in 2023–24 compared with the planned results set out in Polar Knowledge Canada’s departmental plan for the year.

### **Canada’s polar science and technology research is publicly available and being applied**

Publicly sharing the results of Polar Knowledge Canada’s science and technology research is key to ensuring that local, national, and international communities have the information they need to make informed decisions on climate change. Polar Knowledge Canada leverages various channels to disseminate knowledge including research papers; information sheets; information videos and short films; outreach products such as posters and pamphlets; presentations to local and international communities; webinars; and social media.

### **Science and Technology**

In support of the [2020-2025 Science and Technology Framework](#), Polar Knowledge Canada’s Science and Technology Program, published and disseminated research findings and information on a variety of topics in 2023-24. Some highlights include:

- Research papers published in partnership with researchers from various institutions and communities including the Brigham Young University, Auckland University of Technology, the Institut National de la Recherche Scientifique, the Université du Québec à Rimouski, and the Hamlet of Kugluktuk.
  - [Metabarcoding inventory of an arctic tundra soil ecosystem reveals highly heterogeneous communities at a small scale](#)
  - [Contribution of soil bacteria to the atmosphere across biomes](#)
  - [Dynamics of Canadian Arctic Deltas: A case study of the Coppermine Delta \(Kugluktuk, Nunavut\)](#)
- Outreach products were created to relate the research findings on the Kugluktuk coastlines. These were presented to community organizations, including the Hunters and Trappers Organization and Hamlet of Cambridge Bay, as well as directly to the community of Cambridge Bay at open house meetings held by Polar Knowledge Canada.
- Launched in August 2023, an animated short film on [Avian influenza](#) was developed in collaboration with the Canadian Wildlife Service in four languages (Inuinnaqtun, Inuktitut, English, and French) to raise awareness of the warning signs in bird populations and of how to safely handle contaminated animals to prevent transmission.

- Knowledge mobilization materials on the effects of climate change on the Arctic shoreline were made publicly available online through the [POLAR Blog, How is climate change affecting the seashore near Arctic communities?](#)

Additionally, several sustainable technology and climate monitoring projects progressed during 2023-24. The data and results from each of these projects will be publicly available in the upcoming 2024-25 fiscal year.

- Ongoing experimentation with regards to the small-scale renewables microgrid project, continues with partnerships with Natural Resources Canada and the National Research Council. The project examines not only the application of renewable technology in remote cold climate locations, but also the logistical and implementation challenges.
- In partnership with the National Research Council Canada, a pilot Bioelectrochemical Anaerobic Sewage Treatment system was installed adjacent to the triplex residential units at the Canadian High Arctic Research Station to treat some of the wastewater generated from visiting researchers. The treatment methodology employs microorganisms and hydrolysis to reduce solids in sewage, which will mitigate the environmental impact of the facility sewage lagoons. Data collection and sampling is ongoing until June 2024 in support of forthcoming technical papers and presentations on the sewage treatment technology.
- In another collaboration with the National Research Council Canada, a 20-litre upflow anaerobic digester was installed at the Canadian High Arctic Research Station in March 2024. This benchscale testing of processing food waste from community partners demonstrates the production of biogas from waste collected in an Arctic community. The biofuels produced could eventually become a viable alternative to diesel for communities. Data collection and sampling is ongoing with a 4-month monitoring plan in support of a forthcoming report on the feasibility of a larger system.

### Canada’s arctic science includes Indigenous and local knowledge

Excellence in Engagement and Partnerships with Indigenous Peoples
<p>On October 25, 2023, at the Report Property Institute of Canada’s <a href="#">2023 Real Property National Workshop</a>, Polar Knowledge Canada, Crown-Indigenous and Northern Affairs Canada, and Public Services and Procurement Canada received the Excellence in Engagement and Partnerships with Indigenous Peoples Award.</p> <p>This award to Polar Knowledge Canada is in recognition of the engagement and partnership with Indigenous communities for the design, construction, and operation of the Canadian High Arctic Research Station.</p>

### Knowledge Management and Engagement

In 2023-24, the Knowledge Management and Engagement team made significant advances in networking and collaborating with key knowledge holders, territorial partners, and Indigenous governance organizations resulting in Polar Knowledge Canada’s support for multiple upcoming research collaborations, including:

- a workshop to develop a western Arctic Permafrost Network
- research on the nature and climate sensitivity of permafrost lakes in the Northwest Territories

- the [Northwest Territories Thermokarst Mapping Collective](#)
- a Landscape Carbon Workshop to address research priorities for the Canadian Arctic

In addition, the Knowledge Management and Engagement team led and collaborated on 3 important knowledge sharing workshops across the Arctic regions in February and March of 2024. These workshops mobilized science, Indigenous, and local knowledge to address specific research priorities in each region.



**Photo 1:** U.S. Ambassador to Canada David L. Cohen visiting the Canadian High Arctic Research Station to exchange perspectives on Arctic climate change and its impact on infrastructure, security, and Arctic communities.

- **Arctic Security and sovereignty, and outer space** – The first knowledge sharing forum was held on February 9, 2024, in partnership with the Municipality of Cambridge Bay and the Kitikmeot Chamber of Commerce during the Kitikmeot Tradeshow in Cambridge Bay. This forum featured Polar Knowledge Canada-sponsored keynote speaker Dr. Michael Byers (Canada Research Chair in Global Politics and International Law) who shared his research and knowledge on satellite usage, Arctic security, and sovereignty with the regional audience and youth. From this, meaningful questions and engagement ensued regarding long term economic stability and infrastructure concerns of the Kitikmeot Region, Nunavut, and opportunities for economic development in Canada’s High Arctic.
- **Anguvigaq Wildlife Research** – The Anguvigaq Wildlife Research Workshop led by the Hunting, Fishing and Trapping Coordinating Committee was held in Kuujjuarapik, (Nunavik) Quebec, February 20-22, 2024. Polar Knowledge Canada provided funding support for this knowledge sharing workshop, which brought together the Auguvigaq Regional Wildlife Organization knowledge holders, academic researchers, Makiviik Corporation researchers, and federal government research departments and agencies in Nunavik (Polar Knowledge Canada, Parks Canada, Department of Fisheries and Oceans, Canada) to present, discuss, and codevelop wildlife research proposals in Nunavik for 2024-25. A key focus was food security and co-

management issues concerning beluga whale, sea birds, wildlife health, and community involvement in wildlife research in Nunavik.

