

From Opportunity to Action

A Progress Report on Canada's
Renewal of Northern Research

JUNE 2005



*Report submitted by the Institute On
Governance to the Planning Committee
for the Dialogue on Northern Research*



Government
of Canada

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This report, written by John Graham and Evlyn Fortier, was submitted by the Institute On Governance (IOG) to the Natural Sciences and Engineering Research Council (NSERC), the Social Sciences and Humanities Research Council (SSHRC), the Canadian Institutes of Health Research (CIHR), and the Planning Committee for the Dialogue on Northern Research. The Dialogue on Northern Research took place in Whitehorse, Yukon, in March 2004.

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Executive Summary

A new level of engagement and collaboration is shaping the direction of northern¹ science in Canada. Increasingly, it is the three territorial governments, Aboriginal groups, northern researchers and northern communities – working with other research and government stakeholders – who are determining which science is important and how it should be conducted in the North.

In September 2000, a joint Task Force report² released by the Natural Sciences and Engineering Research Council (NSERC) and the Social Sciences and Humanities Research Council (SSHRC) stressed the need for ongoing, productive partnerships between researchers and northern communities in defining research needs, planning research programs and transferring and applying research results. The report concluded that the foundation for partnerships with northern communities is consultation and open dialogue.

Although progress has been made since the report was released, much remains to be done. In 2003, NSERC, SSHRC and the Canadian Institutes of Health Research (CIHR) formed a Tri-agency Working Group on Northern Research to identify challenges and opportunities for improving northern research. One of the Working Group's achievements was the Dialogue on Northern Research, sponsored by six federal departments and agencies.³ More than one hundred people representing research, government, funding and northern communities and organizations met at the March 2004 workshop in Whitehorse, Yukon.

¹ For the purposes of this exercise, the North was defined as “the area north of the southern limit of discontinuous permafrost.”

² *From Crisis to Opportunity: Rebuilding Canada's Role in Northern Research*, Final Report to NSERC and SSHRC from the Task Force on Northern Research, 2000.

³ SSHRC, NSERC, CIHR, Fisheries and Oceans Canada, Indian and Northern Affairs Canada and Health Canada.

⁴ See Appendix 1 for the Dialogue Recommendations and Appendix 2 for the Dialogue on Northern Research: Workshop Proceedings.

The Dialogue had three objectives:

- Facilitate networking among stakeholders interested in northern research.
- Provide an opportunity for stakeholders to define strengths, gaps and barriers in northern research and propose ideas for addressing those gaps and barriers.
- Identify actions to improve northern research and collaboration between natural sciences, social sciences and health sciences researchers, research users and research funders.

The Institute On Governance, which acted as facilitator at the Dialogue, organized the feedback into 32 recommendations for improving northern research capacity.⁴

Status of Recommendations

Interest in northern research has grown significantly since the March 2004 Dialogue, primarily as a result of national and international initiatives. Globally, the research community has begun preparing for the International Polar Year (IPY) in 2007-2008. An estimated \$1 billion will be spent by over one hundred participating nations to conduct interdisciplinary scientific programs focusing on the North and South Poles. Another influencing factor occurred in October 2004, when the federal and territorial governments issued a Framework for a Northern Strategy, which included the development of northern science and research. The strategy is expected to be announced in late 2005. The IPY and the Northern Strategy present ideal opportunities for advancing northern research, both in the short term and in the long term.

In light of these initiatives, the Institute On Governance conducted follow-up interviews with key stakeholders to determine the status of the 32 Dialogue recommendations

and to recommend further steps. Interviewees identified areas where action has occurred, where action is likely to occur, and where there has been no progress.

Where Action Has Occurred

- Develop a northern research inventory or Web site directory of current researchers, groups, contacts, capacities within universities, government and northern organizations (Recommendation 4)
- Access and record traditional knowledge (Elder knowledge) with due urgency (Recommendation 8)
- Encourage the research community to recognize traditional knowledge and the needs and values of northern Aboriginal cultures (Recommendation 12)
- Focus on funding that emphasizes reporting back to the communities, engaging communities and involving northerners in research (Recommendations 15, 16, 17, 18, 23)
- Establish a community relevancy review and input process for ethics (Recommendation 19)
- Review research proposal criteria and set evaluation criteria to ensure sensitivity to northern needs and to encourage the integration of traditional knowledge with other scientific findings (Recommendation 20)
- Build on successful governance models and best practices (Recommendation 27)
- Distribute information from the Dialogue (Recommendations 28, 29)
- Organize regular Dialogues on Northern Research to ensure accountability, process review and useful building on previous ideas (Recommendation 31)

Where Action Is Likely to Occur

Action on other recommendations is now taking place or will most likely take place. Many recommendations will be affected by the development of the Northern Strategy and Canadian participation in the IPY. As well, the three granting agencies are discussing collaboration on cross-cutting issues in the hope of launching a program for IPY. The Northern Strategy and IPY will also go a long way toward encouraging the inclusion of northern Aboriginal organizations and building a local constituency for northern research.

Interviewees indicated that progress was most likely to occur on the following recommendations:

- Develop an integrated northern research policy using a steering committee in the North and with indigenous groups on the committee providing input into proposals and implementation (Recommendation 1)
- Broaden and continue the Dialogue to develop the northern research strategy with adequate funding to existing research institutes (Recommendation 2)
- Build one or more places for high-calibre northern research activities (Recommendation 13)
- Encourage cross-cutting planning across the three granting agencies (Recommendation 24)
- Encourage the inclusion of northern Aboriginal organizations in the review process (Recommendation 21)
- Build a constituency for northern research through meaningful messages to all Canadians, coordinated by the three granting agencies and researchers (Recommendation 22)
- Ensure sustainable research funding at the community level (Recommendation 5)
- Help develop resident capacity and northern involvement in all stages of research in local, national and international issues (Recommendation 11)
- Establish seed funding to consult with communities early in the project formulation stage (Recommendation 25)
- Recognize community in-kind contributions in making funding decisions (Recommendation 26)
- Extend the Dialogue to other parts of the North (Recommendation 30)

Other recommendations where action is expected to occur include those related to developing northern capacity, consulting with communities and recognizing community contributions.

Where Nothing Is Happening

No action has been seen on a number of Dialogue recommendations, primarily because of inadequate funding or capacity. Interviewees also decried “the appalling state of education” in the North and claimed that changes in education are necessary in order to develop capacity. Interviewees concluded that progress has not occurred for the following recommendations:

- Encourage the territorial governments to develop research plans (Recommendation 3)
- Develop a harmonized licensing or permitting process for researchers in the territories (Recommendation 6)
- Establish undergraduate exchanges between colleges and universities (Recommendation 7)

- Place innovators in the schools as field experts with stable funding to create a year-round connection to students and researchers (Recommendation 9)
- Invest in the next generation as soon as possible (Recommendation 10)
- Develop “NCE-lite” – a network that is smaller, “lighter” and more manageable than a regular NCE (Network of Centres of Excellence) – to help link existing facilities, expertise and funding (Recommendation 14)
- Establish a new Canadian Ministry of Circumpolar Affairs (Recommendation 32)

Next Steps

Of the 32 recommendations, interviewees identified the six top priorities that require immediate action:

1. Develop an integrated research strategy.
2. Invest in the next generation as soon as possible.
3. Build a place for high-calibre northern research activities or improve existing places.
4. Ensure access, sensitivity to and integration of traditional knowledge in research.
5. Continue the Dialogue, broaden it and transmit its messages.
6. Develop a tri-agency strategy for northern research and review funding criteria.

The Institute On Governance recommends that:

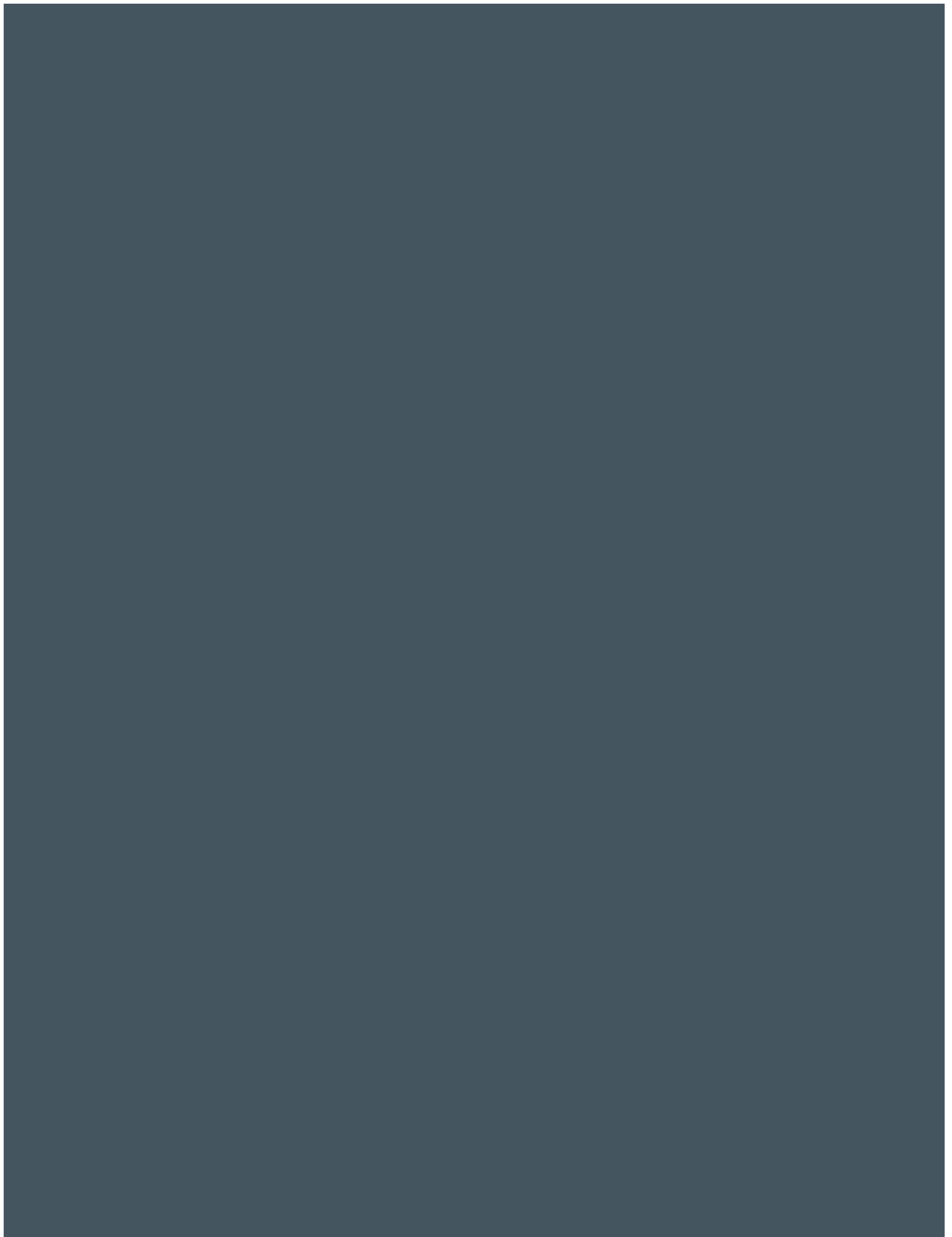
1. The three granting agencies lead the establishment of

an ad hoc multi-stakeholder group. In the short term, the group should address the need to harmonize licensing; establish an inventory of northern research; centralize infrastructure; establish university and college exchanges; ensure recognition of and respect for northern needs, values, Aboriginal cultures and traditional knowledge; and establish an effective communications program. The group should also determine how it might collectively influence the IPY and Northern Strategy processes.

2. The next Dialogue be designed to ensure that options and suggested actions from the present research are considered. This should include more focus on specific themes; better follow-up; linking two or more locations via satellite; and inclusion of more Aboriginal and northern participants.

Canada needs effective policies guided by evidence-based science to understand and respond to the challenges of a changing North. The first steps towards meeting this challenge have been taken, and the IPY and Framework Strategy provide a further opportunity for the federal government to allocate the resources necessary to rebuild Canada’s capacity in northern science and education.





Northern Research Emerging as a National Priority

INTRODUCTION

In September 2000, a joint Task Force report⁵ released by the Natural Sciences and Engineering Research Council (NSERC) and the Social Sciences and Humanities Research Council (SSHRC) warned that northern research had reached a state of crisis in Canada as a result of government cutbacks and the downsizing of the 1990s. Unless action was taken to reverse this trend, it concluded, Canada “would not be able to meet its international science and research obligations, or contribute to issues of global importance. Nor will we be able to meet basic national obligations to monitor, manage and safeguard the northern environment or respond to emerging social issues in the North.”

The report, *From Crisis to Opportunity: Rebuilding Canada's Role in Northern Research*, proposed several solutions that would sustain and augment existing research expertise, train a new generation of northern researchers, increase the amount of high-quality research being done in the North, and enhance Canada's ability to contribute to northern research of national and international importance.

Five years later, Canada's capacity to carry out northern research is improving, although much remains to be done. Increased funding for northern research combined with an ongoing Dialogue⁶ among government, granting agencies, academia and northern communities is helping to put Canada on the road to rebuilding its northern research capacity.

There is also a growing global awareness of the fact that more science is required to understand the unprecedented changes occurring in the North and to develop policies that will help governments respond effectively. This was highlighted in two major reports produced in 2004 by the Arctic Council, of which Canada is a member. *Impacts of a Warming Arctic: Arctic Climate Impact Assessment* describes the impact of climate change on the North and the need for research to address impacts and adaptation to these changes. The *Arctic Human Development Report* is the first comprehensive assessment of human well-being that covers the entire Arctic region.

Many factors are driving the changes in Canada's North, including heightened interest in resource development and the devolution of provincial-type responsibilities to territorial governments, including administration and control over public land, water and resources. The main catalyst, however, is climate change, and its impact on the health and standard of living of northern peoples, biodiversity and national sovereignty.

⁵ *From Crisis to Opportunity: Rebuilding Canada's Role in Northern Research*, Final Report to NSERC and SSHRC from the Task Force on Northern Research, 2000.

⁶ The Dialogue on Northern Research was held March 25-27, 2004, in Whitehorse, Yukon.

What's Changed Since 2000

The most significant change since the 2000 Task Force report has been an increase in funding for northern research. The 2003 federal budget included the largest funding increase to northern research in decades:

- \$27.7 million over five years for the new ArcticNet Network of Centres of Excellence (potential for renewal until 2017)
- \$25 million from the Canada Foundation for Innovation to retrofit a Coast Guard icebreaker into Canada's first research vessel, the CCGS *Amundsen*
- \$3 million from Fisheries and Oceans Canada to reactivate and refit the *Amundsen*
- \$6 million over two years for logistical support through the Polar Continental Shelf Project

Canada is the world's second largest Arctic country. The North occupies about half of the Canadian landmass and possesses two-thirds of the country's coastline.

- \$10 million for the Targeted Geosciences Initiative (with a portion allocated for the North)
 - \$10 million from NSERC to study the bio-geochemical and ecological changes in the Northwest Passage and the Western Arctic (Canadian Arctic Shelf Exchange Survey, or CASES)
- ArcticNet, CASES and the *Amundsen* represent a significant commitment to northern science. The *Amundsen* addresses

Other Initiatives to Strengthen Northern Research Since 2000

NSERC

- Establishment of six Northern Research Chairs (\$1.2 million annually)
- Supplements for researchers and students to offset the high cost of working in the North
- Increase in NSERC grants for northern research (\$8 million in 2002-2003; \$10.5 million in 2003-2004)
- Introduction of internships for students to spend time in the North

SSHRC

- Establishment of the Northern Research Development Initiatives program (\$400,000 in 2004-2005; \$800,000 in 2005-2006)
- Financing of the Boreal Ecosystem-Atmosphere Study (BOREAS), a program aimed at supporting multidisciplinary and international research on the circumpolar North, in partnership with the European Science Foundation
- Increase in SSHRC grants for northern research (\$3.3 million in 2002-2003; \$5 million in 2003-2004)
- Establishment of programs in support of research on Aboriginal issues

CIHR

- Establishment of a Rural and Northern Health Research initiative

- Funding of five Northern Health Research Development Grants
- Creation of the Institute of Aboriginal Peoples' Health
- Creation of eight Aboriginal health research centres across Canada (Aboriginal Capacity and Development Research Environments), one of which, the Nasivvik Centre, is dedicated to Inuit health research

Other Initiatives

- Formation of an Assistant Deputy Ministers Interdepartmental Committee on Northern Science and Technology
- Awarding of several new Canada Research Chairs who focus primarily on northern issues
- Budget increase for the Northern Scientific Training Program from \$600,000 to \$1 million annually (Indian and Northern Affairs Canada)
- \$10 million over five years for renewal of the Ecosystem Initiative (Environment Canada)
- CANARIE extension of the CA*net 4 research and education high-performance network to Yukon College, its 13 campuses, 26 schools and several government departments (March 2005); as well as a CA*net 4 link, via satellite, to Iqaluit, Nunavut (2003). CA*net 4 was scheduled to reach the Northwest Territories in May 2005.

a critical shortage of research infrastructure in the North, providing Canadian and international researchers with an unprecedented gateway to one of the most difficult regions in which to conduct research. These initiatives also represent a new level of cooperation between the various research players, as well as northern communities. The high cost of doing research in the North makes it imperative that universities and governments pool their expertise and share infrastructure.

This collaborative approach has also been adopted by the three granting agencies. The 2003 federal budget provided funding increases to NSERC (\$55 million), CIHR (\$55 million) and SSHRC (\$15 million) with a proviso that a portion of these new funds be directed to northern research. In response, the agencies formed the Tri-agency Working Group on Northern Research to identify gaps and opportunities for collaboration on multidisciplinary projects focusing on northern research.

Dialogue on Northern Research

One of the Tri-agency Working Group's achievements was the March 2004 Dialogue on Northern Research, sponsored by six federal departments and agencies.⁷ More than one hundred people representing research, government, funding and northern communities and organizations met at the two-day workshop in Whitehorse, Yukon, to discuss issues, identify concerns and propose actions regarding northern research.⁸ Participants identified Canada's strengths, gaps and barriers to northern science, as well as actions to improve collaboration between researchers in the natural, social and health sciences, research users and research funders. The Institute On Governance, which acted as facilitator at the Dialogue, organized the feedback into 32 recommendations for improving northern research capacity.

In December 2004 and January 2005, the Institute On Governance conducted follow-up interviews with key stakeholders to assess the progress made to date and recommend further steps toward achieving the recommendations. This follow-up was prompted, in part, by recent developments in northern research, including increased funding.

⁷ NSERC, SSHRC, CIHR, Fisheries and Oceans Canada, Indian and Northern Affairs Canada and Health Canada.

