Lines in the Snow

Thoughts on the Past and Future of Northern Canadian Policy Issues

Edited by Clive Tesar and P. Whitney Lackenbauer

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CANADIAN ARCTIC RESOURCES COMMITTEE

488 Gladstone Ave
Ottawa, Ontario K1N 8V4
http://carc.org/

Tesar, Clive, and P. Whitney Lackenbauer
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Canadian Arctic Resources Committee

To all of the board and staff members who were CARC,
and in memory of

Terry Fenge (1950-2015)

friend and former Executive Director of the
Canadian Arctic Resources Committee

There is deep concern in Canada about dangers to the Arctic environment which may result from exploration for and development of natural resources. Concern has been expressed by northern native peoples, by the man-on-the-street throughout the country, by politicians, by conservation organizations and by a very diverse group of scientists and technologists...

Until the 1960's the development of the North was of little interest to Canadians as a whole. Our ribbon-like development of the southern perimeter of the country, our primary devotion to matters of regional interest and our lack of knowledge of the North mitigated against citizen involvement. As a consequence, decisions on how and when the North should be developed were left primarily to government and industry.

But Canadians have now become intensely aware of the North. The concept of the last frontier is no longer a play on words; we now recognize that the North is a region of the country that we have the opportunity to develop in special ways; we recognize that if it is developed carefully and wisely it could play a powerful role in the development of our culture; we recognize that it could greatly alter our dependency on the culture, the markets and the technology of other countries. We feel very strongly that its potential for moulding our nation, its potential to provide young Canadians with a region of their own must not be lost by precipitous development which could result in both social and environmental disaster. We believe that we are representative of a vast throng of Canadians who now want to be involved in decisions ·about how and when the North should be developed. We think we are also representative of a vast number of Canadians in our uncertainty about the adequacy of existing knowledge to serve as a guide to development and feel strongly that the public should be much better informed about the state of our preparation for future development.

The intense public interest which has developed over the possible construction of a pipeline through the Mackenzie Valley makes it imperative that dialogue on northern development be extended to include citizens' voices to ensure that Canadians are well-informed on the issues …

Our deliberations have indicated that there is no existing citizens' organization in Canada which has the capability of performing these functions. Our objective is to form such an organization on an interim basis …

Canadian Arctic Resources Committee letter to
Ministers Jean Chrétien, Jack Davis, and J.J. Greene, April 1971

ACKNOWLEDGMENTS

In early April 1971, a small group of concerned individuals formed the Canadian Arctic Resources Committee (CARC) to provide objective information and research on Arctic development to government, industry, and the public. "Formed in response to the rapid pace of development in Canada's Arctic that followed Alaskan oil discoveries," a founding document explained, "CARC aimed to act in an honest broker capacity to help ensure that decisions on northern development are made in the light of adequate knowledge of social, economic and environmental considerations."

We wish to acknowledge that founding committee of the CARC in 1971: Chair Douglas Pimlott and members Donald Chant, Maxwell Cohen, Ramsay Cook, Tagak Curley, Pierre Dansereau, John Deutsch, M.J. Dunbar, William Fuller, Roderick Haig-Brown, Kenneth Hare, Albert Hochbaum, Trevor Lloyd, Ian McTaggart-Cowan, Eric Molson, and Richard Passmore. The founding committee soon brought in additional members from Northern communities.

We thank all of those individuals who have played a leadership role with CARC over the last half century. As a CARC Review Committee observed in October 1981:

> This is a time when single-issue interest groups are coming under increasing suspicion and attack. It is sometimes held that such groups are destroying any sense of the general will that used to guide governments. Furthermore, it can be rightly pointed out that groups purporting to represent the public interest, regardless of the excellence of the principles they espouse, are often representative of no more than a tiny fragment of an attentive public. If CARC were nothing more than an environmentalist pressure group, it would be very vulnerable to these criticisms, and it must in any case be very mindful of them. The high degree of credibility that CARC possesses within a number of constituencies does, however, make it possible for the organization to be much more than a pressure group. Its general acceptability enables CARC to be an honest broker, a point of contact for groups that are in conflict, a credible information source, and an advisor. It is undeniable that an orientation towards these more dispassionate roles, requiring balance and a sense of restraint, could conflict with an energetic and activist pursuit of CARC's traditional goals, such as

protection of the natural environment. That does not have to happen, however, and to a considerable extent, whether it does happen will depend on the leadership of the organization.