- **Climate Change** – The Climate Change Workshop codeveloped in partnership with the Gwich'in Tribal Council was held at the Mackenzie River Wellness Camp south of Inuvik, March 19-22, 2024. Polar Knowledge Canada participated and provided funding support for this topical workshop, which included Gwich'in knowledge holders, elders, youth, Gwich'in biologists, and academic researchers. Key-note speakers were sponsored by Polar Knowledge Canada to share knowledge on Northwest Territories mega-wildfires and forest ecology during a time of climate change, winter road access and transportation issues for communities in the Gwich'in Settlement Area in the face of declining and less stable freeze periods, and the research to support community mitigation and adaptation.

## Science and Technology

Scientific and technology research at Polar Knowledge Canada prioritizes areas identified by Northern and Indigenous communities and ensures that local and Indigenous Knowledge is leveraged and incorporated wherever possible. Indigenous Knowledge is an integral component of the [2020-2025 Science and Technology Framework](#) and continued to be leveraged through various means in 2023-24:

- In support of the Science and Technology Framework, hiring community members from Kugluktuk and Cambridge Bay provided local capacity development while advancing Science and Technology work on coastal monitoring projects.
- Polar Knowledge Canada worked with the Hamlet of Cambridge Bay and community of Kugluktuk to identify priorities related to coastal erosion around one of the community's burial sites. Final research outcomes, to be shared in 2024, aim to help the community determine how best to mitigate and manage erosion near this important site.
- Preliminary findings on coastal erosion research were presented and next steps discussed with the Hunters and Trappers Organizations in Kugluktuk and Cambridge Bay as well as the Victoria Island Waterways Committee.

Incorporating local observations and sharing traditional knowledge on endemic and regional wildlife and weather patterns is necessary for the future of climate change research.



**Photo 2: Researchers studying permafrost and coastal erosion near Kugluktuk.**  
Photo: Polar Knowledge Canada

## **Canada fosters domestic and international knowledge exchange and partnerships in polar science**

### **Knowledge Management and Engagement**

Polar Knowledge Canada’s Knowledge Management and Engagement Program seeks to build relationships through scientific excellence and collaboration with leading Canadian researchers and Indigenous governance bodies and communities to strengthen Canada’s leadership on northern and Arctic issues. In 2023-24, the Knowledge Management and Engagement team mobilized knowledge from visiting domestic and international researchers through 10 Polar Knowledge Canada Speaker Series seminars featured at the Canadian High Arctic Research Station. This included collaborations with the National Centre for Polar and Ocean Research, India, the Swiss Polar Institute and University of Zurich, and the Agricultural University of Iceland.

The Polar Knowledge Canada Speaker Series provides an opportunity for researchers to share their knowledge with the community of Cambridge Bay, and to have conversations about [Inuit Qaujimagatuqangit](#) and local knowledge on a wide variety of topics. Featured topics of the 2023-24 Speaker Series included:

- Tundra ecosystem change and impact on berries
- Permafrost coastal changes in the western Kitikmeot
- Understanding Arctic aerosols and their climatic impacts
- How do changes in climate and land influence life in Arctic lakes?
- Permafrost thaw and the role of microorganisms in a warming Arctic
- Nunavut – Our Land – Nunakput and housing issues

- Real Ice: new, innovative green technology to strengthen and maintain sea ice?



**Photo 3: Speaker series on Understanding the Arctic aerosols and their climate impact**  
Photo credit: Polar Knowledge Canada

### Science and Technology

Enhancing Canada’s international polar science engagement requires substantial coordination at the domestic level to ensure federal, provincial and territorial, and Indigenous priorities are adequately represented. Coordination and cooperation across the whole-of-government is crucial to maximise benefit with limited resources. In support of the Government of Canada’s [Arctic and Northern Policy Framework](#), Polar Knowledge Canada engaged in bilateral meetings in 2023-24 with Global Affairs Canada, Crown-Indigenous Relations and Northern Affairs Canada, and other federal partners, to assist in the coordination of efforts to address key priorities. Polar Knowledge Canada also convened and chaired the first meeting of the Directors General Subcommittee on the Antarctic, which is a forum for coordinating whole-of-government research activities in the Antarctic.



**Photo 4: Researchers from the University of Victoria collecting data on the field, near Cambridge Bay, Nunavut.**  
Photo: Polar Knowledge Canada

Some highlights of Polar Knowledge Canada’s research collaborations with domestic partners in 2023-24 include:

- The study and monitoring of the long-term evolution of Arctic lakes and coastal environments in Kugluktuk, Cambridge Bay and Grise Fiord in collaboration with various Canadian universities, including: the University of Sherbrooke; Université du Québec à Rimouski; Université du Québec à Chicoutimi; Thompson Rivers University; and Dalhousie University.
- A collaboration with the Canadian Centre for Remote Sensing to determine levels of methane trapped in lake ice in the Canadian Arctic.
- Collaborative projects with Environment and Climate Change Canada for monitoring of black carbon, particulate matter, and solar radiation in Cambridge Bay, and throughout the Arctic, respectively.
- Continued curation of an herbarium in the Canadian Arctic, which includes a collection of arctic plant species available as a reference to international and national researchers. The herbarium consists of collection and specimen donations from the Canadian Museum of Nature, University of Zurich, Université Laval, and various other researchers.



**Photo 5: Polar Knowledge Canada’s Erin Cox and University of Zurich Researchers doing fieldwork in Ouyok Territorial Park, Nunavut.**

Photo: Polar Knowledge Canada

Polar Knowledge Canada’s mandate highlights the importance of international research cooperation and science diplomacy to address the global challenges of climate change and its impacts on Northern communities. In 2023-24, Polar Knowledge Canada’s engagement with international organizations was focused on directing investments to advance the 2020-2025 Science and Technology Framework goals, strengthening Canada’s leadership on Arctic science issues, and ensuring alignment of climate research goals.

- Polar Knowledge Canada’s President and Chief Executive Officer and Chief Scientist met with NordForsk, the Norwegian Polar Institute, and the Research Council of Norway in September 2023 about collaboration and funding opportunities.
- During the Antarctic Treaty Consultative Meeting in Helsinki, Finland, an overview of Canadian Antarctic Research Program priorities was presented as an Information Paper to demonstrate the extent and strength of Canadian scientific efforts and innovation through both leadership and partnerships in Antarctic research.
- In October 2023 during the Arctic Circle Assembly, Polar Knowledge Canada’s Board of Directors met with representatives of the European Polar Board, US Arctic Research Commission and Icelandic Arctic Cooperation Network to enhance the Agency’s Science Diplomacy activities and to strengthen international Arctic science collaboration.
- Polar Knowledge Canada’s Chief Scientist was invited to provide keynote remarks in November, 2023 at the [Arctic Plastics Symposium](#) in Iceland and in December 2023 at [Arctic Partnership Week](#) in South Korea.
- On December 6, 2023, the Government of Canada announced 5 years of funding for ArcticNet through the Strategic Science Fund. The proposal, co-developed by ArcticNet, Inuit Tapiriit, and Polar Knowledge Canada with support from over 70 organizations across the globe, focuses on [“bridging and leveraging diverse knowledge to better understand and prepare for a changing Arctic”](#).
- Our Chief Scientist also led the Canadian delegation to the meeting of the [Council of Managers of National Antarctic Programs](#) in Hobart, Australia for Canada’s first meeting as a full member and participated in a panel on Antarctic policy in Washington DC, organized by the Wilson Centre.