⁸ See Appendix 2 for the Dialogue on Northern Research: Workshop Proceedings and Appendix 4 for a list of Dialogue Participants.



International Polar Year

Other developments over the past year are also helping to build momentum for a renewal of northern science. One such initiative is the International Polar Year (IPY) planned for 2007-2008. The IPY is a global research initiative to conduct coordinated, interdisciplinary scientific programs over two years. An estimated \$1 billion will be spent by over one hundred participating nations. Canada will be the focus of a significant portion of the research, in part because of its large polar landmass. The Canadian scientific community is actively preparing for the IPY. Much of the organization for Canada's participation in the IPY took place during 2004, when a series of northern community meetings were held. It was also during this period that an IPY working group was established by the federal government, the Canadian IPY Secretariat was established at the University of Alberta and the Canadian Steering Committee was created.

Northern Strategy

Another important development is an initiative by the federal government, territorial governments, Aboriginal organizations and northern residents to develop the first comprehensive strategy for the North, expected for release later in 2005. On December 14, 2004, Prime Minister Paul Martin and the first ministers of the Northwest Territories, Yukon and Nunavut released a Framework for a Northern Strategy. It contains several goals and objectives, including establishing foundations for economic development, protecting the environment, building healthy communities, reinforcing sovereignty, and developing northern science and research. For northern research, its stated goal is: "To ensure that Canada is a leader in northern science and technology,

Scientists predict that melting ice in the Northwest Passage could open it up for international shipping within 15 years, creating security and sovereignty concerns for Canada.

and to develop expertise in areas of particular importance and relevance to the North.” Cited objectives include:

- enhance northern-based research capacity to encourage research about the North taking place in the North
- encourage and identify the research and development required to improve understanding of the North and contribute to the social, economic and environmental well-being of northerners
- address knowledge gaps in areas such as geoscience and environmental data
- adapt technology such as alternative energy to northern circumstances

The December announcement also included \$120 million in new funding for the three territories to provide them with the additional capacity in the short term to help achieve the objectives of the Northern Strategy.

There is a close connection between the IPY and the Framework for a Northern Strategy. In Canada, the IPY will involve researchers working in cultural, social, health, geophysical and biological fields. Involvement in these areas is essential for the success of the Northern Strategy, since science and knowledge-based endeavours are crucial for northern development.

The IPY and the Framework create a climate for renewed interest in northern research, and provide an impetus for advancing recommendations from the Dialogue. For example, the granting agencies are discussing collaboration on cross-cutting issues in the hope of launching a program for the IPY.

Maintaining the Momentum

The granting agencies have a strategic role to play in advancing the Dialogue’s recommendations. As a first step, the granting agencies should establish an ad hoc group of stakeholders in northern research to deal with both short-term and long-term initiatives. Secondly, Dialogue organizers should ensure that the design of the next workshop takes into consideration options and suggested actions from the present research. Plans are underway for another Northern Dialogue to be held in late 2006 or early 2007.

Significant progress has been made over the past five years to renew Canada’s capacity to conduct northern research, although it would be premature to suggest that the crisis identified by the Task Force in 2000 has passed entirely. While this progress is encouraging, a larger and sustained commitment is required. The granting agencies are well placed to spearhead many initiatives, but are still financially limited. In the 2004 and 2005 federal budgets, they received only incremental increases in funding. The IPY and the Northern Strategy are two major initiatives that could increase Canada’s commitment to northern research.

A sustained commitment to Arctic research will help Canada be an effective steward of this massive region and, at the same time, strengthen Canada’s role as an international collaborator in northern science. Much has been accomplished, and much remains to be done.

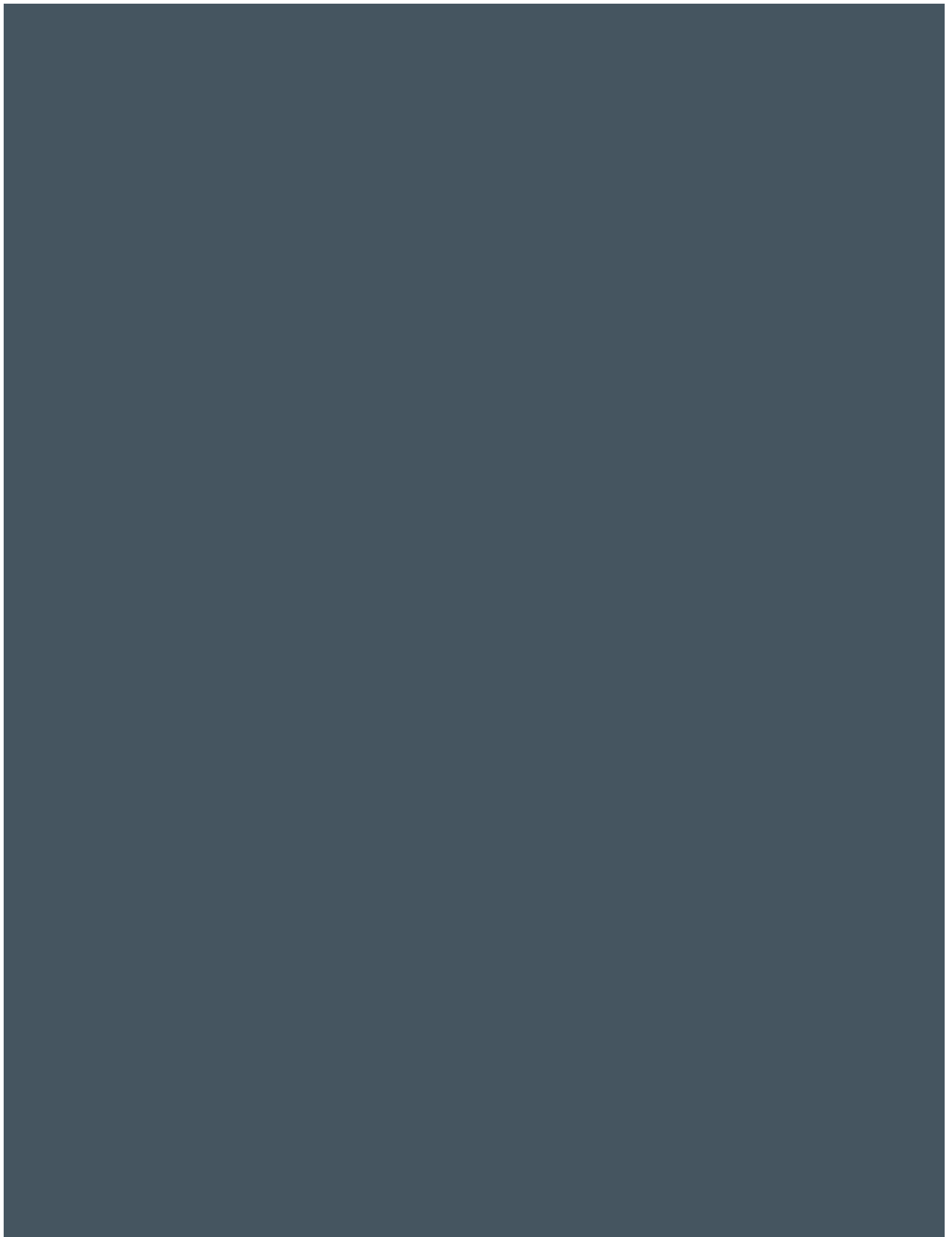
Background

Through NSERC, the Tri-agency Working Group on Northern Research contracted the Institute On Governance (IOG) to analyse each of the 32 recommendations from the March 2004 Dialogue on Northern Research. In its analysis, the IOG provides the publicly available information on current initiatives, identifies the jurisdiction in which the primary focus of the suggested activity lies, and describes the broad strategies for implementation of the recommendations. The IOG also investigated impediments to implementation and the importance of each recommendation. Finally, the IOG prepared a report on the status, obstacles and priority of the recommendations, and suggested further action, where appropriate.

To conduct the research, the IOG contacted key individuals able to provide detailed information on the current status and potential paths forward. These individuals were from various organizations with an interest in northern research, and represented a range of backgrounds and professions. They included scientists, academics, administrators, as well as people who worked for research institutes, universities, colleges, various levels of government, and granting agencies and foundations. The IOG conducted telephone interviews with 25 of these individuals. The interviewees are listed in Appendix 5.

Not all interviewees commented on all aspects of the recommendations. Some reported only on the current status, while others talked only about obstacles. Many wanted to talk about the rationale for the recommendation and to suggest an alternative or propose an option for the desired action. Responses were often repeated by different interviewees. For example, many interviewees referred to the decaying infrastructure of the research institutes and research stations in the North, and nearly all called for improvement in education at the primary and secondary levels. Also, some recommendations drew many comments, while others elicited almost no response.



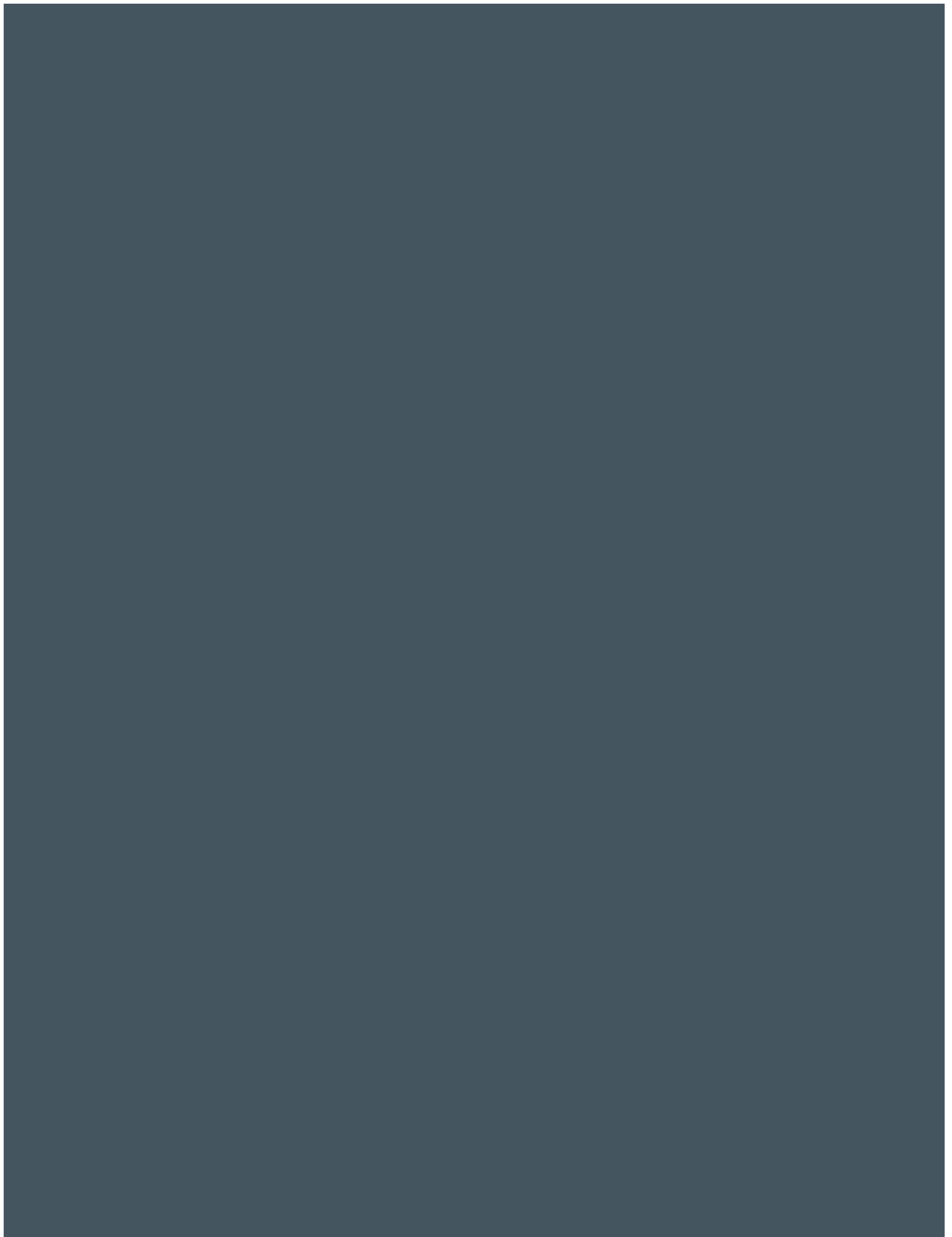


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The IOG thanks the Natural Sciences and Engineering Research Council (NSERC), the Social Sciences and Humanities Research Council (SSHRC) and the Canadian Institutes of Health Research (CIHR) for their help and support of this research review project.

The IOG also thanks the 25 individuals who participated in the interviews. Their interest and enthusiasm made the work a pleasure for the researchers.





I. General Overview

The Dialogue on Northern Research comprised two days of presentations and workshops in Whitehorse, Yukon, in March 2004. Participants tackled the objectives of facilitating networking opportunities for stakeholders, providing an opportunity to address strengths, gaps and barriers, and identifying actions to improve collaboration between researchers from the natural, social and health sciences, as well as users and funders of northern research. The workshops resulted in 32 recommendations.

After the Dialogue, the Planning Committee initiated a follow-up study to examine the status of the 32 recommendations. Committee members were interested in pinpointing activities and progress on each item, and identifying further steps towards achieving the objectives. The Institute On Governance was contracted to conduct interviews with key stakeholders to determine where progress, if any, had been made.

Although the interviewees represented a mix of backgrounds, affiliations and professions, their reports on the status, options and importance of many of the recommendations showed a great deal of consistency. This produced a certain amount of consensus regarding where actions have occurred, where they are likely to occur, where nothing is happening and which recommendations are of high, medium or low priority.

Where Action Has Occurred

Recommendation 4: *Develop a northern research inventory or Web site directory of current researchers, groups, contacts, capacities within universities, government and northern organizations.* This action has occurred, although it is not centralized. Interviewees supplied a list of organizations and their Web sites that have such inventories. Most interviewees pointed out, however, that while maintaining the inventory is a priority, it will be difficult.

Recommendation 8: *Access and record traditional knowledge with due urgency.* This action has occurred extensively. Interviewees agreed, for the most part, that this should be done by communities and not by outsiders, but that communities should be supported in their work.

Recommendation 12: *Encourage the research community at large to recognize the needs and values of northern Aboriginal cultures and traditional knowledge.* Interviewees agreed that sensitivity to cultures and traditional knowledge is necessary and that there should be initiatives to promote such recognition. Initiatives should be evaluated parallel to the scientific component of the research projects.

Recommendations 15, 16, 17, 18 and 23: These recommendations focus on *funding that emphasizes reporting back to the communities, engaging communities and involving northerners in research.* SSHRC's Aboriginal Research and Community-University Research Alliance (CURA) programs fund research that requires community involvement and go a long way towards involving Aboriginal organizations in research. However, SSHRC, along with NSERC, are facing budgetary pressures that will have an impact on their ability to expand these programs or develop new ones. Interviewees considered it imperative to continue shifting the research paradigm from one in which southerners go to the North to conduct research (research on the North) to northerners doing the research (research by the North). But this will not happen, according to some interviewees, unless the granting agencies broaden definitions ("research" and "researcher") and make major changes in criteria.

Recommendations 19 and 20: *Establish a community relevancy review and community input processes for ethics; and Review research proposal criteria and set evaluation criteria to ensure sensitivity to northern needs and to encourage the integration of traditional knowledge with other scientific findings.* These two recommendations are considered to have occurred

in similar ways. In particular, SSHRC's Aboriginal Research and CURA programs go a long way towards addressing community integration in research. Also, NSERC's Northern Research Chairs Program has mechanisms in place that consider northern needs and involvement.

Recommendation 27: *Build on successful governance models and best practices.* Several interviewees referred to the National Contaminants Program in relation to this recommendation, proposing this program as a good model for future governance initiatives.

Recommendations 28 and 29: *Distribute information from the Dialogue.* This has happened to some extent, and there will be further distribution of information in the future, particularly as a result of this report.

Recommendation 31: *Organize regular Dialogues on Northern Research to ensure accountability, process review and useful building on previous ideas (every two to four years).* Another Dialogue is planned for 2007.

Where Action Is Likely to Occur

Many of the recommendations will be affected by the Northern Strategy expected in 2005 and by the International Polar Year (IPY) in 2007-2008.

Recommendations 1 and 2: *Develop an integrated northern research policy; and Broaden and continue the Dialogue to develop the northern research strategy.* Interviewees suggested that this heightened interest in the North greatly increases the chances of these recommendations being realized.

Recommendation 13: *Build one or more places for high-calibre northern research activities.* The Northern Strategy and the IPY will likely address this recommendation.

Recommendation 24: *Encourage cross-cutting planning across the three granting agencies.* The three agencies met in July 2004 to discuss collaboration on emerging cross-cutting issues, and anticipate launching a program for the IPY.

Recommendation 21: *Encourage the inclusion of northern Aboriginal organizations in the review processes.* New initiatives are emerging from the Northern Strategy and preparations for the IPY that will help address this recommendation.

Recommendation 22: *Build a constituency for northern research through meaningful messages to all Canadians, coordinated by the three granting agencies and researchers.* Interviewees were confident that the Northern Strategy and the IPY will go a long way towards building awareness of northern research. Furthermore, the three granting agencies already conduct a number of activities that publicize northern research results.

Recommendations 5 and 11: *Ensure sustainable research funding at the community level; and Help develop resident capacity and northern involvement in all stages of research in local, national and international issues.* Interviewees gave examples of a number of initiatives by the three granting agencies that are designed to address these recommendations (e.g. SSHRC CURA and NSERC Northern Research Chairs).

Recommendations 25 and 26: *Establish seed funding to consult with communities very early in the project formulation stage; and Recognize community in-kind contributions in making funding decisions.* The granting agencies have some programs that address these issues (e.g. SSHRC CURA and NSERC Northern Research Internships).

Recommendation 30: *Extend the Dialogue to other parts of the North.* The three granting agencies intend to contact all potential players for future Dialogues.

Where Nothing Is Happening

Recommendation 3: *Encourage the territorial governments to develop research plans.* This recommendation is considered problematic. As one interviewee put it, "You can encourage all you want, but if you don't fund, nothing is going to happen."

Recommendation 6: *Develop a harmonized licensing or permitting process for researchers in the territories.* Interviewees commented about the difficulties in the licensing process, saying these problems are not easily resolved because of insufficient capacity in the territories.

Recommendations 7, 9 and 10: *Establish undergraduate exchanges between colleges and universities; Place innovators in the schools as field experts with stable funding to create a year-round connection to students and researchers; and Invest in the next generation as soon as possible.* These recommendations focus on education and investing in the next generation. Interviewees overwhelmingly decried "the appalling state of education" in the North. Many claimed that capacity building in northern research will not happen unless there are major changes to education in the North, starting with the primary levels and including high schools. A great deal of pessimism was expressed about the likelihood of accomplishing these recommendations.