That CARC has managed to maintain a credible advocacy role in the ensuing decades is a testament to a committed group of individuals dedicated to an organization that has sought to analyze power structures, critique policy, promote innovative solutions, and inform the Canadian public about a wide range of political, economic, social, economic, and scientific challenges. In this spirit, we wish to thank our colleagues on CARC's final Board of Directors for supporting this culminating project: Lois Little (chairperson), Robert Bromley, Rob Huebert, Ingrid Kritsch, and Ben McDonald. Their guidance has been instrumental as our organization, formed on an "interim basis" in 1971 to fill a void in Canadian citizen advocacy on Northern issues, has decided to disband, its purpose now effectively covered by other Northern and Indigenous advocacy groups.

As the editors of this book, we are particularly grateful to the chapter authors who generously shared their time and expertise to reflect upon the future of Northern Canadian policy issues.

A special thanks as well to Ryan Dean, an exceptional Ph.D. candidate at the University of Calgary, who conducted intensive research in the CARC fonds at Wilfrid Laurier University, thematically sorted the contents of *Northern Perspectives*, and produced a list of CARC publications. Trent University research assistants Grace Chapnik and Alicia Carefoote transcribed documents and proofread them. We are also grateful to Corah Hodgson for her careful copy edit of the manuscript, and to Jennifer Arthur-Lackenbauer for layout, design, and indexing.

The contributions made by CARC over the last fifty years were possible owing to the donors who kept CARC afloat. There were some government grants and several philanthropic organizations who supported particular projects, but most of the money that kept CARC going from day to day – the money that paid for the necessary and unglamorous tasks that make up much of an NGO's work – was contributed by extraordinary people who cared about the Canadian North, although most lived in the southern portion of Canada. Some of these individuals donated once, and some donated regularly for many years. Some left bequests, and one individual (Heinz Vollenweider) who donated a life insurance policy made possible the publication of this book, our valediction to Northern policy. All of our donors over the years now share in this valediction. They shared in creating innovative

policies for conservation; they shared in creating the knowledge base necessary for Northerners to be able to make informed decisions; they shared in helping to support Indigenous peoples' reclamation of their rights to land and governance; and they helped in negotiating international agreements to keep the Canadian North a healthier place. To those who helped, this book is a long letter of thanks.

Editors' Note

This book is based on a survey of issues that CARC has taken on over the past fifty years. Rather than producing a history of the organization, we wanted to make one last contribution to Northern policy. We have structured the book by providing a historical excerpt from CARC's journal, *Northern Perspectives*, then as editors we have written a "linking chapter" intended to provide brief historical context on each issue. This provides a launching pad for our contributors to share their ideas on where they think each Northern issue is going, and/or where it should go.

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FOREWORD

This book celebrates the Canadian Arctic Resources Committee's (CARC) almost 50 years of research and advocacy to influence policy decisions concerning the Canadian Arctic. It also marks CARC's final contribution to these decisions.

CARC will close our charitable organization this year. We take this final step with the confidence that we have achieved our purpose and helped Northern voices to be heard and respected in Arctic policy decisions. Further, we are confident that functions and relationships once led by CARC are now more than aptly taken up by Indigenous and public governments and non-profit organizations throughout the Canadian North. It is rewarding for me and others involved in CARC that Northerners now have the legislative authority, organization, and infrastructure to assert our voices in the decisions affecting our lives and homelands. This certainly wasn't the case in 1971 when CARC began. I am proud that CARC helped to create and hold open the space for these voices to be heard.

In offering this final contribution to Arctic policy discussions, I want to express my deep gratitude to the many individuals and organizations who have helped CARC fulfill our mission. The contributors are too many to name but they all share(d) a deep passion, vision, and insight into the ever-changing Canadian Arctic. It has been an honour to work with them and to serve as a Committee member and in a leadership capacity with CARC for almost three decades.