**Photo 6: Polar Knowledge Canada’s President and Chief Scientist meet with the Norwegian Polar Institute and Governor of Svalbard in Longyearbyen.**

Photo: Norwegian Polar Institute



In addition to engagement with governments and research institutes, Polar Knowledge Canada researchers collaborate with visiting international researchers to advance common research priorities and goals. In addition, the Agency works directly with international researchers on planning and logistics to support their research trip to Cambridge Bay. Some highlights of Polar Knowledge Canada's research collaborations with international partners in 2023-24 include:

- On-going collaboration with national and international researchers to develop a review article on glacier ice preserved in permafrost environments, which will enhance our understanding of how glacier ice can be preserved and detected in the permafrost, and the impacts on the evolution of Arctic landscapes and infrastructure.
- A collaboration with NASA on their [Arctic-Boreal Vulnerability Experiment Project](#), which is a large-scale study of environmental change in Canada and Alaska that seeks to understand the vulnerability and resilience of ecosystems and society to an ever-changing environment.
- Research on soil microbiology in relation to a survey of Arctic soil microorganisms (arthropods, nematodes, bacteria) in collaboration with researchers from Brigham Young University.
- Data collection in support of the [Permafrost Thaw Action Group](#) to quantify permafrost thaw across the Arctic. This is an international initiative that includes European, Canadian, and American organizations.

### **The next generation of Canadian polar researchers is developed**

Polar Knowledge Canada's grants and contributions programs are dedicated to supporting post-secondary students and early career researchers in technical, science, and research programs. In addition, Polar Knowledge Canada engages youth through various activities at the Canadian High Arctic Research Station including science camps, school trips to the campus, and summer employment.

Several student trips to the Canadian High Arctic Research Station and presentations at local schools were held in 2023-24. Some highlights include:

- In April 2023, the Makigiaqta Inuit Training Corporation hosted a Science Career Camp for youth in grades 9 to 12 from across Nunavut at the Canadian High Arctic Research Station. This camp introduced youth to career opportunities in the science sector through hands-on activities, leadership development, and team-building exercises.
- Tłjchq and other Indigenous high school students attended a Tundra Science and Culture Camp at Daring Lake, Northwest Territories in July 2023. This Government of the Northwest Territories initiative was supported by Polar Knowledge Canada's Knowledge Management and Engagement Team through grant funding.
- In September 2023, grade 7 and 8 students from the Cambridge Bay Kiilnik High School visited the campus to learn about traditional and modern fish filleting techniques from a local Inuit Knowledge Keeper.



**Photo 7: Students from Kiilinik High School learning about fish filleting techniques.**  
Photo: Polar Knowledge Canada

- In February 2024, grade 6 students from the Kullik Ilihakvik elementary school participated in 2 learning sessions at the Canadian High Arctic Research Station. The first was a zooplankton discovery session in the labs where they got to use microscopes and view the microorganisms up close. In the second session, students learned about solar power energy by testing solar powered fans.
- The Cambridge Bay cadets met with the Canadian Forces Officers visiting the Canadian High Arctic Research Station as part of the Northern Learning Programme. The officers met with cadets at the local high school before visiting the Canadian High Arctic Research Station campus for a series of presentations from the Kitikmeot Inuit Association, Cambridge Bay Mayor Wayne Gregory, and the District Royal Canadian Mounted Police Commander.
- In July 2023, Polar Knowledge Canada hosted 20 students for an [Actua](#) STEM camp at the Canadian High Arctic Research Station to provide opportunities for northern youth to learn and gain skills in science and technology. Researchers from Polar Knowledge Canada and Laval University engaged youth in a workshop to better understand northern plants. Students used reference herbarium sheets to determine what species of plants existed in each habitat outside of the Canadian High Arctic Research Station by comparing plant samples to the images on the herbarium sheet.

In addition to elementary and secondary school students, Polar Knowledge Canada focused on supporting post-secondary students and early career researchers as they begin their careers in science through the following:

- In the summer of 2023, Polar Knowledge Canada supported 3 early career researchers, through the Polar Regional Research and Activities Grant, to attend training in Sweden focused on exploring glacial isostatic adjustment modelling.
- In honour of International Day of Women and Girls in Science, Polar Knowledge Canada ran a social media campaign from February 12-18. The series featured a different woman in science each day, including researchers, field technicians, Arctic community planners, and Cambridge Bay Elders.
- The Science and Technology team trained and supported 3 graduate students in their work on coastal and permafrost science. Students actively participated in various steps of data creation, from seeing how measurements were made to data entry, quality control, analysis, and interpretation.



**Photo 8: Students from Kullik Ilihakvik elementary school learning about the science Polar Knowledge Canada is conducting.**

Photo: Polar Knowledge Canada

#### Key risks

Polar Knowledge Canada operates in a complex and dynamic environment where various risks can impact its ability to conduct polar science and knowledge activities effectively. Polar Knowledge Canada's operations and planned activities often include collaborations or partnerships with other federal organizations, the Territories, Northern and Indigenous organizations and communities, and academia. These relationships include specific obligations outlined in treaties and self-government agreements, signed memoranda of understanding, service agreements, and others.

Should Polar Knowledge Canada be unable to complete planned activities due to a lack of resources or input from a contributing partner, the Agency could be perceived as not fulfilling its commitments. There is a risk that this would damage Polar Knowledge Canada's reputation resulting in the potential loss of integral partnerships and collaboration opportunities.

In 2023-24 Polar Knowledge Canada mitigated risks by:

- ensuring community engagement and participation throughout every stage of projects that impact the community
- communicating Polar Knowledge Canada's commitments under memoranda of understanding with Indigenous partners, and taking meaningful action to implement these commitments

- seeking long-term financial requirements to fully operationalize the Canadian High Arctic Research Station’s infrastructure
- addressing internal capacity challenges through timely recruitment including the ongoing implementation of its Inuit Employment Plan to attract, develop, and retain Inuit talent, as well as increasing recruitment of Indigenous Peoples and Northerners from across the Arctic and the North

Resources required to achieve results

Table 2: Snapshot of resources required for Polar Science and Knowledge

Table 2 provides a summary of the planned and actual spending and full-time equivalents (FTEs) required to achieve results.