Recommendation 14: *Develop "NCE-lite" – a network that is smaller, "lighter" and more manageable than a regular NCE (Network of Centres of Excellence) to help link existing facilities, expertise and funding.* The proposed Centre for Cold Weather Construction in Yukon may turn out to be an NCE-lite. But this is not definite, and interviewees had mixed views on the idea of an NCE-lite. Some questioned the need for it, some said it would be difficult to put in place, and some thought it would be a good thing to do. One interviewee said that

SSHRC's CURA and Aboriginal Research programs may be better vehicles for linking existing facilities and researchers.

Recommendation 32: *Establish a new Canadian Ministry of Circumpolar Affairs.* Although there has been some interest, there has been no progress on this recommendation.

Relative Priority or Importance of Recommendations

Interviewees considered three recommendations to be the most important:

Recommendation 1: *Develop an integrated northern research policy.*

Recommendation 10: *Invest in the next generation as soon as possible.*

Recommendation 13: *Build one or more places for high-calibre northern research activities.*

Interviewees, in general, called for an overall strategy or policy to ensure future improvements in northern research. They also emphasized the need to improve education and opportunities for the next generation, which they considered crucial to the development of northern capacity and northern research. Finally, many considered the state of facilities for northern research to be disgraceful and very much in need of improvement, especially with the IPY looming.

Many interviewees discussed the importance of Recommendation 6, *Develop a harmonized licensing or permitting process for researchers in the territories.* The response was mixed. Some individuals thought this recommendation was very important because the process “presents an annual crisis” for researchers. Others viewed it as a territorial issue and said that acting on the recommendation would simply create more paperwork.

Interviewees who discussed Recommendation 32, *Establish a new Canadian Ministry of Circumpolar Affairs,* generally considered this idea to be the wrong approach to northern research needs, saying that establishing such a ministry would be difficult, unnecessary and result in more red tape.





II. Detailed Analysis of Recommendations

RECOMMENDATIONS 1 AND 2

Develop an integrated northern research policy using a Steering Committee in the North and with indigenous groups on the Committee providing input into proposals and implementation (link this policy development to International Polar Year); and Broaden and continue the Dialogue to develop the northern research strategy with adequate funding to existing research institutes.

Rationale

There is considerable research going on in the North, but there is also a lot of confusion and lack of coordination. People are not aware of who is doing what. A northern research policy that integrates strategy, infrastructure, activities, development and indigenous interests would address research needs. Research in the North has an immediate impact on indigenous people, so they should be involved in the design of policy. Using a steering committee in the North will ensure that policy makers do not rely on input from northerners after the fact. A northern research policy should include Canadian involvement in the IPY in order to establish Canada as a world leader in northern research while also benefiting local communities. Continuing the Dialogue will help in the development and implementation of a northern research policy and in the provision of adequate funding for research.

Current Status

An integrated northern research policy has not been developed yet, but on December 14, 2004, the Prime Minister announced the Framework for a Northern Strategy⁹. This Framework will be used as a basis for consultation in the development of the Strategy, which is expected for release later in 2005. One of the goals of the Northern Strategy is the development of northern science and research.

There is a close connection between the International Polar Year (IPY) and the Framework for a Northern Strategy. Much of the organization for Canada's participation in the IPY took place during 2004, when a series of northern community meetings were held. It was also during this period that the Federal IPY Working Group was established, the Canadian IPY Secretariat was established at the University of Alberta and the Canadian Steering Committee was created. In Canada, the IPY will involve researchers working in the cultural, social, health, geophysical and biological fields.

⁹ www.northernstrategy.ca

Involvement in these areas is central for the Northern Strategy, since science and knowledge-based endeavours are crucial for northern development. Related to the announcement of the Strategy and preparation for the IPY, federal departments through the Federal IPY Working Group have developed a proposal to secure specific funding for northern research during the IPY.

Obstacles¹⁰

1. Research in the North should benefit northerners and requires their input, but it would be difficult to get input from northerners because research capacity in the North is insufficient.
2. There is more and more corporate and industry-driven research.
3. Northern research is only a small subset of all the research that is going on in Canada. Since there is no payback in the short term for northern research, it may not attract the required level of investment.
4. Many levels of decision making exist in the North, including local, Aboriginal, territorial government and federal. This will complicate the development of a research strategy.

Options

1. Secure more funding for existing research institutes and for new northern research institutes.
2. Broaden the Dialogue to involve more northerners and to involve communities in the development of northern research.
3. Use the opportunity presented by the IPY and the Northern Strategy to implement these recommendations.

¹⁰ For these and subsequent recommendations, we indicate how the interviewees saw the obstacles and options for the actions involved. Thus, any contradictions are due to the different views they expressed.

Relative Priority

Many interviewees thought this was the most important recommendation because an integrated policy will determine research in the North.

Suggested IOG Follow-up

Officials from the three granting agencies should convene a special ad hoc group made up of the principal stakeholders in northern research to determine how they might collectively influence the development of the Northern Strategy, including development of a policy for northern research. Members should include representatives of northern, Aboriginal, First Nations and Inuit communities, relevant government departments and agencies, scientists and researchers from universities with significant northern research programs, as well as representatives of northern colleges and research institutes, territorial governments and members of the IPY Committee.



RECOMMENDATION 3

Encourage the territorial governments to develop research plans.

Rationale

The research agendas for the territories are either outdated or non-existent. Also, research plans suffer from a stovepipe effect, and initiatives respond to policies of the day. Many research priorities that communities identify are not reflected in national priorities. Communities have to fit their needs to the conditions of funding. As such, there is a need to develop meaningful research plans that reflect northern priorities.

Current Status

Yukon is developing research plans through Yukon College and the Northern Research Institute. The territorial governments are engaged in climate research in the Arctic. The Aurora Research Institute is responsible for coordinating research activities in the Northwest Territories. *Doing Research in the Northwest Territories* is a guide that lists current research and outlines requirements and procedures for scientists.¹¹ The research agenda for Nunavut was prepared in 1997 by the Nunavut Research Institute. In northern Quebec, research in the areas of health, wildlife and the environment is located at the Nunavik Research Centre.¹²

Obstacles

1. Lack of funding limits the ability of the territorial governments to develop research plans. As one interviewee said, “You can encourage all you want, but unless you fund, nothing is going to happen.” The territorial governments are understaffed, and some politicians and officials view research as a luxury, given the other funding pressures facing their governments.

2. Human capacity is an issue. Skilled people are in high demand and have work to do other than research. For example, nurses in communities face overwhelming demands, with little or no time for research.
3. The existence of three territories could result in three different research plans. Developing plans in complete isolation from each other would exacerbate the stovepipe effect.

Options

1. Provide funding, in particular for a dedicated full-time person for research. This person would be the conduit between researchers and territorial governments.
2. Ensure that research plans are developed in tandem with others. Working autonomously would not get the territories what they need.
3. Create strategies for local economic development that support communities so they have the capacity for research.
4. Develop research plans for the North that involve improved education.

Suggested IOG Follow-up

Since the Northern Strategy has, as one of its goals, the development of research in the North, it could act as a catalyst for the territories to make a commitment to integrated research plans. The special ad hoc group suggested by the IOG should be established for Recommendations 1 and 2. It should also consider how Recommendation 3 might be addressed.

¹¹ www.nwtresearch.com/media/Research_Guide_2004.pdf

¹² <http://www.itk.ca/environment/tek-itk-mandate-research.php>

RECOMMENDATION 4

Develop a northern research inventory or Web site directory of current researchers, groups, contacts and capacities within universities, government and northern organizations.

Rationale

Dialogue participants highlighted the need for a centralized Northern Research Inventory. This would assist stakeholders in determining what research has been conducted and in identifying experts in a particular field. It would also assist in building a network among northern researchers and facilitate collaborations. The expected influx of researchers during the IPY heightens the need for action on this recommendation.

Current Status

Currently, various organizations capture and make available information on northern research, including the three northern research institutes, some universities, northern organizations and federal departments, such as those below:

The organization that has a national mandate for polar science is the Canadian Polar Commission (CPC).¹³ The CPC maintains the Canadian Polar Information Network (CPIN), which contains 2,000 names and the CPC directories.

Other directories include the Northern Forum (www.northernforum.org) and the organizations of the northern regions of the world. Also, the Nasivvik Centre was established under the Aboriginal Capacity and Developmental Research Environments (ACADRE) Program through a grant from the Canadian Institutes of Health Research's Institute of Aboriginal Peoples' Health (CIHR-IAPH) to conduct Inuit-specific health research. It has a Web site of researchers. Finally, ArcticNet with its own Web site represents a significant number of people working in the North.¹⁴

¹³ www.polarcom.gc.ca

¹⁴ www.arcticnet-ulaval.ca

- Aurora Research Institute
www.nwtresearch.com/research.aspx
- Nunavut Research Institute
<http://pooka.nunanet.com/~research/Publications.htm>
- Northern Research Institute in Yukon
www.yukoncollege.yk.ca/programs/nri/recipe/recipe.html
- Canadian Circumpolar Institute at the University of Alberta
www.ualberta.ca/~ccinst/RESEARCH/index.html
- Association of Canadian Universities for Northern Studies
www.acuns.ca
- Fisheries and Ocean Canada
www.dfo-mpo.gc.ca/regions/central/science/arces/index_e.htm
- Centre d'études nordiques, Université Laval
www.cen.ulaval.ca
- Inuit Tapiriit Kanatami
www.itk.ca
- Nunavik Research Centre, Makivik Corporation
www.makivik.org/makivik_nrc/eng
- Indian and Northern Affairs Canada
www.ainc-inac.gc.ca/ps/nap/norsciotec_e.html
- Arctic Institute of North America, University of Calgary
www.ucalgary.ca/AINA/index.html
- Natural Resources Canada, Polar Continental Shelf Project
<http://polar2.nrcan.gc.ca>
- Canadian Arctic Resource Committee
www.carc.org/resource/index.php3

Obstacles

1. Some questioned the need for an inventory. They thought that the reasons for having an inventory were not clear enough to justify the work involved, and they pointed out that tracking research was difficult because there are so many activities and end users.
2. Several interviewees claimed the greatest challenge is to keep an inventory current.
3. Putting an inventory together in one place, updating it and maintaining it would be a full-time job. The lack of funds to set it up and maintain it is a problem.
4. The Canadian Polar Commission has access to resources but does not represent the client group. The Association of Canadian Universities for Northern Studies (ACUNS), for example, might be more appropriate because university researchers in northern research constitute the group most likely to rely on such an inventory. However, they do not receive the research funding.

Options

1. Leave things as they are now. There are several directories and Web sites that serve the community.
2. Coordinate the existing directories and Web sites. Northern communities and Aboriginal peoples should be involved in this coordination.
3. Set up a centralized research inventory, housed in the North and involving the participation of Aboriginal peoples. Resources should be made available to set it up and keep it current.

Relative Priority

Many interviewees claimed that Canada needs to make progress for the IPY. Canada will be the major Western nation hosting the IPY, but our capacity is severely limited, for example, for security clearances and visas. This is an essential strategy idea and would constitute a clear deliverable.

Suggested IOG Follow-up

The idea of replacing all directories with one centralized inventory appears to be unnecessary. That said, existing directories and Web sites could be better coordinated. A site that links them would facilitate searches for information. Northern communities and Aboriginal peoples should be involved in this coordination to ensure that community needs are met.



RECOMMENDATION 5

Ensure sustainable research funding at the community level.

Rationale

Sources of research such as hospitals, universities and commercial organizations are absent in the North, and most research is conducted or sponsored by governments. Also, the granting agencies target most of their programs at university researchers, so communities do not necessarily benefit from research funding. The exceptions are SSHRC's CURA and Aboriginal Research programs. Any new programs should be modelled after them as a way to provide sustainable funding at the community level.

Current Status

1. SSHRC has a new Aboriginal program, Aboriginal Research. For this program, there must be a partnership between university researchers and participants from Aboriginal communities.¹⁵
2. NSERC is funding six community colleges across Canada as part of a pilot project to develop capacity at the college level. Colleges must be eligible to receive funding to participate in this program.
3. SSHRC has an initiative specifically targeted at northern research – the Northern Research Development program. Since 2003, the program has awarded about \$1.2 million for 33 seed grants.

Obstacles

1. According to interviewees, the granting agencies do not take into consideration the unique needs of the North when they design programs, with the result that there is inadequate funding for northern research. They still design programs using criteria for southern Canada, which do not work in the North. The cost of living is higher in the North, more time is needed to build up trust in communities,

and Aboriginal needs have to be considered.

2. Capacity issues are a problem because there are not many community groups involved in northern research.

Options

1. Provide funding over the long term for community-based relationships. It takes one or two years to achieve a level of comfort with a community.
2. Develop a long-term strategy for investing in education in the North. Start by getting younger students interested and educated in research so they can be part of a generation actively engaged in northern research.
3. Ensure sustainable research funding at every appropriate level, not just the community level. In the context of the IPY, the community level is not the best focus for funding. The community should be involved, but funding should be ensured at the most appropriate level.

Suggested IOG Follow-up

Any new program should use the experience gained from existing programs to ensure that the participation of communities is an integral part of any new initiatives.

¹⁵ www.sshrc.ca/web/apply/program_descriptions/Aboriginal_e.asp

RECOMMENDATION 6

Develop a harmonized licensing or permitting process for researchers in the territories.

Rationale

Research proposals requiring licences or permits face a significant bottleneck. The territorial governments have relegated these responsibilities to the research institutes and colleges, which are underfunded and understaffed and cannot meet the huge demand. In the NWT, the number of people conducting reviews has dropped from 15 to one. For example, human health ethics approval from an agency and the territory takes six months. If the project is for one year, half the time is spent waiting for the licence. Also, the three research institutes in the North are not centralized, and researchers have to report the same information three times for the same project. In addition, the current process was set up before the various land claim agreements and has not been updated. It is more cumbersome now than when it was created. With the IPY, the number of proposals will increase, exacerbating the situation. (One interviewee estimated that the IPY will attract 2,500 researchers to Canada's North.)

Current Status

Three bodies currently deal with licensing or permitting processes:

- Yukon Heritage (the Yukon Environmental Assessment will be taking over this task)
- Aurora Institute in Inuvik, NWT
- Northern Research Institute in Nunavut

These institutes do not provide integrated licensing systems. Thus, developing a harmonized process is an issue for the IPY. There will be foreign scientists as well as Canadian scientists applying, and this will put a burden on the processes.

Obstacles

1. There are different types of work to be licensed (e.g. medical, environmental, ocean, social science). The research institutes are struggling to cope with these different research disciplines.
2. Research professionals do not like to see resources dedicated to administration.
3. It would be difficult to harmonize the licensing or permitting processes of the three territories and ensure the involvement of communities.

Options

1. Provide resources and support to the research institutes and colleges for processing applications. Ensure that resourcing is provided for a long-term solution to the problem.
2. Strengthen northern research through the Northern Strategy in order to improve the process.
3. Coordinate licensing through a centralized institute, which could decide where the approval should come from. This body could recommend a licence application to the relevant committee to avoid duplication of effort.

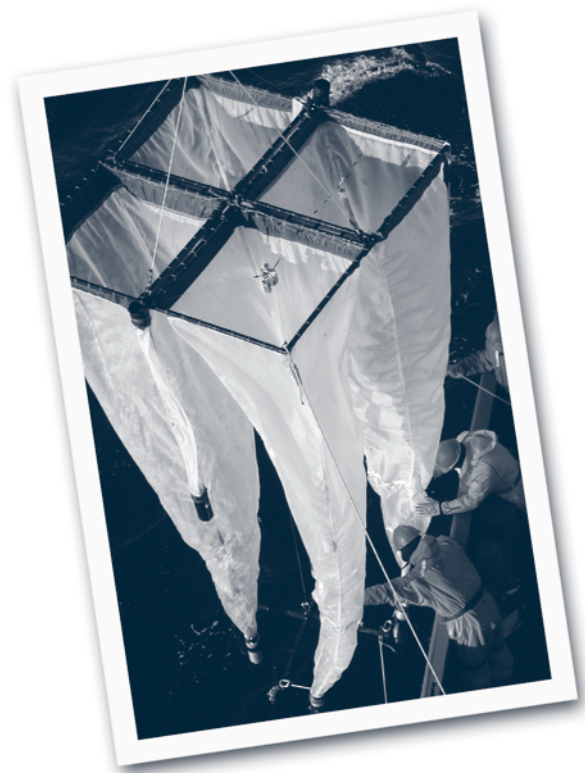
Relative Priority

There were two opposite responses in discussing the priority of this recommendation:

- This is a serious issue because the process of licensing and permitting presents an annual crisis.
- This is not a priority because each territorial government has different directives and different needs. One size does not fit all in the three territories.

Suggested IOG Follow-up

In light of the IPY, the special ad hoc group suggested by the IOG in this report for Recommendations 1, 2 and 3 should determine the best approach to deal with licensing issues. This group should meet as soon as possible as there is some urgency around this problem. The group should be made up of relevant stakeholders, including representatives of the three institutes that deal with licensing in the North, members of the Canadian IPY Secretariat, representatives of the territorial governments and representatives of the First Nations, Métis and Inuit communities.



RECOMMENDATION 7

Establish undergraduate exchanges between colleges and universities.

Rationale

No clear rationale emerged from the interviews for this recommendation. Some interviewees thought that exchanges would be part of a more collaborative approach between colleges and universities involved in northern research. Students would benefit from face-to-face learning and it would “decolonize” the research process. On the other hand, some interviewees were concerned that it would exacerbate the problem of policy makers from the South developing programs that are only good for the South. Interviewees made the point that students in the North are different – many are older, married and have different literacy levels.

Current Status

There is not a lot of collaboration between northern colleges and southern universities. The organizations that do address this issue include ACUNS and the University of the Arctic. Also, NSERC’s Internship program is helping to facilitate some exchanges. However, most exchanges are primarily in the area of training, not research. Training programs for teachers and nurses are the most common. On the research side, some research stations in the North have college students, such as the Permafrost Study Centre in Yukon.

Obstacles

The primary obstacle for this recommendation is the differences between the North and the South. One interviewee said, “It is difficult to fit the North in southern institutions. It is easier to have the South come North.” Interviewees thought that the imbalance between the states of educational capacity in the South and the North would result in an imbalance in the exchanges. It would be too difficult for students from the North to go South, and easier for students from the South to go North.

Options

1. Develop creative ideas for a long-term project to facilitate movement between institutions.
2. Design programs to develop capacity in northern communities and involve northerners in the process. These programs should be aimed at engaging young people before they fall out of the system.
3. Establish both undergraduate exchanges and staff exchanges. This would create opportunities for qualified researchers.