I am hopeful that the trails blazed by CARC will be deepened in the years ahead. I am hopeful that Northerners and other Canadians will continue to work together to assert Indigenous and Western scientific knowledge, conduct innovative and adaptive research, and be tenacious in interventions in decisions affecting Arctic ecosystems and peoples. I am hopeful that all people will be inspired by CARC's half-century of efforts to safeguard the fragile Arctic world alongside Northerners.

Lois Little,
Acting Chair, CARC
Chief Drygeese Territory, Treaty 8
Yellowknife, Northwest Territories

August 2021

INTRODUCTION

> "Time is needed to settle native claims, set up new institutions and establish a truly diversified economy in the North. This, I suggest, is the course northern development should take."
>
> Justice Thomas R. Berger, Epilogue, *Northern Frontier, Northern Homeland* (1977)

Most non-governmental organizations (NGOs) have a vision and a mission. Generally, these things describe a desired end state, the completion of what the NGO was designed to do. After fifty years of existence, the Canadian Arctic Resources Committee (CARC) has decided to disband because it has reached that part of its life cycle where it can say, "mission (mostly) accomplished."

CARC was born in the turbulent times surrounding the initial Mackenzie Valley pipeline proposal in the mid-1970s. In its first public document, CARC stated:

> We believe that we are representative of a vast throng of Canadians who now want to be involved in how and when the North should be developed. We share in the uncertainty about the adequacy of existing knowledge to serve as a guide to development … and feel strongly that the public should be much better informed about the state of our preparations for future development.

This idea of the need for an organization to help inform and engage people in Northern development was further elaborated in the first edition of CARC's magazine *Northern Perspectives* in 1973. "CARC's main objective is to bring to the attention of Canadians alternatives and options which exist in Canada north of 60," it explained. "We consider that this is important because the efforts of government have been to sell a program rather than to allow discussion of alternative courses of action."

Over the last fifty years, CARC has dedicated itself to ensuring that there has been a better-informed national conversation regarding aspects of Northern development. It has commissioned original research into aspects of development. It has examined the impacts of pipelines on natural resources in the North. It has looked into the impacts of mining. It has investigated alternatives to large-scale resource development that might help support the aspirations of Northerners for local sustainable development. This research

was published in books, in *Northern Perspectives*, and in policy papers to ensure that the research was widely accessible. We have included a list of CARC's publications at the end of this book.

Over the years, CARC has also sponsored national-level forums and conferences to elaborate policy alternatives for the North, and has commented on national policy initiatives, up to the recently released Arctic and Northern Policy Framework. It has tried to ensure that Northern voices were part of the policy conversations.

Starting with the Mackenzie Valley pipeline proposal, CARC supported the efforts of the Indigenous peoples of the North to reclaim their land and governance rights. These rights were often ignored by both government and industry in the days of CARC's beginnings. Now, much of the North is covered by modern treaties, and self-government agreements are proliferating. The governments of the three territories, representing the interests of all the North's people, have brought much of the decision-making down to a more local basis as they have acquired additional powers. Two territories have signed devolution agreements with the federal government; Nunavut is still negotiating a devolution deal.

Not only were the voices of Northerners being ignored in national Arctic policy conversations, but entire worldviews were being excluded. The knowledge of the North's Indigenous peoples, once termed "traditional knowledge" and now more generally referred to as "Indigenous knowledge," was often absent from policy considerations. CARC assisted in promoting the use and consideration of this knowledge tradition in policy discussions. The CARC publication *Voices from the Bay* was one of the earliest mainstream attempts to represent this form of knowledge from the North to a general audience.

As the organization matured, CARC realized that effective policies for Canada's North had an international dimension. Three big drivers of policy went far beyond Canada's borders: climate change, contaminants, and security. CARC was involved in the conversation that led to the creation of the Arctic Council in 1996 and sat on Canada's Arctic Council Advisory Committee.

Given this proud record of contributing to public knowledge and debate, we find ourselves at a bitter-sweet moment. Organizations build their identities over the years, in sediments composed of the efforts of individuals who have advanced the organization's work. CARC's publications record the valuable contributions made by literally hundreds of people over the past half-century. More importantly, the work is commemorated by policy decisions made in part because of the contributions of CARC's work.