Resource	Planned	Actual
Spending	27,679,510	15,615,192
Full-time equivalents	44	47.7

[Complete financial](#) and [human resources information](#) for the Polar Knowledge Canada’s program inventory is available on GC InfoBase.

Related government-wide priorities

Gender-based analysis plus

Polar Knowledge Canada considers all Gender-based analysis plus lenses in its policy and decision-making and prioritizes an approach that specifically focuses on Inuit to support its mandate as a Northern organization operating in Nunavut. This aligns with our commitments under Article 23 of the *Nunavut Agreement* and Polar Knowledge Canada's mandate, which emphasizes the organization's responsibility to engage and support Indigenous communities in its research and knowledge mobilization activities.

In 2023-24, Polar Knowledge Canada continued to address the challenges faced by the labour force in the Arctic region and promote equitable outcomes for Northerners with a particular focus on reducing barriers to entry into science-based positions through the commitments made in the Inuit Employment Plan.

United Nations 2030 Agenda for Sustainable Development and the Sustainable Development Goals

Polar Knowledge Canada supports Canada’s efforts to implement the United Nations’ 2030 Agenda for Sustainable Development through open and transparent delivery of results. Polar Knowledge Canada recognizes that integrating the sustainable development goals brings Canada closer to achieving a more sustainable, equitable, and prosperous North and Arctic.

Goal 2: Support a healthier and more sustainable food system

Polar Knowledge Canada’s 2020-2025 Science and Technology Framework supports research on the abundance and diversity of country foods and their ecosystems, diseases in Arctic and northern wildlife,

and the effects of environmental change on food security and community health. Since its start in 2019, the One Health program has led or co-developed original research and knowledge translation projects on geese, caribou, muskoxen, fox, wolves, polar bears, narwhal, and walrus. In 2023-24, Polar Knowledge Canada continued wildlife monitoring and increased its co-development with northern and Indigenous partners.

- Polar Knowledge Canada continued to collaborate with Indigenous partners through participation in inter-agency learning circles, including co-development of reports. The information shared in these reports will enable hunters to help develop the effective conservation and co-management measures needed to maintain the health of the local wildlife.
- In May 2023, Polar Knowledge Canada, Nunavut Tunngavik Inc., and the Nunavut Research Institute co-developed an animated short film supporting the [Nunavut Trichinella Diagnostic Program](#), illustrating the transmission of Trichinella from walrus and other marine and terrestrial mammals, and how to safely handle the meat to avoid human infection. The film was completed in February 2024 and will be available to all Canadians in 2024-25.
- In collaboration with the Canadian Wildlife Service, Polar Knowledge Canada continued monitoring of geese in the Kitikmeot Region of Nunavut, including observations relevant to highly pathogenic avian influenza in Arctic and Northern Canada.

#### Goal 4: Promote knowledge and skills for sustainable development

Polar Knowledge Canada is dedicated to advancing knowledge of the Canadian Arctic to improve economic opportunities, environmental stewardship, and the quality of life of its residents and all other Canadians. In support of knowledge development in 2023-24, Polar Knowledge Canada held 10 Speaker Series events; 3 knowledge sharing events across the North; hosted Makiqiaqta Inuit Training; engaged with local students and youth; and focused efforts on its social media engagement reaching 495,817 social media users.

#### Goal 7: Increase Canadians' Access to Clean Energy

Renewable energy research is a top priority for Polar Knowledge Canada due to the disproportionate impact of climate change and global warming on Arctic communities. Recognizing the importance of clean energy sources, Polar Knowledge Canada actively engages in testing and demonstrating clean energy solutions, including energy storage, biofuels, and advanced renewable technologies. In 2023-24, Polar Knowledge Canada engaged in the following activities in support of clean energy development:

- In collaboration with the National Research Council, Polar Knowledge Canada procured and installed a 20-litre biofuels reactor. Biogas production from food waste was achieved and a 4-month monitoring plan is now in place.
- The Agency began work on a community freezer powered by solar energy for the community of Cambridge Bay. Using an existing insulated shipping container, solar panels and monitoring equipment will be procured and installed in the coming fiscal year.



**Photo 9: Commissioning the Bioelectrochemical Anaerobic Sewage Treatment System in a Triplex at Canadian High Arctic Research Station**  
Photo: Polar Knowledge Canada

#### Goal 9: Foster Innovation and green infrastructure in Canada

Polar Knowledge Canada is dedicated to enhancing waste and wastewater treatment in Northern and Arctic communities through the adoption of new and emerging technologies. These innovations aim to reduce waste, promote sustainable practices, and alleviate pressure on landfills while improving water quality. In 2023-24, Polar Knowledge Canada, in partnership with the National Research Council of Canada, piloted a Bioelectrochemical Anaerobic Sewage Treatment System in one of its triplex units. In addition, the Agency, in partnership with the National Research Council Canada, installed and tested a 20-litre anaerobic digester, which uses food waste from community partners to produce biogas. If successful, the feasibility of upscaling both projects will be explored.

#### Goal 10: Advance reconciliation with Indigenous People

Polar Knowledge Canada is committed to reconciliation with Indigenous Peoples through inclusive decision-making processes that support self-determination and aim to create a sustainable and equitable future for communities in the North and Arctic.

In its efforts to build capacity for community-based monitoring and northern-led research among Indigenous and local knowledge holders, Polar Knowledge Canada led and collaborated on 3 knowledge sharing workshops across the Arctic regions in February and March 2024 that mobilized science and Indigenous and local knowledge to address specific research priorities in each region. The topics covered included wildlife management in Nunavik, boreal forest fires in the Northwest Territories, and winter roads access issues in the Gwich'in Settlement Area. In addition, the agency hired community members to monitor coastal erosion and have collaborated with community leaders on approaches to manage issues arising from continued erosion.

In 2023-24, Polar Knowledge Canada continued to focus efforts on Inuit representation in mid-level and senior roles at the agency and provided Inuit staff with an interest in supervisory roles with the Sivuliqtiunirmut Ilinniarniq Leadership Program. In addition, Polar Knowledge Canada supported 2 Inuit staff in pursuing post-secondary education through the Pilimmaksaivik Education Support Fund.

Goal 12: Reduce waste and transition to zero emission vehicles Polar Knowledge Canada promotes sustainable development by integrating environmental considerations into its procurement decision-making process and deploys common-use procurement instruments that prioritize environmental factors whenever possible. In 2023-24, Polar Knowledge Canada assisted Polar Continental Shelf Program in testing new electric snowmobile technology in high arctic conditions. The fully electric snowmobile aims to give riders a zero-emission alternative to the gas-powered snowmobiles used across the North and Arctic.