Relative Priority

No clear consensus emerged on the priority of this recommendation. Interviewees rated it from low through mid to high importance.

Suggested IOG Follow-up

ACUNS and the University of the Arctic should take the lead in promoting and expanding collaboration between universities in the South and colleges in the North. Also, the special ad hoc group that the IOG suggested for Recommendations 1, 2, 3 and 6 to address northern research issues should examine this issue in order to determine the best approach for progress in this area.

RECOMMENDATIONS 9 AND 10

Place innovators in the schools as field experts with stable funding to create a year-round connection to students and researchers; and Invest in the next generation as soon as possible.

Rationale

Investing in the next generation is critical, particularly when you consider that 60 per cent of the population of the North is under 25 years old. In approaching this issue, the North should not be viewed just as a living lab for southern researchers. Rather, young people living in the North should be encouraged to get the education they need to participate in research that affects their communities. To do this, the educational system in the North needs stable, long-term funding because it will take a generation to produce results. Education is crucial. As one interviewee said, “Carving is to soapstone as education is to the soul.”

Current Status

The Royal Canadian Geographical Society Fraser Lectureship promotes science to northerners and youth. NSERC has a program, PromoScience, that supports the promotion of science to youth and that could be used for youth in the North. Aurora Research Institute holds a PromoScience award for “Northern Experts in Schools,” while Yukon College is supported through PromoScience for its “Innovators in Schools” Program. Also, NSERC has just launched a new program, Centres for Research in Youth, Science Teaching, and Learning (CRYSTAL), to address the need for science education in schools across Canada. The federal government funds annual science fairs, supported by different organizations. The CIHR-sponsored Nasivvik Centre is effectively promoting education and an interest in science. Also, ArcticNet is flying young students out to icebreakers. The National Aboriginal Health Organization (NAHO) has created a database of post-secondary education and training opportunities for Inuit called QAIGITSI.

Obstacles

1. The most significant obstacle is the present state of education in the North. As one interviewee said, “The education system in the North is so poor, it’s criminal.” To enter university, students require upgrading.
2. Fixing the education system in the North is difficult, partly because the solution requires improvements at the elementary and high school levels. However, elementary and high school education does not fall within the mandates of NSERC, SSHRC and CIHR.
3. The idea of “investing” in the next generation needs to be better defined.

Options

1. Focus on early education to achieve capacity development in the North. Investing in programs that target younger students would accomplish the most because it would make a difference for the next generation. Also, design programs to inspire northern Aboriginal children to become researchers.
2. Place field experts who have local expertise in the schools. These experts should include innovators who are doing public work, such as Aboriginal innovators and land officers from every village.
3. Establish mentoring programs and innovators in the communities to expand education outside the schools.
4. Design incentives to keep the best and brightest in the North.

Relative Priority

Investing in education in the North is critical. Having someone who speaks the language and knows the people would enhance the research done in the North.

Suggested IOG Follow-up

Indian and Northern Affairs Canada should ensure that the link between improved northern research and the reform of territorial education systems is made clear in the development of the Northern Strategy.



RECOMMENDATIONS 11 AND 18

Help develop resident capacity and northern involvement in all stages of research in local, national and international issues; and Have agencies that fund research emphasize territorial-based research and the importance of reporting back to the community, capturing its interest and exchanging ideas.

Rationale

There is a lack of capacity of northern research by northerners due to the education system, which often fails to integrate cultural aspects. There is a need to integrate northern researchers, residents and communities. Relationship building with northern partners is considered an important aspect of research. This involves communicating results back to communities and having research agencies fund scientists who live and work in the North year-round.

Current Status

SSHRC's Aboriginal Research, CURA and Northern Research Development programs will fund northern researchers working on local, national and international issues. With regard to CURA, there are mid-study reviews of projects in which one of the key questions is the community's role in the research to that point. NSERC has reintroduced the northern supplement, which can allow for pre-consultation and follow-up. NSERC's Northern Research Chairs and Internship programs make the involvement of northerners a condition for funding. CIHR has a community-based program that requires community participation. Nasivvik develops and applies methods to bring together and use Inuit and science knowledge in health research and action. Also, ACUNS has, as part of its mandate, the goal of ensuring that northerners are involved in research and enhancing opportunities for northerners.

Obstacles

1. Researchers often do not recognize the need for the development of resident capacity and northern involvement.
2. Northern communities do not easily accept or relate to researchers. Consequently, researchers have had difficulties hiring people. After the research is finished, researchers often go back for follow-up, but the community still complains. The corporate memory in the community is often very short.
3. There are problems with resident capacity to participate in research. For example, one interviewee discussed a project that required hiring people from the community. There was no education plan for the community members who were hired, and some of them killed the research animals when the project was over. Consequently, some of the data were lost.
4. The University of the Arctic falls outside the scope of traditional granting agencies. Independent researchers have a valuable perspective but are disadvantaged. They are not eligible for funding because they do not have university affiliations or links to southern institutions. This makes them less valuable to other researchers for collaborative research (e.g. research into the health impacts of climate change).

5. Government researchers, who do a vast amount of research, are constrained by federal government cutbacks and are not eligible to apply for funding from the granting agencies. Consequently, they are not able to publish as many scientific papers, and they feel disconnected and undervalued.
6. Not all granting agency programs are geared to community-based research or projects. As such, some programs of each of the three agencies may experience difficulty accommodating community-based research.

Options

1. Develop awareness among researchers of the need for plain language when communicating with communities.
2. Ensure Aboriginal participation and input in developing agendas so that research reflects what is meaningful to them.
3. Insist that research involve consulting with the community at the outset so that researchers receive direction and knowledge from the community. Require them to make an initial report to the community. Encourage developing relations with the community and provide more resources for reporting back, with an emphasis on how this is important to the community.
4. Provide funding for one full-time person in every community as a means to develop resident capacity.

5. Broaden the definitions of research and researchers. Ensure that research is driven by northerners and northern needs to prevent resentment among northerners.
6. Establish networks at the community level, not the territorial level. These should include communities beyond the territorial boundaries, with a focus on issue-based and cultural group-based research.

Suggested IOG Follow-up

The Federal ADM Interdepartmental Committee on Northern Science and Technology, in its efforts to influence the IPY and Northern Strategy, should build on the experience of existing programs such as SSHRC's CURA and Aboriginal Research programs and CIHR's community-based program to develop resident capacity and northern involvement in research. ACUNS should expand its mandate to require northern participation in northern research.



RECOMMENDATIONS 8, 12 AND 20

Access and record traditional knowledge with due urgency; Encourage the research community at large to recognize the needs and values of northern Aboriginal cultures and traditional knowledge; and Review research proposal criteria and set evaluation criteria to ensure sensitivity to northern needs and to encourage the integration of traditional knowledge with other scientific findings.

Rationale

These recommendations demonstrate respect for both the Elders and their communities investing in Elder knowledge builds capacity at regional and community levels. Elders have personal experience of environmental changes in the North and are a valuable source of data and knowledge. Research should appropriately involve northern peoples, communities and Aboriginal groups. This should apply to the entire research process – from development through to the stages of communicating results.

Current Status

SSHRC's Aboriginal Research Program encourages, in part, new approaches and methods of inquiry that will build understanding of the dynamics and significance of Aboriginal knowledge. Further, proposals are assessed by two committees – one for relevance, the other for research merit. Over 50 per cent of the members of both committees involved in this approval process are Aboriginal. The CIHR's Institute of Aboriginal Peoples' Health (IAPH) encourages integration of traditional knowledge and evaluates criteria based on northern needs.¹⁶ ACADRE – part of CIHR's IAPH program – funds projects that involve research into traditional health. The proposed tri-agency program would address the need to ensure sensitivity to northern needs. The Arctic Climate Impact Assessment employs indigenous perspectives and records traditional knowledge. The Canadian IPY committee will deal with traditional knowledge issues and is assembling a panel to deal with intellectual property issues. Northern communities are recording their own Elder knowledge and traditional knowledge.

Obstacles

1. Ownership of the knowledge, intellectual property rights, privacy issues, applications and use of the traditional knowledge are interrelated problems.
2. Recording traditional knowledge may take it out of context. Looking at it from the outside could change its meaning.
3. Northern communities do not have the resources to document Aboriginal traditional knowledge and maintain the record.
4. Integration of traditional knowledge and scientific knowledge might prove difficult.

Options

1. Make it a requirement for research grants that northern research incorporate respect, generation, use and dissemination of traditional knowledge and science. Treat Elder knowledge with respect and do not push the project for political reasons. Rather, focus on the intellectual merit of traditional knowledge.
2. Develop a dedicated tri-agency line of funding targeted to document traditional knowledge. Programs should assist communities in this exercise, which would provide a sense of ownership of the information. This will help to further self-determination of communities.
3. Keep Elder knowledge and traditional knowledge in technology that is accessible. Tapes and film deteriorate, and northern archiving technology is antiquated.

¹⁶ www.cihr-irsc.gc.ca/e/8668.html

4. Make courses available to young researchers and first-time researchers coming from the South so they can be sensitized to the needs of the North. For example, a training course could involve one day with an Elder.
5. The granting agencies should develop more programs where committees are made up, not just of scientists, but also of legitimate representatives of the community.
6. Establish Aboriginal people as part of the evaluation process. For example, for every two people doing peer reviews of proposals, one should be Aboriginal and one a traditional reviewer.
7. Base northern initiatives on intellectual content, not on sovereignty. Research in the North should be based on the idea that “this is fascinating stuff!” – in other words, what the North can bring to the South rather than what the South can do for the North. Ranking projects on the basis of community needs addressed should parallel ranking on the basis of scientific merit.
8. Use the criteria of the Northern Contaminants Program as a model.

Relative Priority

Interviewees judge this to be a critical recommendation involving an urgent and pressing matter for indigenous communities.

Suggested IOG Follow-up

The granting agencies should expand their emphasis on respect for traditional knowledge for research applications. The principles of the Northern Contaminants Program should be adopted as a model for northern research in general. Furthermore, the Federal ADM Interdepartmental Committee on Northern Science and Technology should address the issue of recording Elder knowledge and ensuring respect for this knowledge and sensitivity to northern needs.



RECOMMENDATION 13

Build one or more places for high-calibre northern research activities which would include storage of databases, library, meeting facilities, networking, etc.

Rationale

There is a lack of centralized facilities in which to conduct northern research. Researchers need places to think, basic equipment and elementary “on the ground” support. A network of facilities exists, but the facilities are in poor shape and not cohesive. Little has been done to repair and update infrastructure and there is a lack of offices, desks and computers. This makes it difficult to host outside researchers in the North. The looming IPY makes action on this recommendation imperative.

Current Status

There are some research facilities and centres in the North. The Research Institute at Yukon College is developing a facility for storage and libraries, called the Centre of Northern Construction Technology. Similarly, Yellowknife has the Prince of Wales Northern Heritage Centre. There are the existing ACADRE centres. Also, Nasivvik does some high-calibre work. The Canadian Society for Circumpolar Health is expanding its work. The Canadian Society for Rural Health Research is also there, but not in a formal way. Beyond these existing centres and organizations, there have been discussions about establishing a University of the Arctic to be a virtual university of the North. The IPY has solidified opinion that the northern institutes will have to act in concert, which would require a new association of northern institutes.

Obstacles

1. It would be difficult to establish a place for northern research in any of the existing research stations in the North because they are at least 40 years old and have not had significant upgrades or maintenance.

2. Identifying one place in the North would be difficult because it would require agreement from all regions of the North. If it is in Whitehorse, for example, it will have little or no relevance to Nunavut.

Options

1. Expand and support existing structures (northern research institutes). There are differences between Yukon, NWT and Nunavut. There should be one facility per territory that will be a hub or nucleus for research in that territory. To do this, increase the capacity of the existing institutes at the colleges.
2. Establish a central database rather than expand existing facilities or build a new centre.

Relative Priority

It is essential to have facilities for resident research.

Suggested IOG Follow-up

This is a longer-term issue that the IPY and Northern Strategy should address. The Federal ADM Interdepartmental Committee on Northern Science and Technology should determine if its members can present a common set of proposals for making progress on this issue.

RECOMMENDATION 14

Develop “NCE-lite” – a network that is smaller, “lighter,” and more manageable than a regular NCE (Network of Centres of Excellence) to help link existing facilities, expertise and funding.

Rationale

The North needs a multidisciplinary NCE to integrate northern research and facilitate networking. However, the amount of time required to develop a viable proposal for a new NCE is onerous. Hence, a “light” NCE might work.

Current Status

There is one NCE that focuses on the North (ArcticNet). Beyond this, the NCE program has been looking at establishing “NCE-lites.” They would provide funding for the networking function but not significantly for the research function. In other words, the emphasis would be on networking and bringing people together for interdisciplinary purposes. Also, the proposed Centre for Cold Weather Construction in Yukon may evolve to become an “NCE-lite.” Research, in general, also needs action on this recommendation.

Obstacles

1. NCEs often focus on economic and commercial areas and do not often deal with social issues. The NCE approach may not be adaptable to the North, especially for social or cultural concerns.
2. The North is so complex that, as one interviewee said, “I have difficulty imagining anything smaller, lighter, etc., in the North.”
3. This idea could be misleading, as “lighter” may suggest “underfunded.”
4. This would be seen as a southern-based initiative.

Options

1. Set up one “NCE-lite” in the North, perhaps through support of a proposed Canadian Northern Research Service, which would be like an NCE.
2. Set up many “NCE-lites” in the North. Reduce the required conditions and make them less onerous to set up. This is necessary because of unique needs in the North. Different models of NCE could be considered, such as having umbrella themes, a research cluster or a CURA model.
3. Set up a large NCE rather than an “NCE-lite.” Even ArcticNet is only a portion of what is required.
4. Do not set up an NCE. Rather, set up a network comprising northern institutes and existing capacities, which would include colleges and high schools.

Suggested IOG Follow-up

This is a recommendation that should be addressed within the context of the Networks of Centres of Excellence program. The granting agencies and Industry Canada should examine the need for one or several “NCE-lites” in the North in light of the IPY and the Northern Strategy. This might also be a topic that the special ad hoc group, suggested by the IOG for earlier recommendations, might wish to consider.

RECOMMENDATIONS 15, 16, 17, 23, 24, 25 AND 26

Establish a peer-reviewed, tri-agency strategic funding envelope for new emerging teams in multidisciplinary northern research; Infuse \$1-2 million to foster high-quality research in the North; Develop a tri-agency strategic program for the North with stated principles; Develop pilot projects and dedicated funding for research conducted by northerners with a northern decision-making board; Encourage cross-cutting planning across the three granting agencies; Establish seed funding to consult with communities very early in the project formulation stage; and Recognize community in-kind contributions in making funding decisions.

Rationale

Enhanced tri-agency collaboration to foster northern research is needed. This collaboration should ensure that programs are multidisciplinary and community-based. More research should be conducted by people living in the North, *for* the North, with the perspective and needs of northerners taken into account. Consulting with communities would build trust and develop research capacity. But researchers cannot come into the communities without funding, and they cannot get funding to consult with communities in the project formulation stage. Also, funding should be available to compensate communities. According to one interviewee, some federal money comes with a cost-sharing component and researchers have to find matching amounts. If the community is a large city, this is possible. But the capacity of small communities to produce matching funds is much lower, which affects their ability to leverage research projects.

Current Status

In July 2004, the three granting agencies met to discuss collaborating on emerging cross-cutting issues – for example, nanotechnology, environmental issues and northern research. This resulted in an idea for a Tri-agency Northern Research Initiative, which would involve funding relatively few new teams of researchers at fairly high levels, with an emphasis on multidisciplinary research. Each team would have some members from the NSERC, CIHR and SSHRC “communities” and would have essential local involvement at all stages of the projects. The program would be modelled on SSHRC’s

CURA program or CIHR’s Community Alliance for Health Research (CAHR) program. It would also provide special support for research trainees who wish to work in the North and would fund some Northern Research Chairs to provide leadership and mentorship. The three agencies hope to launch a new program with adequate funding levels for the IPY. However, with the small increment in the 2005 federal budget and the \$3.6-million cut to SSHRC’s budget (10 per cent of its unallocated grants budget), SSHRC still does not have the resources to invest in a tri-agency initiative or to provide support that reflects the real cost of doing research in the North. NSERC and CIHR have also had to respond to similar funding constraints.

Besides this initiative, CIHR has announced funding for competitions for five projects that are relevant. With funding from the Institute of Aboriginal Peoples’ Health (IAPH), five development grants of \$40,000 each will be available to a maximum of \$100,000. They will fund five projects to meet with communities. SSHRC’s Aboriginal Research program and NSERC’s Northern Research Chairs Program are also providing funds to local researchers. One plan being developed would provide researchers with seed funding to consult with communities very early in the project formulation stage. Part of the tri-agency granting process will involve building this into the Letter of Intent stage. The Northern Contaminants Program and the Health Survey are developing funding for research by northerners. The ACADRE Centre is recognized for having close connections to the community. Programs where northern partners are involved, such as the Northern Chairs program and Yukon College’s partnership

program, recognize community in-kind contributions. SSHRC's CURA and Aboriginal Research programs also encourage such contributions.

In addition, the Interagency Advisory Panel is a new structure of the three granting agencies to address needs in the ethics of research involving humans.¹⁷ The Panel functions as an interdisciplinary and pluralistic advisory body to provide the agencies with independent reflection and advice on the research ethics policy of the Tri-Council Policy Statement. Membership includes community representatives and research participants.

Obstacles

1. Interviewees doubted that the three granting agencies would get the \$1-2 million identified to foster northern research. Even if they get it, it would not be enough. Despite increases in the budget of the three agencies, new programs have not been possible.
2. It would be difficult for the agencies to take money from research and put it into communities.
3. No one would want all the money going into consultation to the detriment of research.
4. Some research is not done near any community.
5. This would require significant upfront money.
6. It would be difficult to determine what is recognized as an in-kind contribution.

Options

1. Make the presidents of the granting agencies comfortable with the idea of doing concerted, strategic funding of northern research. They need to be politically pragmatic in order to do this. It needs the three presidents of the agencies to sign off.
2. Re-examine the definition of HQP (highly qualified personnel) for northern research. Count the trained community assistants and high school students in the evaluation process. Encourage proposals from young researchers. Also, encourage existing teams to recruit young researchers and use a mentoring process.

3. Involve the Aboriginal community in the development of the research agenda, especially methodology. Recognize a project that has support from the community. For example, if there are two applicants and one lists support from the community while the other does not, then the applicant who has local support should receive the funding.
4. New funding has to be ramped up as capacity grows. The best way is to phase it in and tie funding to capacity. This will require that new funding be long-term.
5. Give funds directly to the colleges.
6. Tie new funding to publicly stated goals and priorities of governments (both local and federal) for each territory. Consideration should be given to the needs of northerners as expressed by their governments. One idea is to set up a clearinghouse that connects research needs and researchers.
7. Ensure that the community is consulted on ideas only if the work is definite. If the researcher is only scoping out the idea and changes his or her mind, this could disappoint the community.
8. Encourage nodes of researchers. This would enable different researchers to share resources (e.g. helicopters, translators).