CARC TIMELINE

KEY EVENTS & REPORTS

1969

Indian Brotherhood of the Northwest Territories formed

Manhattan voyage through the Northwest Passage

1970

Minister of Indian Affairs and Northern Development Jean Chrétien presents "Northern Development in the Seventies"

First Arctic Winter Games held in Yellowknife

Federal government releases the *Northern Pipeline Guidelines*

1971

Government of Canada passes the *Arctic Waters Pollution Prevention Act*

Panarctic Oils Ltd. finds gas on Ellef Ringes Island and Melville Island

CARC is established as a non-partisan, public interest, research and advocacy organization

1972

Exploratory offshore drilling begins in Canada's Arctic

Sixteen firms comprising the Gas Arctic Northwest Project announce their intention to build a pipeline down the Mackenzie Valley

Telesat Canada's Anik A1 satellite launched

Walter (Wally) Firth of Fort McPherson is elected as the first Indigenous Member of Parliament from the NWT to the House of Commons

Arctic Alternatives: a National Workshop on People, Resources and the Environment North of '60, Ottawa, May, in cooperation with the Arctic Institute of North America

1973

Inuit Tapirisat of Canada (ITC) began investigating Inuit land use and occupancy of the North

Delegation of Yukon First Nation leaders led by Elijah Smith presented *Together Today for our Children Tomorrow* to Prime Minister Pierre Trudeau in Ottawa

Supreme Court of the NWT *Morrow Decision* acknowledges unextinguished Dene rights

Seminar on Canada's petroleum leasing policy, March, Ottawa

Northern Perspectives: Arctic Railway; Land Use Regulations; Northern Development; UN International Biological Program; Guidelines for Construction of Pipelines in Northern Canada; Land Claims in the Mackenzie; Mackenzie Highway; Northern Gas Reserves

Imperial Oil announces an oil discovery from an artificial island in the Beaufort Sea Canadian Arctic Gas Study Ltd. applies to the National Energy Board for permission to build a natural gas pipeline through the Mackenzie Valley Berger Inquiry launched into Mackenzie Valley Pipeline proposal	**1974**	Gas from the Mackenzie Delta: Now or Later? Conference, May, Ottawa *Northern Perspectives:* Federal Environmental Assessment Policy; Offshore Drilling in the Beaufort Sea; Delta Gas; Arctic Offshore Drilling; Mackenzie Valley Pipeline Inquiry
Return of responsible government to the NWT *James Bay and Northern Quebec Agreement* signed Panarctic Oils reports a "significant" oil strike in the Arctic Islands NWT elects Canada's first Legislature with a majority of Indigenous members The Dene of the Northwest Territories adopt the Dene Declaration	**1975**	*Mackenzie Delta: Priorities and Alternatives Conference*, Ottawa, December *Northern Perspectives:* Gas Export Hearings; Strathcona Sound; Mackenzie Valley gas pipeline
The Government of Canada, the Dene Nation and Métis Association of the Northwest Territories agree to enter into negotiations on a Comprehensive Land Claim Agreement. NWT Métis Association soon decides to develop its own claim NWT Council becomes the Legislative Assembly of the NWT	**1976**	CARC, Submissions and Recommendations: Mackenzie Valley Pipeline Inquiry *Oil Under the Ice* (book) Presentation to the Standing Committee on National Resources and Public Works *Northern Perspectives:* Canada's Energy Crisis; Nanisivik Mine; Pipeline projects; Mackenzie Valley gas pipeline
Berger Report recommends a ten-year moratorium on the construction of a pipeline, which the federal government accepts. Arctic Gas and Foothills proposals are shelved	**1977**	*Water Management in the Canadian North: The Administration of Inland Waters North of 60°* (book) *Northern Perspectives:* Frontier Gas; Canada's Energy Policy; Oil & Gas Rights on Canada Lands
Soviet satellite Cosmos 954 disintegrates and spreads radioactive debris In NWT Party politics introduced to the Yukon Legislative Assembly	**1978**	*Second National Workshop on People, Resources and the Environment North of 60°*, Edmonton, Feb. Submission on *Northern Pipeline Act*, March *Northern Transitions, Volume I: Northern Resource and Land Use Policy Study* (book)