**Photo 10: Polar Continental Shelf Program testing new electric snowmobile technology at the Canadian High Arctic Research Station.**

Photo: Polar Knowledge Canada

Goal 13: Take urgent action to combat climate change and its impacts

Polar Knowledge Canada works proactively on developing and transitioning to sustainable and energy efficient technologies, reducing waste, and promoting sustainability practices in its operations.

In July 2023, the Canadian High Arctic Research Station became the northernmost facility in Canada to achieve silver-level certification in Leadership in Energy and Environmental Design (LEED), which is recognized globally as an international symbol of excellence in sustainability and green building. This was accomplished through inclusion of such features as solar panels to facilitate the testing of photovoltaics in the North and Arctic, low-flow plumbing fixtures and compost toilets, innovative wastewater and waste management, light pollution reduction, energy conservation technology, wind turbine feasibility testing, and the use of construction materials such as Glulam wood.



**Photo 11: Polar Knowledge Canada headquarters, Canadian High Arctic Research Station, Cambridge Bay, Nunavut**

Photo: Defence Research and Development Canada, Department of National Defence

## Goal 15: Protect and Recover Species, Conserve Canadian Biodiversity

Polar Knowledge Canada, guided by Goal 1 of its 2020-2025 Science and Technology Framework, is committed to advancing knowledge of dynamic Northern and Arctic terrestrial, freshwater, and marine ecosystems to safeguard Canadian biodiversity amidst the challenges of rapid climate change. Achieving this objective involves gathering baseline information on these ecosystems, closely monitoring ecosystem changes, and disseminating knowledge and data to national and international networks as well as local, regional, and national decision-makers.

Polar Knowledge Canada continued research on invertebrates in 2023-24, which will improve the understanding of the impacts of climate change on biodiversity including how it impacts the range expansions of more southern species and introduction of invasive species. The Agency also continued biodiversity surveys of plants, mosses, liverworts, and lichens to provide a baseline for future monitoring including spatial and temporal shifts in vegetation. Polar Knowledge Canada also continued monitoring of permafrost and coastlines around the Environmental Research Area to further understand changes over time around arctic communities. Remote sensing and ecosystem mapping techniques were also used to monitor and evaluate climate in the Environmental Research Area and throughout the Arctic and Sub-arctic.

More information on Polar Knowledge Canada's contributions to Canada's Federal Implementation Plan on the 2030 Agenda and the Federal Sustainable Development Strategy can be found in our [Departmental Sustainable Development Strategy](#).

### Program inventory

Polar Science and Knowledge is supported by the following programs:

- Science and Technology
- Knowledge Management and Engagement

Additional information related to the program inventory for Polar Science and Knowledge is available on the [Results page on GC InfoBase](#).



## Internal services

In this section

- Description
- Progress on results
- Resources required to achieve results
- Contracts awarded to Indigenous business

### Description

Internal services are the services that are provided within a department so that it can meet its corporate obligations and deliver its programs. There are 10 categories of internal services:

- management and oversight services
- communications services
- legal services
- human resources management services
- financial management services
- information management services
- information technology services
- real property management services
- materiel management services
- acquisition management services

### Progress on results

This section presents details on how the department performed to achieve results and meet targets for internal services.

#### **Inuit Employment Plan**

Polar Knowledge Canada's 2018-2023 Inuit Employment Plan guided the Agency to widely advertise job competitions online and via print media across Nunavut to reach Inuit actively seeking job opportunities, especially with the high demand for experienced and qualified Inuit. In 2023-24, Polar Knowledge Canada produced 4 recruitment videos encouraging Inuit applications, which will be used in the coming years to enhance recruitment efforts.

Between April 1, 2023, and March 31, 2024, the number of occupied Nunavut-based positions remained the same at 39. The number of Inuit employees rose from 15 to 18, which is attributed to 2 additional Inuit employees in entry-level positions, and 1 additional Inuit employee in the senior-level positions.

Polar Knowledge Canada will continue to make the retention and development of existing Inuit employees a priority, with a view to increase Inuit representation in mid- and senior-level positions through various internal and external strategies. Maintaining an 85% Inuit representation rate in entry-level positions will continue to be a priority.

## Communications

Polar Knowledge Canada’s Communications team was heavily engaged in improving services and public relations and increasing the Agency’s social media presence and engagement levels in 2023-24.

To improve services to visiting researchers in the field, Communications staff acquired all the necessary training to safely support and accompany visiting researchers in the field and provide them with in-kind media support, including video, photo, and audio documentation of their research activities, and knowledge dissemination over social media.



**Photo 12: POLAR Communications employee, Elise Imbeau capturing media on the field, behind Ovayok Territorial Park, Nunavut**  
Photo: Polar Knowledge Canada

In support of Polar Knowledge Canada’s efforts to increase dissemination of knowledge, develop the next generation of polar researchers, and increase Inuit employment, the Communications team prioritized social media engagement. In 2023-24, Communications focused efforts on both increasing Polar Knowledge Canada’s social media posts across platforms and improving the quality of posts to increase reach and engagement.

### *Resources required to achieve results*

Table 3: Resources required to achieve results for internal services this year

Table 3 provides a summary of the planned and actual spending and full-time equivalents (FTEs) required to achieve results.

Resource	Planned	Actual
Spending	11,793,473	11,528,676
Full-time equivalents	51	55.5

The [complete financial](#) and [human resources information](#) for Polar Knowledge Canada’s program inventory is available on GC InfoBase.

Contracts awarded to Indigenous businesses

Government of Canada departments are to meet a target of awarding at least 5% of the total value of contracts to Indigenous businesses each year. This commitment is to be fully implemented by the end of 2024–25.

**Polar Knowledge Canada’s result for 2023-24:**

Table 4: Total value of contracts awarded to Indigenous businesses<sup>1</sup>

As shown in the Table 4, Polar Knowledge Canada awarded 21% of the total value of all contracts to Indigenous businesses for the fiscal year.