Suggested IOG Follow-up

The IPY offers the best short-term vehicle for moving forward on these recommendations. The Tri-agency Working Group should determine if, in addition to current initiatives, any of the options outlined above merit implementation in light of the IPY.



¹⁷ www.pre.ethics.gc.ca

RECOMMENDATIONS 19 AND 21

Establish a community relevancy review and community input processes for ethics; and Encourage the inclusion of northern Aboriginal organizations in the review processes.

Rationale

Communicating well with communities and ensuring that communities have input helps to ensure that the research is relevant to them. This input will allow the perspectives, values, cultures and world views of communities to be included.

Current Status

For CIHR, ethics is part of the review process. The IAPH (Institute of Aboriginal Peoples' Health) has some Aboriginal researchers on the panel for peer review. The SSHRC Aboriginal Research program includes Aboriginal people in the application review process. NSERC stipulated that when committees that might evaluate northern research are set up, there should be someone familiar with northern research on them. The Interagency Advisory Panel on Research Ethics is conducting a major review of the Tri-Council Policy Statement (as referenced above). ACADRE Centres have seed funding for research, and each is governed by a board composed of Aboriginal people. The Northern Strategy plus the IPY will engender new initiatives for the inclusion of Aboriginal people in a variety of processes relevant to northern research. ACUNS has a set of principles to encourage cooperation and mutual respect between researchers and the people of the North, and part of its mandate is to enhance opportunities for northern people, especially indigenous northerners, to participate in research.

Obstacles

1. Not all research is necessarily relevant to the community.
2. Community input will be difficult because communities in the North have a history of not trusting researchers. Researchers therefore encounter responses ranging from indifference to negativity.
3. The level of capacity is just not there. Northern organizations are stretched to the limit. They need time and expertise. Also, people are busy or they are not qualified.
4. University ethics reviews conflict with the traditional point of view. It is difficult to bring these perspectives together.
5. Northerners are over-consulted and, as a result, frustrated.
6. Some believe that Aboriginal individuals, not organizations, should be involved in review processes so as not to mix science with politics.

Options

1. Pull together all existing ethical requirements for Aboriginal review rather than try to establish another review.
2. Link research to northern concerns. Consult community leaders, local colleges and local governments to start with community priorities and community knowledge. Encourage communities to generate their own ethics models.
3. Ensure that Aboriginal organizations are included rather than just offering encouragement. At present, this happens only rarely, in some SSHRC programs and in some CIHR projects.
4. Recognize the diversity of the North. Do not conflate everything into one northern point of view. Communities are not homogeneous. Use consultation and proper protocols so that the appropriate organizations are included.
5. Give northerners and Elders an honorarium to compensate them for their time and money to travel to where research or meetings take place.
6. Set up a Northern Board to review funding proposals in order to avoid tokenism and ensure real input.

Relative Priority

Interviewees said that having Aboriginal groups involved is very important.

Suggested IOG Follow-up

Any new initiatives flowing from the IPY and Northern Strategy should build on current practices that effectively involve Aboriginal peoples. ACUNS and the Northern Contaminants Program could serve as models.



RECOMMENDATION 22

Build a constituency for northern research through meaningful messages to all Canadians, coordinated by the three granting agencies and researchers.

Rationale

Awareness that northern research is important for *all* of Canada needs to be established. There should be an integrated Canadian policy on the North as a whole. Sovereignty in the North should be a national priority because three countries are claiming parts of the Arctic. The upcoming IPY presents an excellent opportunity to promote northern research.

Current Status

The Task Force on Northern Research (1998-2000) attempted to build a constituency for northern research, and the Dialogue had a similar objective. NSERC and CIHR feed articles to newspapers about northern research. Communications on the IPY will also assist in this broad messaging effort. Dr. Arthur Carty, the National Science Advisor to the Prime Minister, has advocated building Arctic awareness in Canada. The importance of northern research has also become better known as a result of the Arctic Climate Impact Assessment, the Arctic Human Development Report, the Prime Minister's February 2004 Throne Speech, and the work of the Royal Canadian Geographic Society and *Canadian Geographic*.

Options

1. Bring other organizations (besides the granting agencies) into this activity, such as the Canadian Polar Commission, the Arctic Institute of North America and the Canadian Arctic Resources Committee (CARC).

2. Set up a collaborative system of Aboriginal groups and researchers. The first logical step is to ensure consistency of messaging so that what is being communicated to southerners is consistent with what Aboriginal people want (i.e. relevancy of the research to Aboriginal people).
3. Revive earlier programs that encourage interaction among writers, artists and scientists. Artists know how to communicate messages. NSERC has an affiliation with the Canada Council. Make an effort to bring communicators into research to connect people of different "languages" (i.e. science and the rest of us). This would be the equivalent of the official Canadian war artists.
4. Strengthen the present array of field stations in the North, which are patchy and neglected. Establishing and strengthening research stations would attract support.

Suggested IOG Follow-up

The Federal ADM Interdepartmental Committee on Northern Science and Technology should take the lead in promoting awareness of northern research. Also, a special group formed to address the issues of northern research should examine the issue of communicating the importance of northern research to the public. The granting agencies should expand their communications on northern research and consider some of the options listed above.

RECOMMENDATION 27

Build on successful governance models and best practices.

Rationale

Work done so far by the granting agencies has produced some positive results and there is a need to continue and expand on these results.

Current Status

As the three granting agencies develop new programs, they build on best practices. SSHRC's mid-project reviews do this to some extent. The Northern Contaminants Program (12 years) has built some good governance models for research with communities. The National Health Survey provides a model for best practices and good governance. Also, the principle known as OCAP (Ownership, Control, Access and Possession) advocated by First Nations in Canada is central to this governance issue.

Obstacles

1. Lack of resources is the major barrier to achieving this objective.
2. Competing values could make it difficult to determine what constitutes success.

Options

1. Build small community research facilities to create a focus for communities interacting with researchers.
2. Recognize the consequences of research as a form of success. Research provides a form of economic development, informal education, and a way of filling gaps in basic infrastructure. For example, in one remote community in the North, a pediatrician conducted research. There were many volunteers from the community because it was the

first opportunity in a long time for their children to see a doctor. Good research should produce more than scientific publications. There should be a contribution to the community – for example, addressing basic human needs.

3. Use the models of the Northern Contaminants Program and the National Health Survey for best practices and good governance. The Northern Contaminants Program has a set of guidelines for project leaders for initiating community contacts and developing research agreements with communities. These include considering key points around consent, research obligations, research relationships, communications and reporting of health risks.¹⁸ The National Health Survey has guidelines and standards for collecting information and informing users about collecting, processing, analysing and assessing the accuracy of these data, as well as any other features that affect their quality or “fitness for use.”¹⁹

Priority

Interviewees judged this to have relatively low priority.

Suggested IOG Follow-up

Nothing specific needs to occur at this time.

¹⁸ www.ainc-inac.gc.ca/ncp/opmgmgui_e.html

¹⁹ www.statcan.ca/english/concepts/index.htm

RECOMMENDATIONS 28 AND 29

Transmit messages from the Dialogue back to northern leadership, including the Aboriginal community, in the form of a progress report authored by the three granting agencies; and Have the three agencies report on use of the information generated from the Dialogue. In particular, describe any resulting actions and express a long-term vision.

Rationale

The Dialogue should be kept going and northern participants informed.

Current Status

There are two phases involved in accomplishing this recommendation. The first was to distribute the summary report from the Dialogue to all participants. This has been done. The report is also on the Web sites of SSHRC, CIHR and NSERC. Furthermore, CIHR has sent the report to people interested in relevant health issues. In the second phase, a report analysing the recommendations so as to guide the actions of stakeholders will be prepared. This document is part of that effort. The granting agencies will provide a formal response to this report, and it will be distributed to stakeholders.

Obstacles

1. The distribution of the summary report was limited. After the Dialogue, the northern partners dispersed and there was little uptake.
2. Establishing a committee to monitor progress is not the right way to go. One federal official even said that he was already involved in too many committees.
3. The recommendations are too much like a shopping list. There needs to be a better distillation of them into four or five key recommendations.

Options

1. Include municipalities as part of the northern leadership.
2. Detail the plan further, including a long-term plan with a budget.
3. Link the IPY to the results of the Yukon Dialogue.
4. Take direct action related to the Dialogue. The intention should be communicated widely. State who is to be included in the next step.
5. Do not let the recommendations sit on the shelf. A sustainable and long-term plan is needed.

Relative Priority

Continuing the Dialogue is essential. With the coming IPY, there is momentum. This is the best time for forward thinking and presents a unique opportunity.

Suggested IOG Follow-up

The three funding agencies should ensure that this report gets wide distribution. In addition, the special ad hoc group that the IOG recommended earlier should ensure that findings from meetings to address northern research issues are widely distributed.

RECOMMENDATIONS 30 AND 31

Extend the Dialogue to other parts of the North; and Organize regular Dialogues on Northern Research to ensure accountability, process review and useful building on previous ideas (every two to four years).

Rationale

The Dialogue has had a positive effect on the research community. A commitment to follow up would keep the momentum going. It is imperative to develop a national strategy for the entire North, not just for those who participated in the Dialogue. Canada's polar North includes the northern regions of provinces, including northern Quebec and northern Labrador. The provincial North often feels marginalized. The Dialogue workshops need to be ongoing, and held in different communities throughout the North.

Current Status

Another Dialogue is planned for 2007. This will be coordinated with the IPY. The Planning Committee will be revived, and its members will contact all players and identify who else should be involved.

Obstacles

1. The idea of what the "North" is might not be adequately considered.
2. The Dialogue should not be the same thing each time.
3. Holding a meeting in the North is not an efficient way to hold a Dialogue, partly because it is just one event and not ongoing. The money would be better spent creating a place where people can meet.
4. The Dialogue was an Ottawa-based initiative and there was not much opportunity for communities to get involved. There were not enough northern people and not all participants were the most relevant. The interviewees emphasized that Aboriginal perspectives are crucial to the success of the next Dialogue.

Options

1. Include more groups that represent a wider range of people (e.g. based on gender and community). Also, expand the participation of Aboriginal people to achieve a better balance between Aboriginal people and researchers.
2. Reduce the number of recommendations.
3. Assign responsibilities for future recommendations. Names and responsibilities should be listed with the recommendations.
4. Organize the Dialogue so that it emphasizes the importance of education for northern research.
5. In terms of geography, satellite technology could be used to link two sites.

Suggested IOG Follow-up

The IOG, in the Conclusions and Next Steps section of this report, has made a specific recommendation for the next Dialogue.

RECOMMENDATION 32

Establish a new Canadian Ministry of Circumpolar Affairs.

Rationale

A new ministry would help develop an integrated Canadian policy on the North. It would address sovereignty needs, defence policy and foreign affairs. It would also be relevant to research because it would have a strong facilitative role and move capacity forward in a qualitative way.

Current Status

There has been no progress on this recommendation, but there has been interest. In particular, Karen Kraft Sloan, former MP and Chair of the Northern Science and Research Caucus, has promoted this idea.

Obstacles

1. Interviewees suggested the major obstacle in establishing such a ministry would be the requirement for prime ministerial approval, given the government's other priorities.

Options

1. Set up a new ministry to unify northern policy and integrate the activities of different departments and agencies.
2. Do not set up a new ministry. Instead, change the attitudes of government departments to facilitate research. Also, the Northern Strategy and the IPY will provide the integration function in an adequate manner.

Suggested IOG Follow-up

Nothing needs to be done at this time. The Northern Strategy will, no doubt, address the machinery of government in terms of achieving better horizontal coordination across the federal system.



III. Conclusions and Next Steps

The renewal of Canada's northern research capacity is a growing priority in light of the unprecedented changes occurring in the North. Issues such as resource development, self-governance, sovereignty and climate change demand evidence-based policies and responses that will safeguard the health and economic well-being of northerners, and Canadians in general.

The global scientific community is acutely aware of the importance of these massive, yet little understood regions of the planet. For only the fourth time in 125 years, scientists from around the world will converge on the polar regions of Canada and other countries to increase our collective understanding of the many geophysical phenomena that influence nature's global systems. The next International Polar Year (IPY), which will actually run from March 2007 to March 2009 (scheduled over two years to ensure that researchers get the opportunity to work in both polar regions or work summer and winter if they wish) will see an estimated \$1 billion spent by over one hundred participating nations on a range of multidisciplinary projects.

As the world's second largest Arctic country, it is imperative that Canada contribute its fair share to the IPY and have the capacity to host many of the foreign scientists who will be conducting research in Canada's North. Canada will be the main Western nation hosting the IPY, and according to one interviewee, could attract some 2,500 researchers to remote Canadian regions that are ill-equipped to accommodate them.

While Canada has made progress over the past five years in improving its northern research capacity, much more must be done within a relatively short time frame if we are going to participate as equal partners in the IPY.

Fortunately, the Government of Canada has taken some important first steps towards improving northern research. Its 2003 budget, in particular, contained nearly \$82 million

International Polar Years

1882-1883: Focus on geophysical phenomena

1932-1933: Focus on the newly discovered "jet stream"

1957-1958: Focus on geophysics

2007-2008: Focus on polar processes and global linkages

in new funding to support research, infrastructure and logistical support in the North. More recently, in December 2004, the federal government and territorial governments released a Framework for a Northern Strategy. Among its stated goals is "To ensure that Canada is a leader in northern science and technology, and to develop expertise in areas of particular importance and relevance to the North."

The granting agencies, working collaboratively with northern stakeholders, governments and researchers, will play a central role in both the IPY and the development of a Northern Strategy. Over the past five years, the granting agencies and partners have made significant progress in identifying Canada's strengths, gaps and barriers to northern science, as well as short-term and longer-term actions to improve the approach to, and capacity of, research in the North.

The March 2004 Dialogue on Northern Research in Whitehorse, Yukon, provided an important opportunity to deal with these issues. The workshop resulted in 32 recommendations for improving northern research capacity. Following the Dialogue, the Institute On Governance conducted a series of follow-up interviews with key stakeholders to examine the status of the 32 recommendations, to identify which are the most important and to recommend further actions.

Of the 32 recommendations, interviewees identified six as top priorities requiring immediate attention and action:

Develop an integrated research strategy.

An overarching vision and research strategy is needed to link the various stakeholders and approaches for improving research in the North.

Invest in the next generation as soon as possible.

Interviewees overwhelmingly decried “the appalling state of education” in the North. Many claimed that capacity building in northern research will not happen unless there are major changes to education in the North, starting at the elementary and high school levels.

Build a place for high-calibre northern research activities or improve existing ones.

Facilities for research in the North are in a state of disrepair or are lacking basic requirements. Researchers need places to work, meet, connect with each other, and they need the means to share data and establish networks.

Ensure access to, sensitivity to and integration of traditional knowledge in research.

The colonial mentality has to be eradicated in conducting northern research. Traditional knowledge must be respected and has already proved valuable in some research. Also, Elder knowledge is disappearing and there is an urgent need to record it. However, this should be done by northern communities and not seen as a “laboratory subject” by southern researchers.

Continue the Dialogue, broaden it and transmit its messages.

The 2004 Dialogue has had positive results. It should be continued and held in other parts of the North. Informing stakeholders of the results of the Dialogue will be effective in achieving its aims.

Develop a tri-agency strategy for northern research and review funding criteria.

Many of the recommendations involve changes to granting agency requirements for the funding of northern research. The granting agencies should re-examine qualifications for funding and expand the means to incorporate northerners and the support of northern communities in the funding process.

Next Steps

The IPY and Northern Strategy represent excellent opportunities for advancing northern research, both in the short term and in the long term. But Canada will have to work hard to catch up to other countries that are investing heavily to understand the changes in the North and the global effects of these changes.

In the short term, Canada must look at ways to attract more research dollars, undertake new projects and start rebuilding infrastructure. In the long term, there is an opportunity to address difficult problems, including the lack of human capacity, the lack of capital infrastructure, insufficient funding and an ailing northern education system.

Any actions that are taken must include participation – at the early planning stages – by northern governments, researchers and communities. The granting agencies have made significant progress on this front. SSHRC’s Aboriginal Research and CURA programs offer opportunities for Aboriginal organizations and communities to participate in research programs and processes. CIHR has a strategic initiative in Rural and Northern Health Research and the CIHR Institute of Aboriginal Peoples’ Health funds community-based research requiring the participation of the Aboriginal community. This includes northern communities. A primary objective of NSERC’s Northern Research Chairs Program is to build northern research partnerships. Building on this experience is crucial.

In the context of these opportunities and the need to address difficult problems, the Institute On Governance recommends two main actions.

1. The three granting agencies should lead the establishment of an ad hoc, multi-stakeholder group to address the issues raised and the suggestions for action from the current research.
 - a) The group should address the following short-term issues:
 - the need for a harmonized licensing process (Recommendation 6)
 - the need for a northern research inventory or list (Recommendation 4)
 - the lack of centralized infrastructure (Recommendation 13)
 - exchanges between universities and colleges (Recommendation 7)
 - recognition of and respect for northern needs, values, Aboriginal cultures and traditional knowledge (Recommendations 8, 12, 18, 20, 21)
 - an effective communications program to build a constituency for northern research among all Canadians (Recommendation 22)

b)The group should determine how it might collectively influence the IPY and Northern Strategy processes on longer-term issues:

- human capacity
- capital infrastructure
- territorial education
- governance issues
- resourcing issues (for granting agencies, territories and colleges)

2. The design of the next Dialogue should take into consideration options and suggested actions from the present research. For the next Dialogue, we recommend four actions:

- a)Design the Dialogue to have more focus on specific themes. These themes should be coordinated with participation in the IPY and the development of the Northern Strategy.
- b)Ensure that more attention to follow-up occurs. Interviewees said there was limited distribution of the Dialogue report and little uptake of the ideas. Therefore, the next Dialogue should:
 - allocate more time at the session to talk about actions
 - assign responsibilities for actions
 - put in place a mechanism to track actions over time

c)Experiment with two or more locations for the next Dialogue using a satellite hook-up. This will enable broader participation, especially of people in remote communities and people who are unable to travel to the Dialogue.

d)Ensure that the Dialogue is more inclusive. Include more Aboriginal people and people from northern communities, as well as better gender and regional representation.

Canada has made significant progress over the past five years in rebuilding its northern research capacity. While this progress is an encouraging first step, a larger and sustained commitment is required. The granting agencies are strategically positioned to bring together government and northern stakeholders to develop a coordinated response to many of these initiatives, but they are financially limited. A sustained commitment by the Canadian government to northern research will assist the country in its effective stewardship of this massive region and at the same time strengthen Canada's role as an international collaborator in northern science.





