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Putting the Canadian Polar House in Order

Northern Canada is facing unprecedented social, political, economic, environmental, and cultural changes. Unfortunately, attention to northern issues has typically been sustained for only short periods in response to external events, usually associated with interests in minerals, oil and natural gas reserves, or pipelines.

Public policy needs to be supported by a strong knowledge base: the results of scholarly studies and various research and monitoring programs can help government to identify problems, set priorities, and implement solutions. The cumulative effect of inadequate federal funding has been to marginalize northern research, creating a crisis in capacity and knowledge that can no longer be ignored.

Scientific and government reports and committees have routinely recognized and commented on the challenges facing the North and the need for cooperative and collaborative interdisciplinary solutions based on sound knowledge. Thirty years ago, there was some optimism that this objective could be achieved. For example, at a symposium on the tundra environment sponsored by the Royal Society of Canada in June 1970, Larry Bliss (1970:12) observed that "although the ecological problems are very great in our north, there are signs of cooperation from agencies and groups of people that can and must solve environmental problems on an interdisciplinary basis, for the problems are too complex to be solved by a few people or by competitive agencies."

In reality, the progress towards this cooperative and interdisciplinary goal was frustratingly slow. At the Circumpolar Conference on Northern Ecology held in Ottawa in September 1975, W.S. Osburn (1977:V – 11) remarked that "time after time summaries of these conferences have been remarkably similar. A succinct summary of these conferences would likely discuss the following: lack of ecological-environmental information, the need to develop an effective environmental data storage and retrieval system, the harshness or fragility of the environment, the urgent need for comprehensive, systematic or holistic planning and interdisciplinary or team research approach, high cost of research, and a need for cooperation and integration at all levels including international efforts."

In March 1987, the Minister of the Department of Indian Affairs and Northern Development was presented with a report entitled "Canada and Polar Science." The authors concluded that "a polar research community as geographically dispersed and institutionally varied as Canada's requires a coordinated system of institutional support to give it cohesion and focus, to provide it with access to the information it needs and to enable it to work closely with the governments and the public it serves. Canada used to have a more coherent and coordinated system than it does now, but is has been allowed to deteriorate. As a consequence, the Canadian polar research community is not well-positioned to respond to changing national objectives in the polar regions and to the growing sophistication of international polar and global science" (Adams et al., 1987:1). One positive outcome of this report was the establishment of the Canadian Polar Commission in 1991. A more ambitious proposal, the establishment of a Canadian Polar House, never materialized. The Polar House would have provided a common location for northern activities, agencies, and organizations that would have facilitated collaboration, discussion, communication, and planning.

The progressive decline of national northern research capacity was most recently addressed in a joint task force report by the Natural Sciences and Engineering Research Council of Canada (NSERC) and the Social Sciences and Humanities Research Council of Canada (SSHRC) (2000). Many of the same issues identified in previous decades were reiterated, and a number of solutions were proposed. These included the establishment of 24 Northern Research Chairs, new investments in infrastructure, targeted grants, and increased engagement of northern communities and researchers.

Four years later the situation has improved, but only a little. NSERC has provided funding for six northern research chairs, student scholarship supplements and research internships, grant supplements to address logistical costs, and northern research networks and partnerships. A dedicated research program focused on Northern Research and Aboriginal Peoples has recently been established by SSHRC. A new National Centre of Excellence (ArcticNet) was established in 2003, and the icebreaker *Amundsen* was refitted for polar science. In March 2004, the TriCouncils (NSERC, SSHRC, and the Canadian Institute of Health Research, or CIHR) sponsored a Dialogue on Northern Research to identify new priorities and opportunities for northern research. Importantly, the engagement of northern communities and institutions in setting research priorities, and the integration of Inuit Qaujimajatuqangit and traditional knowledge of other indigenous groups with Western science have begun.

Several fundamental problems have contributed to the current crisis in northern science and research in Canada.

- Canada has no accepted northern science and research strategy. Without a clear direction at the federal level, Canadian leadership and participation in international circumpolar activities are diminished. Opportunities for innovation and commercialization of cold-region technologies are squandered. And jobs to provide a sustainable livelihood for aboriginal people in northern communities are not created.

- There is a conspicuous lack of funding for northern research in Canada, at a time when most other polar countries have significantly increased their investment in research capacity, including infrastructure and logistical support. In the last decade, for example, Canadian federal spending on northern science and research has remained constant (at about $70 million in 2002 Canadian dollars), while equivalent U.S. spending has doubled to over $500 million in 2003. Money won't solve all of the problems, but inadequate funding limits even our attempts to solve them.

- Federal northern science and research programs and resources are fragmented across numerous departments and agencies. Conflicting mandates between and within individual departments result in poor planning and a lack of continuity. Even internationally acclaimed, high-priority initiatives like the Northern Contaminants Program are subject to the vagaries of departmental commitments from year to year. The management of horizontal, cross-cutting issues poses a real challenge for government, and meeting this challenge is critical for northern research.

- Numerous disincentives in the research community have diminished interest in northern research. Thus a lack of training and replacement of northern researchers has led to a serious reduction in our capacity to address northern issues in many fields.

So how do we put our polar house in order? More money alone is not the solution. We also need to tackle the various chronic structural deficiencies associated with northern science and research in Canada.

Building on the suggestions made by England (2000), we propose a two-part solution to secure Canadian leadership in northern science and research. These proposals both enhance political identity and accountability and improve opportunities for effective planning and action.

First, there is a critical need to develop a national strategy for Northern Science, Research, and Knowledge (NSRK). This NSRK Strategy would be tabled in Parliament and would provide direction for national commitments and activities. The Strategy would be developed by an interdepartmental deputy minister committee, in consultation with northern governments (territorial and aboriginal), the northern colleges and research institutes, university-based northern research institutes, northern communities, and the private sector. The Strategy would provide a road map for national priorities and identify the means of achieving these goals. Legislative reporting mechanisms would provide for accountability through a Minister in Cabinet and the House of Commons.

Second, we propose that the federal government establish a Canadian Northern Research Service. The Service would support the development of a NSRK Strategy: it could provide a vibrant place—both "real" and virtual—where scientists, policy makers, and northern communities could share ideas, data, and expertise. It would house and coordinate essential programs to support northern research, such as an expanded and revitalized Polar Continental Shelf Project capable of providing logistical and infrastructure support across the entire North, with a mandate to include the diverse and growing needs of academic, government, and community-based researchers. Land, ocean, and space-based infrastructure, including research stations, aircraft, icebreakers, and dedicated satellites, could be centrally coordinated. This coordination could be done in collaboration with other organizations, including the northern research institutes and communities, the Canada Centre for Remote Sensing, the Canadian Coast Guard, other federal departments and agencies, and industry.

The Service would also provide a home for northern training and education initiatives, particularly the University of the Arctic. The Northern Scientific Training Program is already one of the most successful ways of enhancing northern research expertise, but it could be expanded to include northern students and greater community involvement.

The Service would be a national portal for the international polar research community. At a time when renewed Canadian leadership on northern issues is needed, the Service would enhance our national identity and provide a forum for our engagement in the International Polar Year programs, as well as various ongoing commitments through the Arctic Council, Northern Research Forum, International Arctic Science Committee, Scientific Committee on Antarctic Research, and other organizations.

A commitment to establish a Canadian Northern Research Service, supported in legislation by a comprehensive NSRK Strategy, would go a long way toward reversing decades of neglect. Putting our Canadian polar house in order will facilitate creative collaboration within the northern research community, and engage government, the private sector, and the public in a broad discussion of northern affairs based on respect, knowledge, and mutual understanding.

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