Contracting performance indicators	2023-24 Results <sup>4</sup>
Total value of contracts awarded to Indigenous businesses <sup>2</sup> (A)	\$1,110,611.28
Total value of contracts awarded to Indigenous and non-Indigenous businesses <sup>3</sup> (B)	\$5,302,539.89
Value of exceptions approved by deputy head (C)	\$0.00
Proportion of contracts awarded to Indigenous businesses [A / (B-C) × 100]	21%
<ul style="list-style-type: none"> <li>- <sup>1</sup> For the purposes of measuring performance against the minimum 5% target for FY 2023–24, the data in this table is based on how Indigenous Services Canada defines “Indigenous business”, which is one that is owned and operated by Elders, band and tribal councils; registered in the <a href="#">Indigenous Business Directory</a>; or registered on a modern treaty beneficiary business list.</li> <li>- <sup>2</sup> Includes contract amendments with Indigenous businesses and contracts that were entered into with Indigenous businesses by means of acquisition cards above \$10,000.00 (\$10K) and may include subcontracts with Indigenous businesses.</li> <li>- <sup>3</sup> Includes contract amendments and contracts that were entered into by means of acquisition cards above \$10K.</li> <li>- <sup>4</sup> Amounts provided do not include acquisition card transactions as there was no method to track if the supplier was Indigenous.</li> </ul>	

Polar Knowledge Canada endeavors to purchase as much as possible from local suppliers within the Cambridge Bay, Nunavut area. When doing solicitations and contracts, there is consideration for Indigenous businesses and Polar Knowledge Canada advises the claimant groups when a solicitation or procurement is taking place as per the obligations within the *Nunavut Agreement* and Comprehensive Land Claim Agreement requirements.

Polar Knowledge Canada has developed internal procedures to ensure compliance with the Indigenous incentive and is mindful to procure from Inuit firms whenever possible.

Polar Knowledge Canada has successfully implemented a procurement process to provide preferential treatment to Inuit firms to participate in contracts and other economic activities resulting from the *Nunavut Agreement*. Key to this process is to have the Inuit Registry Form reviewed by the contracting authority before a request for proposal is posted. If an Inuit Firm is available, they are informed about procurement opportunities and invited to bid. Polar Knowledge Canada reported that 13 of the 49 contracts (27%) were awarded to indigenous firms in 2023-24 for a total amount of \$1,110,611.

Polar Knowledge Canada’s procurement staff are up to date on all courses related to the Nunavut Settlement Area and Indigenous considerations and are continuously obtaining guidance and training from both Canada School of Public Service and Public Services and Procurement Canada.

### Spending and human resources

In this section

- [Spending](#)
- [Funding](#)
- [Financial statement highlights](#)
- [Human resources](#)

### Spending

This section presents an overview of the department's actual and planned expenditures from 2021–22 to 2026–27.

#### Budgetary performance summary

Table 5 Actual three-year spending on core responsibilities and internal services (dollars)

Table 5 presents how much money Polar Knowledge Canada spent over the past three years to carry out its core responsibilities and for internal services.

Core responsibilities and internal services	2023–24 Main Estimates	2023–24 total authorities available for use	Actual spending over three years (authorities used)
Polar Science and Knowledge	15,836,430	27,038,021	<ul style="list-style-type: none"> <li>• 2021–22: 13,810,911</li> <li>• 2022–23: 15,615,192</li> <li>• 2023–24: 25,903,022</li> </ul>
Internal services	16,638,997	12,964,703	<ul style="list-style-type: none"> <li>• 2021–22: 13,524,387</li> <li>• 2022–23: 18,519,728</li> <li>• 2023–24: 11,528,676</li> </ul>

Core responsibilities and internal services	2023–24 Main Estimates	2023–24 total authorities available for use	Actual spending over three years (authorities used)
<b>Total</b>	<b>32,475,427</b>	<b>40,002,724</b>	<b>98,901,916</b>

Analysis of the past three years of spending

Actual spending in 2023-24 is higher compared to 2024-25 planned spending due to the additional funding received in 2023-24 from Budget 2022 related to the transfer of the administration of the Canadian High Arctic Research Station and related federal real property from Crown-Indigenous Relations and Northern Affairs Canada to Polar Knowledge Canada.

In 2023-24, the costs associated with the management of the facilities and logistical support were realigned to Polar Science and Technology from Internal Services.

More financial information from previous years is available in the [Finances section of GC Infobase](#).

Table 6 Planned three-year spending on core responsibilities and internal services (dollars)

Table 6 presents how much money Polar Knowledge Canada plans to spend over the next three years to carry out its core responsibilities and for internal services.

Core responsibilities and internal services	2024–25 planned spending	2025–26 planned spending	2026–27 planned spending
Polar Science and Technology	24,929,010	24,024,640	24,828,344
Internal services	10,481,143	10,236,234	10,578,670
<b>Total</b>	<b>35,410,153</b>	<b>34,260,874</b>	<b>35,407,014</b>

Analysis of the next three years of spending

There is no significant variance in the planned spending from 2024-25 to 2026-27.

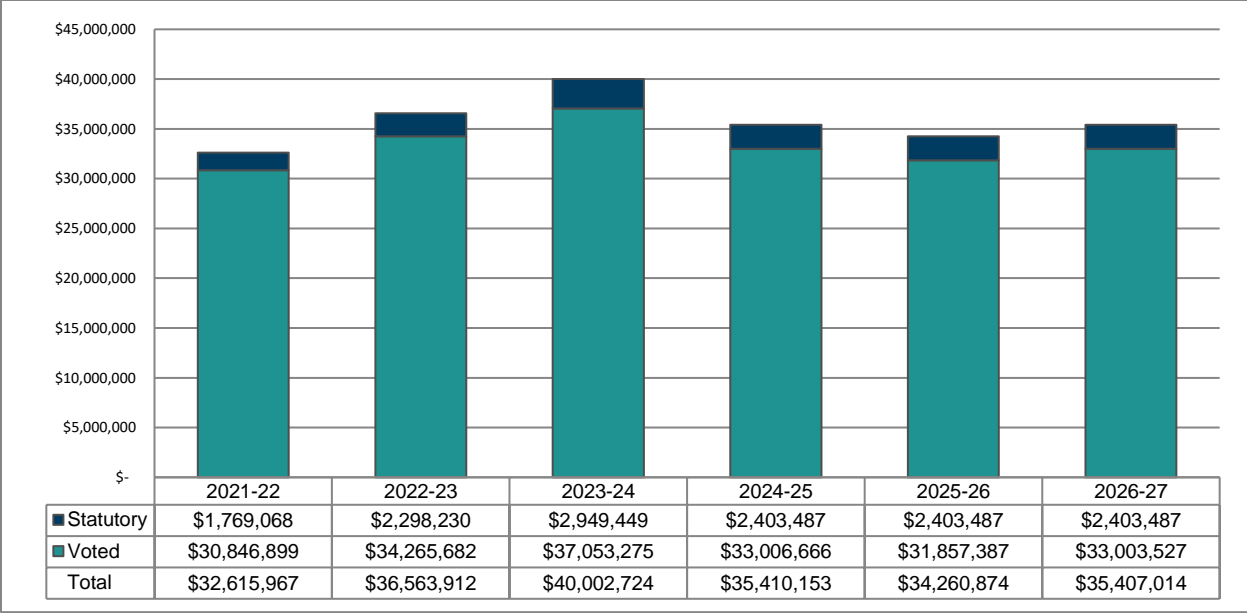
More detailed financial information from previous years is available on the [Finances section of GC Infobase](#).