APPENDIX 1

Dialogue Recommendations

Policy

Recommendations

1. Develop an integrated northern research policy using a Steering Committee in the North and with indigenous groups on the Committee providing input into proposals and implementation (link this policy development to International Polar Year).
2. Broaden and continue the Dialogue to develop the northern research strategy with adequate funding to existing research institutes.
3. Encourage the territorial governments to develop research plans.

Building Research Capacity and Involvement

Recommendations

4. Develop a northern research inventory or Web site directory of current researchers, groups, contacts, capacities within universities, government and northern organizations.
5. Ensure sustainable research funding at the community level.
6. Develop a harmonized licensing or permitting process for researchers in the territories.
7. Establish undergraduate exchanges between colleges and universities.
8. Access and record Elder knowledge (traditional knowledge) with due urgency.
9. Place innovators in the schools as field experts with stable funding to create a year-round connection to students and researchers.
10. Invest in the next generation as soon as possible.
11. Help develop resident capacity and northern involvement in all stages of research in local, national and international issues.
12. Encourage the research community at large to recognize the needs and values of northern Aboriginal cultures and traditional knowledge.
13. Build one or more places for high-calibre northern research activities which would include storage of databases, library, meeting facilities, networking, etc.
14. Develop “NCE-lite” – a network that is smaller, “lighter,” and more manageable than a regular NCE (Network of Centres of Excellence) to help link existing facilities, expertise and funding.

Funding Priorities and Decision Making

Recommendations

15. Establish a peer-reviewed, tri-agency strategic funding envelope for new emerging teams in multidisciplinary northern research.
16. Infuse \$1-2 million to foster high-quality research in the North.
17. Develop a tri-agency strategic program for the North with stated principles.
18. Have agencies that fund research emphasize territorial-based research and the importance of reporting back to the community, capturing its interest and exchanging ideas.
19. Establish a community relevancy review and community input processes for ethics.
20. Review research proposal criteria and set evaluation criteria to ensure sensitivity to northern needs and to encourage the integration of traditional knowledge with other scientific findings.
21. Encourage the inclusion of northern Aboriginal organizations in the review processes.
22. Build a constituency for northern research through meaningful messages to all Canadians, coordinated by the three granting agencies and researchers.
23. Develop pilot projects and dedicated funding for research conducted by northerners with a northern decision-making board.
24. Encourage cross-cutting planning across the three granting agencies.
25. Establish seed funding to consult with communities very early in the project formulation stage.
26. Recognize community in-kind contributions in making funding decisions.
27. Build on successful governance models and best practices.

Next Steps in the Dialogue

Recommendations

28. Transmit messages from this Dialogue back to northern leadership, including the Aboriginal community, in the form of a progress report authored by the three granting agencies.
29. Have the three agencies report on use of the information generated from the Dialogue. In particular, describe any resulting actions and express a long-term vision.
30. Extend the Dialogue to other parts of the North.
31. Organize regular Dialogues on Northern Research to ensure accountability, process review and useful building on previous ideas (every two to four years).

Other

Recommendation

32. Establish a new Canadian Ministry of Circumpolar Affairs.

APPENDIX 2

Workshop Proceedings: Dialogue on Northern Research

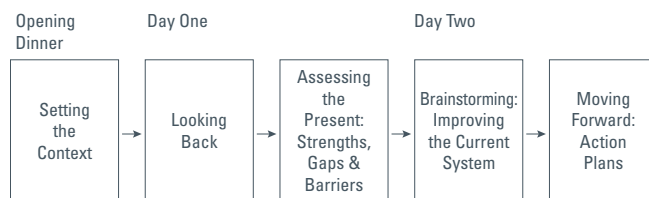
MARCH 25-27, 2004,
WHITEHORSE, YUKON

Dialogue Objectives

- Facilitating the networking opportunities for stakeholders interested in northern research;
- Providing an opportunity for stakeholders to identify strengths, gaps and barriers in northern research and ideas for addressing those gaps and barriers; and
- Identifying actions to improve northern research and collaboration between natural sciences, social sciences and health sciences researchers, research users and research funders.

To meet these objectives, the planning committee, which consisted of some 27 individuals representing a wide variety of organizations with an interest in northern research, with the assistance of the Institute On Governance, designed the Dialogue as depicted below.

Dialogue on Northern Research Principal Elements of the Agenda



Speakers

- Sally Webber, President, Yukon College
- Ed Schultz, Grand Chief, Council of Yukon First Nations
- Isabelle Blain, Vice-President, Research Grants and Scholarships Directorate, NSERC
- Daryl Rock, Director, SSHRC
- Dr. Jeff Reading, Scientific Director, Institute of Aboriginal Peoples' Health, CIHR
- John Cheechoo, Environmental Policy Advisor, Inuit Tapiriit Kanatami
- Dr. Jill Watkins, Environmental Scientist, INAC
- Dr. Jim McDonald, Vice-President, Association of Canadian Universities for Northern Studies
- Dr. Peter Harrison, Senior Research Fellow – Oceans, National Research Council Canada
- Dr. Martin Fortier, Executive Director, ArcticNet
- Larry Bagnell, MP, Yukon
- Dr. Peter Johnson, Chairperson, Canadian Polar Commission

Opening Dinner: Setting the Context

Thursday, March 25

Elder Stanley James from the Carcross/Tagish First Nation said the opening prayer.

Following dinner, **Sally Webber**, President of Yukon College and host of the Dialogue event, welcomed participants to Whitehorse and thanked the members of the planning committee for their hard work in organizing this initiative.

Representatives of the three federal granting agencies – **Isabelle Blain** from NSERC, Daryl Rock from SSHRC and **Dr. Jeff Reading** from CIHR – then reviewed the mandates of their organizations, described some of their principal research initiatives in the North and noted some of the challenges they saw in conducting northern research. A common theme among all three speakers was the need to search for ways to increase collaboration across disciplines and between the agencies in order to better serve the needs of northerners.

Among the recent initiatives undertaken by the granting agencies of direct relevance to northern research are the following:

- The development by NSERC of six Northern Research Chairs, supplements of scholarships for students, research internships to build northern research capacity and grant supplements to deal with logistical costs;
- SSHRC establishing Aboriginal Peoples as one of its four research priorities and, after extensive dialogue, the launch of dedicated research programs in Northern Research and Aboriginal Peoples Research; and
- The creation through CIHR of the Institute of Aboriginal Peoples' Health, the only nationally funded research organization in the world to deal exclusively with the health issues of indigenous peoples, and the launch of Rural and Northern Health Initiatives.
- Support for a Network of Centres of Excellence focused on the North (ArcticNet).

Sally Webber then introduced **Ed Schultz**, Grand Chief of the Council of Yukon First Nations. He began by setting the context for research within the culture of the North. Among other things, he noted that First Nations peoples now have a better understanding of what researchers do and what benefits they as First Nations can derive from research. He also complimented researchers on their growing sensitivity to the needs and perspectives of First Nations. From his vantage point, this aspect of northern research has improved significantly.

He then proceeded to outline a major concern among his people – the growing and harmful effects of climate change. He emphasized the multiple impacts on the health and on the social and physical environment of the North, including:

- environmental damage from dump sites situated on melting permafrost;
- increased runoff into streams, lakes and rivers;
- habitat changes (e.g. the growing lack of certain berries and root plants); and

- potential changes in the migration patterns of caribou.

While the North has known dramatic climate changes in the past, what makes the current situation so worrisome is the speed at which this is now occurring.

He concluded by encouraging all involved in northern research to continue attempts to move across “silos” in a way that might be instructive to governments across Canada.

Sally Webber concluded the evening by giving the keynote address, which focused on two ideas to be addressed by this Dialogue event: research by northerners and enhanced research with the North. Her objective was to provide some provocative ideas for participants to discuss over the next two days.

She introduced the concept of an “ecotone,” a place of transition between two distinct ecosystems, such as between a forest and tundra or a shoreline. “Ecotones” are on the “edge,” are a place for potential competition and are rich in diversity. This concept serves as a useful metaphor for better understanding northern research: that is, there is a need to understand both systems (the North and the South) so the “edge” where they meet can be better managed.

The resident northern research “system” has a number of important characteristics:

- Most research is conducted alone, without collegial support.
- Most research is conducted or sponsored by governments (there is an absence of hospitals, universities and commercial organizers as other sources of research).
- Northern researchers deal with pressing issues of concern to northerners (e.g. sustainable development, Aboriginal governance initiatives, the fragile environment); this encourages a pragmatic approach that is community driven.
- The North is a welcoming environment for innovation (new knowledge can have a profound effect in a short time period).

The southern system differs in many of these characteristics. For example, its principal audience tends to be scientific peers and it has more international orientation.

Ms. Webber then presented six ideas for participants to ponder during the upcoming sessions:

1. Invest in northern research infrastructure (e.g. build on the modest infrastructure that exists now in the three northern colleges).
2. Emphasize improving the “basics.” Researchers need places to think, basic equipment and elementary “on the ground support.”
3. Involve northern communities in your research, engaging existing northern networks.

4. Ensure that research results are disseminated in a language that people can understand and in a manner that is easily accessible (e.g. Web sites, conferences).
5. Develop a focused research agenda for the North, one that eliminates the silos of the three granting agencies.
6. Place more emphasis on including the perspectives, values, cultures and worldviews of Aboriginal peoples in northern research.

She concluded her remarks by wishing participants success in their deliberations.

Elder Stanley James then closed the evening with a prayer.

Day One: Friday, March 26

Elder Stanley James from the Carcross/Tagish First Nation said the opening prayer.

The Day One agenda featured four principal sessions:

- Looking Back: Key Events in Northern Research

- Panel Discussion: Progress and Trends
- The Present: What Should We Retain and Build On?
- The Present: Key Challenges – Gaps and Barriers in Northern Research

In addition, **Dr. Peter Harrison**, Senior Research Fellow – Oceans, National Research Council Canada, was the luncheon speaker. **Dr. Martin Fortier**, Executive Director, ArcticNet, was the keynote speaker at dinner.

Summaries of the four sessions and the two speakers follow.

A. Looking Back: Key Events in Northern Research

The facilitators asked participants seated in round tables of eight to identify some of the positive and negative events that have had a significant impact on northern research. Participants came up with the following:

Decade	Positive	Negative
1880 and before	International Polar Year Neutral – Indigenous knowledge Geological Survey of Canada, 1842 HBC (Hudson's Bay Company) Archives Technology expansion (photogrammetry) Franz Boas (anthropological research in the North) Yukon Iceman (Kwanlin Dun) Lowe exhibition Traditional diet Prime Minister Laurier and Captain Bernier (sovereignty issues) Search for Northwest Passage Traditional medicines European contact Gold Rush	Inuktitut – use or lack Effort to do away with Aboriginal languages and culture – a loss Gold Rush Mining contamination Residential schools
1900		Cutbacks to monitoring (ND)
1910	5th Thule Exhibition	
1920	Yukon/Alaska Boundary Commission <i>Northern Oil and Gas Act</i>	<i>Northern Oil and Gas Act</i>
1930	International Polar Year II Air travel Discovery of gold near Yellowknife	Air travel Discovery of gold near Yellowknife

Decade	Positive	Negative
1940	Alaska Highway Canol pipeline Voyages of the <i>St. Roch</i>	Alaska Highway Banfield Barren Field Caribou Survey, 1949 Canol pipeline Eastern Arctic Patrol (CD Howe) Relocation of Inuit to Grise Fiord/Resolute Bay World War II
1950	1958 Polar Continental Shelf Project Defence Research Board, 1958 Anik satellite launch SS <i>Nautilus</i> (submarine) International Geophysical Year Aurora Station Militarization of DEW line CD Howe Arctic Control <i>NWT Science Act</i>	Militarization DEW line Lack of archiving Forced relocation of Inuit
1960	NCRC (Northern Contaminants Research Centre) 1962 – NSTP (National Scientific Training Program) 1969 <i>Manhattan</i> (ship in the Northwest Passage) Decolonization Oil discovery at Prudhoe Bay, Alaska White Paper Peace Athabaska Delta Study	Oil discovery at Prudhoe Bay, Alaska White Paper Pollution from mining
1970	Royal Commission on the Status of Women Berger Report, 1977 Man in the Biosphere Program, 1977 James Bay agreement (JBNQA) 1974, Dene Declaration 1975, Science Dialogue Inuit Circumpolar Conference (ICC) and Inuit Tapiriit Kanatami 1975 Inuit land use and occupancy study Formation of ACUNS (Association of Canadian Universities for Northern Studies) International Biological Project Foreign ambassador tour <i>Northern Oil and Gas Act</i> Umbrella agreement Decolonization	Berger Report Animal rights movement Fur ban James Bay agreement (JBNQA) 1975 Science Dialogue <i>Northern Oil and Gas Act</i>
1980	1986 Inuvialuit final agreement Creation of the three colleges and research institutes Northern Contaminants Program 1982 – Arctic Council	Broughton Island (Qikitarjuaq) event, 1985

Decade	Positive	Negative
1980 (continued)	Broughton Island (Qikitarjuaq) event, 1985 Section 35 Constitution 1983 ACUNS scholarship started Canadian Society for Circumpolar Health ACUNS Ethics Principles for the conduct of research in the North Co-management review boards (Inuvialuit, Nunavik, Nunavut) Umbrella final agreement	
1990	TEK recognized value and diet Diamond Rush RCAP (Royal Commission on Aboriginal Peoples) Internet Kyoto Accord 1993 Arctic Borderlands Ecological Knowledge Co-operative ACUNS ethical principles for northern research Climate Change research Recognition of benefits of traditional food	1998 – climate change Diamond Rush Contaminants Federal program review – funding cuts for monitoring stations End of Soviet research
2000	University of the Arctic Cancellation of <i>Placer Yukon Mining Act</i> (licensing changes) NSERC/SSHRC Task Force on Northern Research Report CIHR – IAPH (Institute of Aboriginal Peoples' Health) CFI – icebreaker ArcticNet SHEBA – Surface Heat Budget of the Arctic Governor General tour Reconciliation for residential schools “Iceman”	Devolution

The facilitators concluded this session by pointing out a significant trend, certainly since the 1980s, that positive events have become more prominent and numerous than negative ones.

B. Panel Discussion: Progress and Trends

Three panel members gave opening remarks on the progress and trends of northern research and then answered questions.

John Cheechoo, Environmental Policy Advisor, Environment Department, Inuit Tapiriit Kanatami

Inuit Tapiriit Kanatami (ITK) is a non-profit organization dedicated to the needs and aspirations of Inuit and was formed in 1971 by Inuit to act as their national voice. It represents

close to 50,000 Inuit/Inuvialuit living in 53 communities in Canada's North. ITK was a catalyst for Inuit land claims, the establishment of the Inuit Broadcasting Corporation, and inclusion of Inuit into Canada's Constitution. Since then, ITK has broadened its aims and objectives in response to the changing social, economic, environmental and political challenges facing Inuit.

Following this overview of the ITK, Mr. Cheechoo asked this very broad and simple question: “What is the purpose of research and who is it for?”

ITK has been involved in research activities and has utilized research information as a supportive tool to do its work on behalf of Inuit, whether it concerns environmental, wildlife

species, nutritional, health, social, cultural, demographic, economic or legal-constitutional issues. To cite one example, ITK and Inuit regional organizations partnered with the Université Laval and Statistics Canada and jointly developed and undertook the Inuit communities' portion of the 2001 Aboriginal Peoples Survey. On another level, ITK, with Inuit land claim organizations and academic research partners, have been holding climate change workshops in northern communities since 1999. Inuit have reported extraordinary changes in the environment as a result of climate change, such as melting permafrost resulting in damaged homes; longer ice-free seasons; changes in the migration patterns of birds and caribou; new species of birds, fish and insects; and a general warming trend.

This project has helped obtain valuable information from a previously unknown and valuable perspective – that of the Inuit. The research has helped to answer larger scientific questions. But this small project has helped in another way – it has helped build capacity at the regional and community levels. Further, the research has helped national and regional Inuit organizations gain credibility in the eyes of academia and governments, leading to improved Inuit involvement in climate change research. Clearly research in the North has many benefits and purposes.

ITK certainly envisions research to be useful for many things that can and do benefit Inuit, including benefits in the areas of policy development; capacity development; education and training for youth; community development; strengthening community awareness and knowledge of science; resource/wildlife protection and management; better overall awareness of Inuit issues (on a national and global scale); and cultural protection and enhancement. Inuit support scientific research. Communities see a need for it. However, Inuit want it done in a way that appropriately involves them, their particular perspectives and their needs for research. Inuit see a need to be meaningfully and legitimately involved in the entire research process from the initial stages that define research priorities and the development of initiatives right through to the stages of communicating results. There is a need for longer-term projects, for using Inuktitut, and for capacity building.

Research is about people and for people; research is about policy, capacity and environment; it is about partnership, learning and adapting; and about respecting and helping one another. It is about the future of life in Canada's North.

Mr. Cheechoo concluded his remarks by repeating his opening question, "What is the purpose of research and who is it for?" He left participants to consider this in a northern context and answer it for themselves.

Dr. Jill Watkins, Environmental Scientist, Northern Science and Contaminants Research Directorate, Indian and Northern Affairs

The Assistant Deputy Ministers (ADM) Committee on Northern Science and Technology, currently co-chaired by the Department of Fisheries and Oceans (DFO) and Indian and Northern Affairs Canada (INAC), is pursuing a focused and practical agenda to promote better use of opportunities for cooperation both within and outside of the federal government.

The 2003-2005 period will focus on three main activities. The first objective is to update the Northern Science and Technology Federal Framework and Research Plan. This document will respond to national and international needs for organized information and will help the federal government maximize the return on federal investment in science and technology. This project, which is near completion, highlights the major issues faced by the North, and describes federal programs that address them. Those programs, which are characterized by horizontal sharing of resources and collaborative activities, are highlighted, as are future major opportunities for collaboration, such as ArcticNet. The second objective, establishing a forum to bring together researchers with various areas of expertise in the North, is being met by the current Dialogue on Northern Research. The third objective is to determine the options for a coordinated approach to federal involvement in the International Polar Year (IPY) 2007-2008. The goals are to weigh options for planning, coordination and funding by the federal government.

Lastly, INAC is committed to establishing a more strategic approach to northern science and technology to identify gaps and priorities, and has proposed funding a dedicated secretariat committed to coordinating federal involvement in the IPY. Such a secretariat would need support from a number of departments and agencies to be successful.

Dr. Jim McDonald, Vice-President, Association of Canadian Universities for Northern Studies (ACUNS)

The Association of Canadian Universities for Northern Studies is a national-level organization of 32 institutes of higher education whose purpose is to provide institutional means to bridge gaps between northern and southern researchers, teachers and institutions.

Northern studies have changed in Canada. The promotion and encouragement of the next generation of northern scholars is crucial. The North is no longer simply a living lab for southern researchers, but should be viewed as someone's home and back yard, where ethics must be respected. New ethical standards are required, and the ACUNS ethical guidelines are useful in this regard. A more collaborative approach will help to decolonize the research process, and to define northern-

relevant research such as climate, health, needs of northerners, social policy issues, pollution, and non-renewable resource exploitation. Currently, federal government departments need to improve their capacity to integrate research. It must also respect and respond to the needs of northerners by strengthening and expanding national and local structures for northern research, and by supporting culturally safe research strategies.

In recent years, Canada's North has become part of the emerging concept of the circumpolar world, where people of the North are no longer looking south, but east and west to other circumpolar northern communities. It is important that national and international granting agencies accept this circumpolar view, and that they establish creative thinking and ways to foster the involvement of young northern people so that they can benefit from education and the experience of northern research.

Issues, questions and points of views that arose in the question and answer period following the presentations by the three speakers included the following:

- Is a paradigm shift required in northern research so that southerners provide northerners with “tools” to do research rather than have southerners do the research for them?
- Should granting agencies place more emphasis on helping the “consumers” of research to build the critical skills necessary to make good use of the products of research?
- Communities must be involved throughout the range of research activities, from defining the research agenda to communicating the research results.
- How might linkages be improved among departments within the federal government (the horizontality issue) and between federal agencies and outside groups?
- The North has international importance (e.g. the world impact of Arctic ice disappearance), with the result that all northern research, while community-relevant, may not be community-based.
- Where one lives (the political jurisdiction) should not define who is a “northerner.” The North should rather be seen as a community of people who live in and love the North.
- All research is “community-based” in the sense that a community of scientists, for example, have a shared perspective and set of assumptions, often not explicitly stated.
- A shift in paradigms is needed to put more emphasis on northern students, a shift that may not yet be reflected in the application forms of the granting agencies.
- What needs to be put in place in a society going through a painful process of decolonization so that its members can participate as equals in scientific pursuits? (i.e. encouraging collaboration calls for more than an attitude – it needs empathy).

Keynote Speaker: Peter Harrison, Senior Research Fellow – Oceans, National Research Council Canada

After congratulating the organizers on this unique event involving the granting agencies, government departments, researchers and community members, Dr. Harrison elaborated on a number of challenges, including the following:

- **Partnerships and horizontality:** It is readily apparent that no individual organization in the federal government or within a university can do serious science in isolation. The synergy of partnerships to tackle complicated societal issues is critical if we are to move ahead.
- **Sustainability:** Almost every discussion of problems in the public domain includes mention of “sustainability,” but defining what we mean by this term and how we can give it practical expression is no easy task.
- **Communities:** The notion that scientists know best is fast disappearing, but the challenge of how to involve northern communities in all aspects of research continues. We have made significant progress but have a long way to go.
- **“Why and for whom?”:** Asking why and for whom science is being done is also important to consider, as well as when and by whom.
- **Technology:** We can't separate science from technology. For example, consider how important the airplane has been to communities and the conduct of science in the North.
- **The North as a bellwether:** No region of the world is more affected by outsiders than the North. Consider the importance of climate change, for example. In this sense, the North is a bellwether or a litmus test for the rest of the world.
- **Commodity prices:** So much of the pace and direction of northern development have been set up by the prices of base metals, oil, gas, etc.
- **Being holistic:** So many of our current environmental problems in the North have resulted from past decisions based on narrow, economic criteria. The challenge is to be holistic and to have a long-term outlook.

Following this discussion of challenges, Dr. Harrison offered the following suggestion to the granting agencies. He noted that many speakers at this Dialogue session pointed out the need to build northern capacity. Building on these remarks, he wondered if a national centre of excellence could be established in the North, supported in part by southern partners. This could be a great initiative as one of Canada's contributions to the International Polar Year and could help put the North “on the radar screen.”

He closed by noting that the more people in the South have a feel for the North, the better off the North will be in pursuing its objectives.

C. The Present: What Should We Retain and Build On?

The facilitators asked participants to discuss the following question in small groups: What aspects of northern research are positive and worth building on? After writing the groups' answers to this question on flip charts, the facilitators then asked participants, using dots, to indicate which of these aspects were the most important (the dot count for each item is in brackets). The six aspects deemed the most important by participants appear in bold.

1. **Community involvement in northern institutes (18)**
2. **Northern colleges as connection points (links south) (17)**
3. **Research partnerships – equality/capacity for northern communities (24)**
4. **Infrastructure – revival of the Polar Continental Shelf Project (PCSP) and improved access to government infrastructure (19)**
5. ACADRE (Aboriginal Capacity and Development Research Environments) – potential for community training (9)
6. Regional offices for program delivery (2)
7. Community infrastructure (e.g. Internet) (3)
8. International circumpolar trends (4)
9. Ethics and standards (2)
10. **Encourage new students in science (28)**
11. Develop mechanisms to systemize the use of traditional knowledge (9)
12. Large-scale/multidisciplinary regulations evaluation (8)
13. Sharing/building models – CBR (Community-based Research); ACADRE; CURA (Community-University Research Alliances); NSTP (Northern Scientific Training Program) (4)
14. Retention of present directions of the three granting agencies (re: collaborations) (6)
15. **Community-directed research (21)**
16. Developing research themes and funding for community-directed research – “sitting down for a tea” (4)
17. Logistical support for northern communities (legacy) (4)
18. Community environmental monitoring (3)
19. Mentoring youth programs (8)
20. Northern capacity (Canadian Northern Studies Trust, NSTP, Northern Supplements) (5)
21. ACUNS conference (3)
22. Tracking and licensing (1)
23. Student exchanges (international) (2)
24. Inuit student support (high school/university bridge) (8)
25. NSERC PromoScience (0)
26. Individual support mechanisms (1)
27. Cross-jurisdictional centre (0)
28. University of the Arctic – focus on positive and do not pathologize (3)
29. Northern dialogue in the North (3)
30. SSHRC development program (10)
31. Technological innovation in research and training (e.g. fishing) (4)

D. The Present: Key Challenges – Gaps and Barriers in Northern Research

The facilitators asked participants in their small groups to consider the following question: What essential northern research is not being conducted, and what are the principal barriers for doing effective northern research? Following their deliberations, groups came up with the following points. Again, utilizing a dot exercise, participants assessed the relative importance of each. The top 12 appear in bold.

1. **Need to communicate results back to communities in a way that is understandable (10)**
2. **Lack of a capacity inventory and a high-level gap analysis (9)**
3. **More research is required on impacts and ramifications of rapid and imminent economic development (12)**
4. **Lack of new models at the strategic and peer review levels of granting agencies specifically addressing northern community involvement (15)**
5. **Sustainability of research and researchers, including socio-cultural aspects (12)**
6. Youth involvement and education (1)
7. **Address gap in community-based interdisciplinary research generated by funding process and the culture of agencies and southern universities (13)**
8. Social research and long-term studies. Need more interdisciplinary research (3)
9. **Need better integration of traditional knowledge (9)**

10. Lack of cold climate technological/engineering research (1)
11. **Lack of an integrated Canadian policy on the North as a whole (12)**
12. There is no Yukon or Canadian research agenda (5)
13. Evaluation of research proposals needs more innovative criteria (3)
14. Lack of trust and credibility on both sides of funding – risk management (3)
15. Need for coordination at multiple levels and resources to support this coordination (2)
16. Need for negotiation about the purpose of research and respect of the position of those who will benefit from it (0)
17. Funding needs to be scaled to balance manageability of funds and the ability to tackle major projects (1)
18. Need to evaluate and re-engineer logistical support for northern research (1)
19. Lack of a multidisciplinary Network of Centres of Excellence (NCE) in the North and changes to funding mechanisms (5)
20. Lack of seed money for proposals for community-driven research (2)
21. **Lack of capacity of northern research by northerners due to the education system, which often fails to integrate cultural aspects (18)**
22. Failure to elucidate the purpose of the research – quality of life (6)
23. How to integrate the diversity of disciplines to achieve interdisciplinary rather than multidisciplinary studies (1)
24. Declining capacity in the South to carry out northern research (2)
25. **Lack of recognition and support of knowledge through University of the Land (16)**
26. Climate change – what’s next (8)
27. Determinants of healthy development (growing, ageing, and cultural aspects of dying) (3)
28. **Lack of continuity and long-term funding cycles (11)**
29. **Lack of research infrastructure in the North (14)**
30. Lack of knowledge mobilization/translation systems and tools (3)
31. Lack of expertise in Arctic biodiversity (0)

32. Lack of consideration of health as a collective issue (community level) rather than the individual level (8)

Elder Stanley James closed Day One with a prayer.

*Keynote Speaker: Dr. Martin Fortier,
Executive Director, ArcticNet*

Dr. Fortier began his address following dinner on Day One by setting the Arctic context. Among many changes affecting the Arctic, the most significant might be climate change. He presented evidence of this trend through a number of circumpolar temperature and ice cover maps and then put forward one model that predicted an open Arctic Sea, in summer, by 2050.

Potential impacts of Arctic climate change are many and include:

- coast and permafrost degradation;
- changes in freshwater and food supplies;
- economic opportunities (e.g. more tourism, Northwest Passage);
- emerging diseases (e.g. from diet change); and
- globalization.

Having set the Arctic context, Dr. Fortier described the organizational set-up of the Networks of Centres of Excellence (NCE). Presidents from the three granting agencies and the Deputy Minister of Industry for Canada form an overall steering committee supported by a small secretariat. This steering committee has approved and funded the establishment of 21 NCE, each with its own board of directors (each NCE is an incorporated body).

ArcticNet is one of these 21 NCE. It now has 95 network investigators from 21 universities with a broad mandate relating to training, provision of stable research platforms, consolidating international participation (50 international researchers from 11 countries), involving northern communities and institutes, and contributing to the development and dissemination of knowledge.

ArcticNet has funding for seven years with possible renewal for a second seven-year period. The funding at its disposal is directed principally at supporting research networks as opposed to funding research. It has a Scientific Director, an Executive Director and a five-person administrative centre. The overall governance of ArcticNet is the responsibility of a board of directors, which includes representatives of ICC, ITK and regional Inuit organizations.

Dr. Fortier stressed the amount of time needed to develop a viable proposal for a new NCE – ArcticNet traces its establishment to activities that started in the late 1980s.

Four research themes provide the current focus for ArcticNet:

1. climate change in the High Arctic;
2. food, water and resources;
3. managing the largest Canadian watershed in an emerging climate (Hudson Bay); and
4. adapting policy to a changing Canadian Arctic.

In addition, there are a number of “integrating” topics crossing themes, such as the opening of the Northwest Passage.

Two priorities for ArcticNet are to increase the participation of the social sciences in its work and increase the involvement of local communities. (Dr. Fortier gave several examples of the latter that occurred this past year.)

He concluded his remarks by making a number of suggestions:

- There are many changes needed to the granting agencies’ format before non-university institutions can access agency funds. We need to start from the base (colleges) and not aim directly for the NCE.
- There is a new NSERC program aimed at colleges and they should attempt to access this.
- Multi-stakeholder workshops, properly designed, can be helpful in building momentum.
- Emphasize education and youth involvement.
- Develop linkages with communities.
- There is a need to engage industry.

More information on ArcticNet can be found at www.arcticnet.ulaval.ca or martin.fortier@arcticnet.ulaval.ca.

Day Two: Saturday, March 27

Elder Stanley James opened the day’s proceedings with a prayer.

The Day Two agenda featured three principal sessions:

- Brainstorming: Tackling the Key Challenges
- Moving Forward: Priorities for Action
- Concluding Comments

In addition, there were two keynote addresses. The Honourable Larry Bagnell, MP, Yukon, began the day by addressing participants. Dr. Peter Johnson, Chairperson, Canadian Polar Commission, gave an overview of international activities following lunch.

Summaries of the three sessions and the presentations of the two speakers follow.

Remarks: The Honourable Larry Bagnell, MP, Yukon

According to Mr. Bagnell, the Dialogue on Northern Research is a great step towards enhancing opportunities for interdisciplinary research that meets the needs of northerners, and which transcends research, political and cultural boundaries. Ideally, northern research should be carried out “in the North, for the North, and by the North.”

The collaborative efforts of all three granting agencies at this Dialogue address a critical need for a more integrated approach to the support of northern research. Holding the Dialogue in Whitehorse highlights the newfound commitment to involving northerners in northern research and recognizing the value of traditional knowledge. The progress made at this Dialogue will help move science infrastructure, northern strategy and policy forward.

Major recent federal investment in northern research to address climate change through projects such as ArcticNet and the Canadian Arctic Shelf Exchange Study are to be commended. These investments in northern research are courageous, particularly at a time when many other issues form stronger political platforms. Hopefully, Canada’s involvement in the International Polar Year will establish Canada as a world leader in northern research, while also benefiting local communities.

Mr. Bagnell has received feedback from Yukon, Northwest Territories and Nunavut indicating that northern research will be an important part of economic development in the North. Major industrial projects, such as the construction of northern pipelines, will require extensive development of northern research infrastructure and expertise, and will generate tremendous opportunities for northern communities.

Canada has announced a five-year plan to enhance sovereignty and to re-establish our presence in the North. This includes major investments to map the polar continental shelf and to extend our 200-mile sovereignty over northern waterways for the economic and environmental protection of our waters. In addition to increased patrols by Canadian military and the Rangers, military surveillance of Arctic airspace and waterways will be established by 2008. Later this year, Project Narwhal will see a major presence of the Canadian army, navy and air force in the Eastern Arctic. However, because the Canadian military is small, a large presence of federal departments, territorial governments, First Nation and Inuit governments, and scientists will be needed to show that the North is an important part of our nation. Investment in northern research demonstrates the value of the North to Canadians, and will contribute to our declaration of sovereignty.

When challenged by the Parliamentary Industry Committee to address the need for research in the North, for the North, and by the North, the granting agencies demonstrated their sensitivity to these issues, and are looking for creative approaches to allocating research funding. This Dialogue is a useful first step towards achieving these goals.

Speaking in a personal capacity, Mr. Bagnell stated that the granting agencies should become truly national, by funding scientists who live and work in the North year-round. The flexibility and creativity to make Yukon College a full university may help address the need for infrastructure and capacity building, and direct research dollars to the North under the current granting system. The establishment of a separate agency to meet the needs of northern research funding is a less favourable option, since it fails to capitalize on the world-renowned expertise of Canada's current granting agencies. A better strategy may be to increase northern-allocated funding to the current granting agencies, and for the agencies to undertake creative changes to the funding process to better integrate northern researchers, residents and communities.

Mr. Bagnell concluded his remarks by issuing the following challenge: within the next 24 months, we should have more research in the North done by people living in the North.

A. Brainstorming: Tackling the Key Challenges

The facilitators took the results of the gaps and barriers exercise from Day One and produced a list of issues that grouped like or related subjects under three broad headings: policy gaps, research gaps and research barriers. This list is presented below. In brackets are the numbers of the issues (from 1 to 32) identified in the gaps and barriers exercise of Day One – see Section D.

Policy Gaps

1. Absence of an Integrated Northern Policy (11+15)
2. Absence of a Yukon Research Agenda (12)
3. More Understanding of Traditional Knowledge
 - University of the Land (25)
 - western science and traditional knowledge (9)
 - new models of health (8)

Research Gaps

4. Community Research Issues
 - determinants of health (27)
 - healthy communities (32)
5. Climate Change (26)
 - adaptation
 - what's next

6. Northern Economy
 - impact of megaprojects (3)
 - the alternative economy
7. Cold Climate Engineering (10)

Research Barriers

8. Community Involvement
 - communicating results (1+30)
 - involvement in agency decision making (4)
 - lack of trust and risk management (14)
 - seed money – “have a cup of tea” (20)
 - purpose of research (22)
9. Northern Institutional Infrastructure Issues
 - logistical support (18)
 - capacity inventory and gap analysis (2)
 - sustainability (long-term funding) (5+7+28)
 - NCE in the North (19)
10. People Issues
 - northern capacity (21)
 - youth involvement (6)

Participants went to designated tables to brainstorm on the issues that they wished to discuss. This resulted in several adjustments. First, two topics were dropped: cold climate engineering and the lack of a Yukon research agenda. Second, another topic was added: the need for more research on sustainable renewable resource use. The reports of each of the brainstorming groups appear on the following pages.

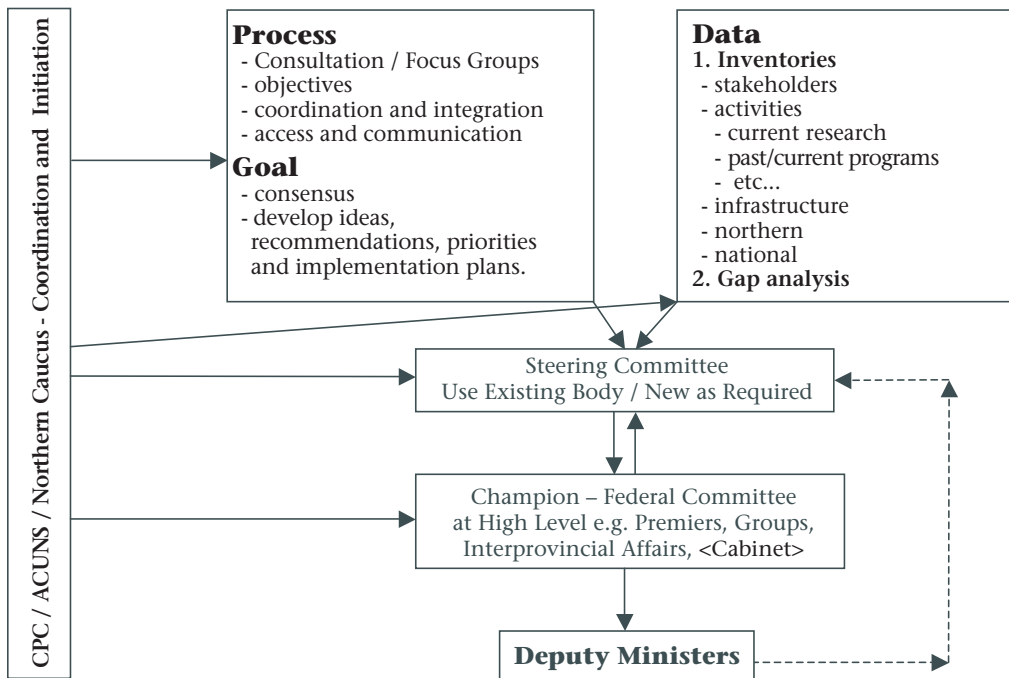


Challenge: Absence of Integrated Northern Policy

Group Reporter: Amanda Graham

<p>Describe the Nature of the Challenge</p> <p>To remedy the lack of a national integrated northern research policy.</p>
<p>Brainstorm on Ideas For Meeting This Challenge</p> <ol style="list-style-type: none"> 1. Prepare a policy development proposal (Working group = ACUNS/CPC/Northern Caucus (NC)). 2. Secure seed funding for the development process; identify major stakeholders. 3. Secure champions; begin consensus building (see diagram below); identify champions from individual departments; take high-level approach above departments; approach premiers and identify premiers' groups as a place to develop political will (see diagram below). Establish actual data gathering project that will identify stakeholders, current research, past and present, inventory infrastructure. Utilize working or focus group meetings to turn to groups with concentrated membership to define priorities, following from the gap analysis. Parallel process augmented by input from the steering committee and organizing committee to champions with the political will to define and support processes and data collection. Encouraging movement of the process towards national IPY achievements with quick turnaround and movements with high-level adoptions. Champions to serve at intergovernmental forums consisting of leader (Aboriginal + Territorial + Federal); a good place to have political buy-in. 4. Inventories underway; gap analysis. 5. Consultation/consensus building/focus group's recommendations and priority development. 6. Parallel activities: data collection/process definition. 7. Steering committee linkages defined/created/strengthened. 8. Champions linked to civil service and to tripartite CPC, ACUNS, NC Group.