## Funding

This section provides an overview of the department's voted and statutory funding for its core responsibilities and for internal services. For further information on funding authorities, consult the [Government of Canada budgets and expenditures](#).

Graph 1: Approved funding (statutory and voted) over a six-year period

Graph 1 summarizes the department's approved voted and statutory funding from 2021-22 to 2026-27.



Text version

This stacked bar graph depicts spending from 2021–22 to 2026–27:

- Total spending in 2021–22 was \$32,615,967. Of this amount, \$30,846,899 was voted spending and \$1,769,068 was statutory spending.
- Total spending in 2022–23 was 36,563,912. Of this amount, \$34,265,682 was voted spending and \$2,298,203 was statutory spending.
- Total spending in 2023–24 was \$40,002,724. Of this amount, \$37,053,275 is voted spending and \$2,949,449 is statutory spending.
- Planned spending in 2024–25 is \$35,410,153. Of this amount, \$33,006,666 is voted spending and \$2,403,487 is statutory spending.
- Planned spending in 2025–26 is \$34,260,874. Of this amount, \$31,857,387 is voted spending and \$2,403,487 is statutory spending.
- Planned spending in 2026–27 is \$35,407,014. Of this amount, \$33,003,527 is voted spending and \$2,403,487 is statutory spending.

Analysis of statutory and voted funding over a six-year period

The increase in overall expenditures between the fiscal years 2021-22 and 2023-24 is largely the result of an increase in funding associated with the transfer of custodianship of the Canadian High Arctic Research Station.

There are no significant variances in planned spending in fiscal year 2024-25 to 2026-27.

For further information on Polar Knowledge Canada’s departmental voted and statutory expenditures, consult the [Public Accounts of Canada](#).

Financial statement highlights

Polar Knowledge Canada’s [complete financial statements](#) (unaudited or audited) for the year ended March 31, 2024, are available online.

Table 7 Condensed Statement of Operations (unaudited or audited) for the year ended March 31, 2024 (dollars)

Table 7 summarizes the expenses and revenues for 2023–24 which net to the cost of operations before government funding and transfers.

Financial information	2023–24 actual results	2023–24 planned results	Difference
Total expenses	44,110,066	39,807,660	4,302,406
Total revenues	385,442	301,433	84,009
Net cost of operations before government funding and transfers	43,724,625	39,506,227	4,218,398

The 2023–24 planned results information is provided in Polar Knowledge Canada’s [Future-Oriented Statement of Operations and Notes 2023–24](#).

Table 8 Condensed Statement of Financial Position (unaudited or audited) as of March 31, 2024 (dollars)

Table 8 provides a brief snapshot of the department’s liabilities (what it owes) and assets (what the department owns), which helps to indicate its ability to carry out programs and services.

Financial information	Actual fiscal year (2023–24)	Previous fiscal year (2022–23)	Difference (2023–24 minus 2022–23)
Total net liabilities	7,054,245	7,314,782	(260,537)
Total net financial assets	6,606,554	7,035,112	(428,568)
Departmental net debt	447,701	279,670	168,031
Total non-financial assets	147,437,691	153,634,045	(6,196,354)
Departmental net financial position	146,989,990	153,354,375	(6,364,385)

## Human resources

This section presents an overview of the department’s actual and planned human resources from 2021–22 to 2026–27.

Table 9: Actual human resources for core responsibilities and internal services

Table 9 shows a summary of human resources, in full-time equivalents (FTEs), for Polar Knowledge Canada’s core responsibilities and for its internal services for the previous three fiscal years.

Core responsibilities and internal services	2021–22 actual FTEs	2022–23 actual FTEs	2023–24 actual FTEs
Polar Science and Technology	37	40	47.7
Internal services	42	50	55.5
<b>Total</b>	<b>79</b>	<b>90</b>	<b>103.2</b>

Analysis of human resources over the last three years

Over the past three fiscal years, Polar Knowledge Canada has experienced a notable increase in full-time equivalents (FTEs) across its core responsibilities and internal services. This growth is primarily attributed to the need for additional capacity to support the development of new programs and the management of the Canadian High Arctic Research Station. As the organization moves towards 'steady-state' operations, ongoing evaluations of staffing levels are critical to ensuring that resources are effectively allocated to achieve planned results.

However, this growth has not been without challenges. Polar Knowledge Canada has faced several barriers that have impacted its ability to fully optimize its human resources, mainly at the Canadian High Arctic Research Station in Cambridge Bay, Nunavut:

- **Workforce Availability:** The availability of skilled personnel, particularly in remote locations and specialized areas, has been a significant challenge. The demand for expertise in scientific research and operations along with compensation disparities with other Northern organizations often exceeds the available supply, leading to recruitment and retention challenges.
- **Community Infrastructure:** The lack of infrastructure in northern communities, including housing, transportation, and communications, has hindered efforts to attract and retain staff. These limitations have made it challenging to maintain a stable and robust workforce in these regions.
- **Location of the Canadian High Arctic Research Station:** The remote location of the station presents logistical challenges, including harsh environmental conditions and limited access, which complicate staffing and operational activities.
- **Post-Secondary Education Requirements:** Many of the Agency’s positions require post-secondary education, creating a barrier for potential candidates, particularly Inuit and other local residents, who may have limited access to higher education opportunities. This requirement further narrows the pool of eligible candidates, impacting the organization’s ability to fill key roles.

As Polar Knowledge Canada continues to assess its resourcing needs, addressing these barriers will be crucial to ensuring that the organization can attract and retain the talent necessary to fulfill its mission.

Table 10: Human resources planning summary for core responsibilities and internal services  
 Table 10 shows information on human resources, in full-time equivalents (FTEs), for each of Polar Knowledge Canada’s core responsibilities and for its internal services planned for the next three years. Human resources for the current fiscal year are forecasted based on year to date.



Core responsibilities and internal services	2024–25 planned FTEs	2025–26 planned FTEs	2026–27 planned FTEs
Polar Science and Technology	66.7	66.7	66.7
Internal services	58	58	58
<b>Total</b>	<b>124.4</b>	<b>124.4</b>	<b>124.4</b>

Analysis of human resources for the next three years  
There are no significant variances in planned full-time equivalents for the next three years.

Corporate information

Departmental profile

Appropriate minister(s): The Honourable Dan Vandal, P.C., M.P.

Institutional head: Jennifer C. Hubbard, President and Chief Executive Officer

Ministerial portfolio: Northern Affairs

Enabling instrument: [Canadian High Arctic Research Station Act](#)

Year of incorporation / commencement: 2015

Other: Polar Knowledge Canada is overseen by a nine-member Board of Directors, including a Chairperson and Vice-Chairperson. The Board approves the agency's science and technology plan and annual work plans and budget. The Board is accountable to the Minister of Northern Affairs. All members are appointed by Order-in-Council to hold office for terms not exceeding five years and are eligible for re-appointment for a second term of office. Members of the Board of Directors hold office on a part-time basis.