This diagram portrays the process recommended to remedy the lack of a national integrated policy on northern research.



Challenge: Traditional Knowledge

Group Reporters: Lynn Sutherland, Shannon Cooper,
Don Trudeau, Celina Kopak, Alain Cuerer, David Neufeld

Describe the Nature of the Challenge Acknowledge, foster equality of and recognize parallel ways of knowing.
Brainstorm on Ideas For Meeting This Challenge <ol style="list-style-type: none">1. Traditional knowledge includes the natural and social sciences and the humanities.2. Newcomers' land, competing land uses, and resource regulations limited the access to the University of the Land (UL). UL needs to be recognized and the trend reversed in the spirit of agreements.3. Close the gap between generations to strengthen the teachings.4. Acknowledge the existence and value of the University of the Land.5. Consult with Elders and Deans to recognize the importance of each other's learning.6. Characteristics of learning at University of the Land<ul style="list-style-type: none">• Experimental – be an active participant• Culturally entrenched knowledge• Four guiding principles – Respect; Care; Share; Teach7. Individual student is the carrier of knowledge between universities. Authority rests with individual actions.8. Traditional knowledge is integral to decision making (management boards).

Challenge: Healthy Northern Communities

Describe the Nature of the Challenge How do we focus on healthy northern communities? (focus on the positive, not the negative)
Brainstorm on Ideas For Meeting This Challenge <ol style="list-style-type: none">1. Improve communication between funding agencies, communities and researchers. For this we need a realistic mechanism.2. Broaden the definition of research to include community perspectives and knowledge.3. CURA and ACADRE are possibly good models for sustainable infrastructure and capacity building.4. Recognize the need for longitudinal health research with real results for the community. What is individual health/a healthy community?5. Prepare and maintain a file on financial, personnel, and program resources locally, regionally and nationally. The generation and maintenance of, and participation in, this network demands designated funding.

Challenge: Climate Change

Group Reporter: Aynsle Ogden

Describe the Nature of the Challenge

- We need integrated approaches (e.g. natural and social sciences, local and traditional knowledge).
- We must have information to understand change (e.g. monitoring on local and regional scale).
- We must learn how to cope with change (e.g. adaptation, building resiliency, need to focus on solutions and options).

Brainstorm on Ideas For Meeting This Challenge

1. Integrated strategy/policy
 - Roles of different agencies
 - Coordination (e.g. national, circumpolar, pan-northern)
 - Information dissemination
 - Options/scenarios – one size does not fit all
2. Support communities in adapting decision-making processes
 - Capacity building
 - Tools (e.g. decision-making in face of uncertainty)
 - Community-based monitoring
 - Intermediate mechanisms to help build linkages and partnerships with scientific communities
3. Pilot projects for granting agencies
 - Allocated joint funding for climate change research in the North (e.g. MBIS (Mackenzie Basin Impact Study Phase II, resiliency, IPY))
4. Federal government policies: new approach
 - Current policies may inhibit adaptation
 - Maximizing current international S&T agreements
 - Horizontal file issues (continued need for coordination among departments)
5. New focus for research: solutions and responses
 - Adaptation
 - Resiliency of ecosystems and communities
 - Options and scenarios (possible futures, possible solutions)
 - Social science
 - Social and natural science linkages
 - Participatory approaches to research
 - Community-directed approaches

Challenge: Northern Economy

Group Reporters: Heather Myers, Nick Bernard,
Richard Zieba, Chris Fletcher, Jean-Marc Lamothe,
Dave Roddick, David Scott, Benoit Beauchamp, Laurie Chan

Describe the Nature of the Challenge

Developing a sustainable, diversified economy:

- Diversification
- Measuring
- Choices
- Rapid change
- Gap between traditional management and new economic needs

Brainstorm on Ideas For Meeting This Challenge

1. Measuring/scoping economy/opportunities/social impacts/assessment
 - incorporate value of traditional economy into economic accounting
 - out migration
 - resources – where? capacities?
2. Work with communities to make informed choices
 - identify values
 - institutional mechanisms
 - wealth management (local, territorial, FN – individual funds and royalties)
 - gap between traditional management and new economic needs
 - alternative development models
3. Indicators of sustainability
 - what are they?
 - what is working well?
4. Identify links between community health, living conditions and rapid economic change
5. Case studies/assessments/success stories
 - evaluate vulnerabilities/resiliency
 - evaluate IBAs (independent business association)/regime
6. Cross-cutting planning/funding of research by three granting agencies
7. Develop international perspective

Challenge: People Issues

Describe the Nature of the Challenge

Northern capacity and youth involvement

Brainstorm on Ideas For Meeting This Challenge

1. Acknowledging identity (indigenous northern)
 - healing: community – youth, and researchers
2. Culturally based integrated **community-driven** capacity building.
Vision = work yourself out of a job
3. Rules of engagement. Mobilization, relationships, role models, **northern-driven** (fun and laughter).
4. Modify education in innovative ways (traditional knowledge/knowledge management).
5. Family of researcher, decision makers, councils, communities, youth voices and engagement.
6. Northern research: Development of a long-term vision, policy principle – strategy – action plans.

Challenge: Northern Institutions Infrastructure Issues

Group Reporters: Laura Arbour, Robert C. Bailey,
Jean-Marie Beaulieu, Martin Bergmann, Larry Carpenter,
Ray Case, Terry Dick, Jerry Heal, Jan Horton, Sarah Kalhok,
David Macneil, Ginette Thomas, Danielle Trépanier,
David Bowen

Describe the Nature of the Challenge

Assess and redesign northern research infrastructure to meet current and emerging realities.

Definition of the challenge includes:

- Physical
 - Information and communication technology
 - Transportation
 - Social environments (housing, food security, etc.)
- Human
 - Logistics
 - Logistics networks
 - Training and maintenance
- Organizational
 - Human resource capacity to get organized – organizational capacity
 - Long-term, consistent, sustainable structures

Brainstorm on Ideas For Meeting This Challenge

1. Meeting the challenge
 - Comprehensive inventory of existing infrastructure needs and gaps
 - Development of infrastructure network including territorial governments, land claim organizations, First Nations & Inuit, northern research institutes, federal agencies & departments, industry, NGOs, ACUNS, etc.
 - Articulate a vision of northern research infrastructure
 - Ensure partnership arrangements among government, communities, institutes, etc.
 - Forecast future needs
 - Involve communities in the inventory, needs assessment and future directions
 - Use existing forums and structures (intergovernmental bodies, etc.)
2. Challenge (II) infrastructure
 - Sustainable long-term resources for infrastructure
3. Ideas for meeting the challenge
 - % of resource royalties
 - change in existing funding policies (e.g. three major granting agencies)
 - special tax (industry?)
 - partnerships (strategic and long-term)
 - cost recovery
 - international credits?

Challenge: Sustainable Renewable Resource Use

Describe the Nature of the Challenge

The Conservation override when considering sustainable renewable resources use (harvest as well as non-harvest values). Note strong connections to resource economy challenge as well as to the traditional knowledge challenge throughout.

Brainstorm on Ideas For Meeting This Challenge

1. Basic biodiversity analysis/surveys, including taxonomic unknowns, invasive and exotic species (note connections to IQ/traditional knowledge challenges). “Northern Museum of Natural History”
2. Population ecological research on most species is unknown and needed. Community ecological research is in its infancy, including IQ.
3. Indicator species research and tracking research is only beginning; monitoring processes for harvested species is a challenge (there are major challenges posed by cumulative effects, which are unknown).
4. Quotas and sensitivities for most species are poorly known for many valued species. Harvesting and other methodologies used need research.
5. New research is needed into the effects of captive wildlife (game farming, fish farming, aquaculture, etc.) and effects of other agricultural processes/activities on world populations.

Challenge: Community Research Issues

Group Reporter: Jody Walker

Describe the Nature of the Challenge

Define community: People being researched or communities of interest you are trying to address, others?

- To communicate between generations and cultures
- Overcoming difficulties getting people into some consultative forum, develop proposals, participate in project (structural, capacity, proximity)
- Redesign of granting programs...no resources to develop ideas with communities (due, for example, to the cost of travel)

Brainstorm on Ideas For Meeting This Challenge

1. Innovations – be creative in communicating, use of popular education techniques (theatre, film, etc.)
2. Include community representation in granting agency decision making, including strategic, \$, peer review and results communication.
3. Develop school curriculum materials, adult educators to get dialogue going.
4. Emphasize the importance of developing a timeline and allowing time for people (community) to understand research.
5. Involve the community at outset – research is truly for community benefit (build trust and capacity).
6. Set up an Internet site, listing research projects, researchers, resources, community people.
7. Make studies available that have gone well. Showcase/profile best case study.
8. Provide seed money that accepts that meaningful community consultation requires more than one meeting.

Participation/Engagement

- Project/research activities
- Plain language culturally appropriate
- Researchers don't always have communication skills
- Networking a tool
- Interactive and iterative process using dialogue (priorities for project set up at outset) design, implementation, reporting results
- Process for connecting areas of interest/concern to communities with researchers who have similar interests
- What is available now for communities in terms of information to help them inform issues and identify, and development?
- Shared ownership projects
- PAR (Participatory Action Research) ethics in interaction community (identify issues)
- Community/researcher possible co-owners/authors
- Advocacy – Intermediary to bridge gap, understand science and also processes needed
- Action plans (plain language) – community or regional action plans
- Regional bodies to advise, steer and coordinate projects and research questions
- Time is an important factor with the development of partnerships/engagements and needs to be recognized and included in funding process

*International Activities and Canadian Participation:
Dr. Peter G. Johnson, Chairperson
Canadian Polar Commission*

Dr. Johnson, the luncheon speaker on Saturday, presented four programs and forums to illustrate Canada's role in international Arctic scholarship.

Canada is at serious risk of not being able to play a significant role in scholarship planning for the International Polar Year (IPY) 2007-2008. The Canadian Polar Commission has taken the early initiatives for Canadian participation at the national and international levels. The major problem has been the lack of a central source of planning funds in Canada. Funding will likely be fragmented, with a federal contribution for federal planning and scholarship and the granting agencies' contribution for university and college initiatives, but obtaining funds for community participation in planning will be difficult. To date, efforts to obtain planning support have been frustrating, but the University of Alberta has placed an offer on the table for support of a secretariat and it is hoped that the granting agencies and the government will provide matching funds.

The International Arctic Science Committee (IASC) is sponsoring an International Conference on Arctic Research Planning (ICARP II) to be held in the fall of 2005 in Denmark. Themes include:

- understanding the coupling between those human and natural systems that govern the behaviour of the overall Arctic system;
- identifying the governing natural systems in the Arctic region that are essential to understanding of the overall Arctic system;
- understanding the essential social and societal systems across the Arctic regions that control the behaviour of the Arctic system;
- enhancing the capacity to meet societal interests and to enable a robust set of programs of scientific research in the Arctic region;
- Arctic science in the public interest; and
- enabling research infrastructure, resources and funding for research.

The Arctic Climate Impact Assessment (ACIA), a science review of the state of climate and adaptation research in the Arctic, is currently in its final drafting stages. ACIA II is proposed to continue the project, focusing on areas identified as not being adequately addressed in ACIA I. Research efforts will be directed to regional and economic impacts, assessing vulnerabilities, improving observations, long-term monitoring, modelling and impacts on society.

The Northern Research Forum (NRF), an international dialogue between policy makers, academia, politicians and business, will take place in September 2004 in Yellowknife, NWT. The overall premise for the dialogue is "The Resilient North" and themes will include perspectives of northern leaders, governance, community economics and tourism, project day (addressing a number of issues in smaller focus groups) and a travelling northern film festival.

B. Moving Forward: Priorities for Action

The facilitators asked participants, who had returned to their original groups, to review the material produced by the brainstorming sessions in the morning and develop action steps, both long-term and over the coming year. Following the Dialogue, the facilitators grouped the responses under the five themes, for both short-term and longer-term steps:

Policy

- Develop an integrated northern research policy using a steering committee in the North, with indigenous representation on the committee providing input into proposals and implementation (link development to IPY).
- Broaden and continue the Dialogue to develop the northern research strategy with adequate funding to existing research institutes.
- Encourage the territorial governments to develop research plans.

Building Research Capacity and Involvement

- Develop a northern research inventory or Web site directory of current researchers, groups, contacts, capacities within universities, government and northern organizations.
- Ensure sustainable research funding at the community level.
- Develop a harmonized licensing or permitting process for researchers in the territories.
- Establish undergraduate exchanges between colleges and universities.
- Access and record Elder knowledge (traditional knowledge) with due urgency.
- Place innovators in the schools as field experts with stable funding to create a year-round connection to students and researchers.
- Invest in the next generation as soon as possible.
- Help develop resident capacity and northern involvement in all stages of research in local, national and international issues.

- Encourage the research community at large to recognize the needs and values of northern Aboriginal cultures and traditional knowledge.
- Build one or more places for high-calibre northern research activities, which would include storage of databases, library, meeting facilities, networking, etc.
- Develop “NCE-lite” – a network that is smaller, “lighter,” and more manageable than a regular NCE – to help link existing facilities, expertise and funding.

Funding Priorities and Decision Making

- Establish a peer-reviewed, tri-agency strategic funding envelope for new emerging teams in multidisciplinary northern research.
- Infuse \$1-2 million to encourage high-quality research in the North.
- Develop a tri-agency strategic program for the North with stated principles.
- Have agencies that fund research emphasize territorial-based research and the importance of reporting back to the community, capturing its interest and exchanging ideas.
- Establish a community relevancy review and community input processes for ethics.
- Review research proposal criteria and set evaluation criteria to ensure sensitivity to northern needs and to encourage the integration of traditional knowledge with other scientific findings.
- Encourage the inclusion of northern Aboriginal organizations in review processes.
- Build a constituency for northern research through meaningful messages to all Canadians coordinated by the three granting agencies and researchers.
- Develop pilot projects and dedicated funding for research conducted by northerners with a northern decision-making board.
- Encourage cross-cutting planning across the three granting agencies.
- Establish seed funding to consult with communities very early in the project formulation stage.
- Recognize community in-kind contributions in making funding decisions.
- Build on successful governance models and best practices.

Next Steps in the Dialogue

- Transmit messages from this Dialogue back to northern leadership, including the Aboriginal community, in the form of a progress report authored by the three granting agencies.
- Have the three granting agencies report on use of the information generated from the Dialogue. In particular, describe any resulting actions and express a long-term vision.
- Extend the Dialogue to other parts of the North.
- Organize regular Dialogues on Northern Research to ensure accountability, process review and useful building on previous ideas (every two to four years).

Other

- Establish a new Canadian Ministry of Circumpolar Affairs.

C. Wrap-up Comments

Representatives from the three granting agencies gave their impressions of what the meeting had accomplished. **Isabelle Blain** of NSERC began by complimenting participants on their level of commitment and enthusiasm and by noting that a new “ecotone” had been created, one that will benefit from the best features of the contrasting northern and southern research “systems.”

She went over some of the principal themes that emerged over the two-and-a-half-day period: the need for capacity building (institutional and people); the importance of knowledge communication (traditional and scientific knowledge, with communication in both directions); the need for ongoing community involvement; the usefulness of having a national strategy for northern research; and the growing need for interdisciplinary research.

She also noted how this event had helped improve collaboration amongst the three granting agencies. Indeed, there is a kernel of an integrated research strategy being developed.

In terms of specific outcomes from NSERC, a report of the Dialogue proceedings will go to all participants; NSERC is committed to keeping the Dialogue going; and there is also a plan being developed for supporting IPY.

Daryl Rock from SSHRC thanked participants for their hard work and noted that funders have few opportunities to engage at the content level. He was particularly grateful to have been out of Ottawa for a few days and to be in the North talking about northern issues.

He reviewed the three objectives of the meeting and judged that they had all been met. In particular, he committed his agency to continuing the Dialogue and developing a mechanism to do so. He concluded by noting that the three SSHRC programs oriented around partnerships will not be under-utilized, in part because of the outcomes of this meeting. Further, like Ms. Blain, he was excited by the idea of enhanced tri-agency collaboration around fostering interdisciplinary research.

Finally, Mr. Rock thanked the other sponsors of the event: Indian and Northern Affairs Canada, Health Canada and Fisheries and Oceans Canada.

Dr. Jeff Reading from CIHR thanked the staff who had been involved in organizing this event. Noting that there had been some concerns about the risk involved in putting on such an event, he expressed his delight that the Dialogue had been such a success. Further, he was confident that concrete outcomes would result and that this event had been a model for partnerships.

In terms of next steps, he echoed his two colleagues, Mr. Rock and Ms. Blain, in committing to carrying on the Dialogue.

The Tri-agency Working Group thanked various people and organizations for their contributions to the Dialogue's success. Particular acknowledgements were made to the student helpers: Katherine Gofton, Melissa Guyot, David Hardie, Kelly McGill and Shannon O'Hara. Sally Webber was also recognized for being such a gracious host.

The host of the Dialogue on Northern Research, **Sally Webber**, closed the session by thanking the members of the three granting agencies, Elder Stanley James and all of the Aboriginal participants who attended. As this Dialogue draws to a "temporary pause," she thanked participants for embracing "new relationships in the ecotone."

Elder Stanley James said a closing prayer.



APPENDIX 3

Planning Committee: Dialogue on Northern Research

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Marty Bergmann	Department of Fisheries and Oceans
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APPENDIX 4

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