Departmental contact information

**Cambridge Bay Headquarters:**

Mailing address:

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Telephone: 867-983-7425

**Ottawa Office:**

Mailing address:

Polar Knowledge Canada  
170 Laurier Avenue West, Suite 200  
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Email: [info@polar-polaire.gc.ca](mailto:info@polar-polaire.gc.ca)

Website: <https://www.canada.ca/en/polar-knowledge.html>

### Supplementary information tables

The following supplementary information tables are available on Polar Knowledge Canada's website:

- [Details on transfer payment programs](#)
- [Gender-based analysis plus](#)
- [Response to Parliamentary committees and external audits](#)

### Federal tax expenditures

The tax system can be used to achieve public policy objectives through the application of special measures such as low tax rates, exemptions, deductions, deferrals and credits. The Department of Finance Canada publishes cost estimates and projections for these measures each year in the [Report on Federal Tax Expenditures](#). This report also provides detailed background information on tax expenditures, including descriptions, objectives, historical information and references to related federal spending programs as well as evaluations and GBA Plus of tax expenditures.

## Definitions

### **appropriation** (crédit)

Any authority of Parliament to pay money out of the Consolidated Revenue Fund.

### **budgetary expenditures** (dépenses budgétaires)

Operating and capital expenditures; transfer payments to other levels of government, departments or individuals; and payments to Crown corporations.

### **core responsibility** (responsabilité essentielle)

An enduring function or role performed by a department. The intentions of the department with respect to a core responsibility are reflected in one or more related departmental results that the department seeks to contribute to or influence.

### **Departmental Plan** (plan ministériel)

A report on the plans and expected performance of an appropriated department over a 3-year period. Departmental Plans are usually tabled in Parliament each spring.

### **departmental priority** (priorité)

A plan or project that a department has chosen to focus and report on during the planning period. Priorities represent the things that are most important or what must be done first to support the achievement of the desired departmental results.

### **departmental result** (résultat ministériel)

A consequence or outcome that a department seeks to achieve. A departmental result is often outside departments' immediate control, but it should be influenced by program-level outcomes.

### **departmental result indicator** (indicateur de résultat ministériel)

A quantitative measure of progress on a departmental result.

### **departmental results framework** (cadre ministériel des résultats)

A framework that connects the department's core responsibilities to its departmental results and departmental result indicators.

### **Departmental Results Report** (rapport sur les résultats ministériels)

A report on a department's actual accomplishments against the plans, priorities and expected results set out in the corresponding Departmental Plan.

### **fulltime equivalent** (équivalent temps plein)

A measure of the extent to which an employee represents a full person year charge against a departmental budget. For a particular position, the fulltime equivalent figure is the ratio of number of hours the person actually works divided by the standard number of hours set out in the person's collective agreement.

**gender-based analysis plus (GBA Plus)** (analyse comparative entre les sexes plus [ACS Plus])

An analytical tool used to assess support the development of responsive and inclusive how different groups of women, men and gender-diverse people experience policies, programs and policies, programs, and other initiatives. GBA Plus is a process for understanding who is impacted by the issue or opportunity being addressed by the initiative; identifying how the initiative could be tailored to meet diverse needs of the people most impacted; and anticipating and mitigating any barriers to accessing or benefitting from the initiative. GBA Plus is an intersectional analysis that goes beyond biological (sex) and socio-cultural (gender) differences to consider other factors, such as age, disability, education, ethnicity, economic status, geography (including rurality), language, race, religion, and sexual orientation.

**government-wide priorities** (priorités pangouvernementales)

For the purpose of the 2023-24 Departmental Results Report, government-wide priorities are the high-level themes outlining the government's agenda in the [November 23, 2021, Speech from the Throne](#): building a healthier today and tomorrow; growing a more resilient economy; bolder climate action; fighter harder for safer communities; standing up for diversity and inclusion; moving faster on the path to reconciliation; and fighting for a secure, just and equitable world.

**horizontal initiative** (initiative horizontale)

An initiative where two or more federal departments are given funding to pursue a shared outcome, often linked to a government priority.

**non-budgetary expenditures** (dépenses non budgétaires)

Net outlays and receipts related to loans, investments and advances, which change the composition of the financial assets of the Government of Canada.

**performance** (rendement)

What a department did with its resources to achieve its results, how well those results compare to what the department intended to achieve, and how well lessons learned have been identified.

**performance indicator** (indicateur de rendement)

A qualitative or quantitative means of measuring an output or outcome, with the intention of gauging the performance of a department, program, policy, or initiative respecting expected results.

**plan** (plan)

The articulation of strategic choices, which provides information on how a department intends to achieve its priorities and associated results. Generally, a plan will explain the logic behind the strategies chosen and tend to focus on actions that lead to the expected result.

**planned spending** (dépenses prévues)

For Departmental Plans and Departmental Results Reports, planned spending refers to those amounts presented in Main Estimates.

A department is expected to be aware of the authorities that it has sought and received. The determination of planned spending is a departmental responsibility, and departments must be able to defend the expenditure and accrual numbers presented in their Departmental Plans and Departmental Results Reports.

**program** (programme)

Individual or groups of services, activities or combinations thereof that are managed together within the department and focus on a specific set of outputs, outcomes or service levels.

**program inventory** (répertoire des programmes)

Identifies all the department's programs and describes how resources are organized to contribute to the department's core responsibilities and results.

**result** (résultat)

A consequence attributed, in part, to a department, policy, program or initiative. Results are not within the control of a single department, policy, program or initiative; instead they are within the area of the department's influence.

**Indigenous business** (entreprise autochtones)

For the purpose of the *Directive on the Management of Procurement Appendix E: Mandatory Procedures for Contracts Awarded to Indigenous Businesses* and the Government of Canada's commitment that a mandatory minimum target of 5% of the total value of contracts is awarded to Indigenous businesses, a department that meets the definition and requirements as defined by the [Indigenous Business Directory](#).

**statutory expenditures** (dépenses législatives)

Expenditures that Parliament has approved through legislation other than appropriation acts. The legislation sets out the purpose of the expenditures and the terms and conditions under which they may be made.

**target** (cible)

A measurable performance or success level that a department, program or initiative plans to achieve within a specified time period. Targets can be either quantitative or qualitative.

**voted expenditures** (dépenses votées)

Expenditures that Parliament approves annually through an appropriation act. The vote wording becomes the governing conditions under which these expenditures may be made.