Government of Canada and the Committee for Original People's Entitlement (COPE) representing the Inuit of the Mackenzie Delta and Western Arctic sign an agreement-in-principle to negotiate a comprehensive land claim Indian Brotherhood renamed the Dene Nation	1978	*Northern Perspectives:* Bill C-25; People, Resources, and the Environment North of 60˚; Inuvialuit Nunangat; High Arctic Natural Gas Considerations; Offshore Drilling in Lancaster Sound
NWT unanimously adopts the paper on "Position of the Legislative Assembly on Constitutional Development in the Northwest Territories" Responsible government granted to Yukon Cominco announces decision to proceed with the Polaris lead-zinc mine on Little Cornwallis Island Dome Petroleum reports a significant oil discovery in the Beaufort Sea	1979	*Marine Transportation and High Arctic Development: Policy Framework and Priorities Symposium*, March, Ottawa *Lancaster Sound: Issues and Responsibilities: Environmental Science Workshop for the Lancaster Sound Region*, Nov., Kananaskis Submission on the Alaska Highway pipeline to the Hearings on Environmental and Socio-Economic Matters, March, Whitehorse *Northern Perspectives:* Dempster Highway; Northern Yukon; Alaska Highway Gas Pipeline; Destruction by Insignificant Increments; Arctic International Wildlife Range; Greenland
Report of the Special Representative on Constitutional Development in the Northwest Territories (or Drury Report) is released Yukon Association of Non-Status Indians and the Yukon Native Brotherhood amalgamate under the umbrella of the Council for Yukon Indians (CYI)	1980	Submissions on the National Energy Board (NEB) Energy Supply and Demand Inquiry *Northern Perspectives:* Beaufort; Baker Lake Decision; Beaufort Sea Oil; Alaska Highway Natural Gas Pipeline
NWT Special Committee on Constitutional Development tables Our Land, Our Future Ongoing public discussion of Bill C-48 (*Canada Oil and Gas Act*)	1981	*Caribou and the Barren-Lands* (book) *Pipeline electrification in the Yukon* (book) *Aishihik: the Politics of Hydro Planning in the Yukon* (book) *Northern Perspectives*: Mining in the North; Arctic Oil Spills; Polar Bear Pass

NWT votes 56.6% in favour of division of the territory in territorial plebiscite Mining shutdowns and closures affect all sectors of the Yukon economy *First Western Arctic Constitutional Conference* held in Yellowknife, establishing the Nunavut and Western Constitutional forums Constitutional alliance between leaders from ITC, COPE, the Dene Nation, and the Métis Association support the NWT legislative assembly's decision to pursue the question of dividing the Territories	1982	*The Environmental Studies Revolving Funds and Offshore Oil and Gas* workshop, May/June, Ottawa *Northern Perspectives*: Nunavut; Arctic Pilot Project; Northern Ellesmere; Sikumiut; Archaeology in the Northwest Territories
Canadian Expedition to Study the Alpha Ridge (CESAR) establishes that the ridge in the Arctic Ocean is an extension of the continent	1983	*Ocean Policy and Management in the Arctic: The Third National Workshop on People, Resources and the Environment North of 60˚*, Yellowknife, June *Northern Perspectives*: Stokes Point Yukon; Beaufort Sea Oil; Third National Workshop on People, Resources, and the Environment North of 60˚; Arctic Ocean
The Committee for the Original Peoples' Entitlement (COPE), representing 2500 Inuvialuit, settle their comprehensive land claim with the approval of the *Western Arctic (Inuvialuit) Claims Settlement Act* Panarctic Oils submits its Bent Horn proposal aimed at producing, storing, and transporting oil from Cameron Island Beaufort Sea Environmental Assessment Panel releases its final report Federal government and CYI sign an agreement-in-principle towards a land claim settlement Richard Nerysoo of Fort McPherson is the first Indigenous person chosen as Government Leader of the NWT	1984	*Sikumiut "The People who use the Sea Ice"* workshop, Montreal, April *Planning and managing environmentally significant areas in the Northwest Territories: issues and alternatives* (book) *National and Regional Interests in the North: Third National Workshop on People, Resources and the Environment North of 60* (book) Brief submitted to the Task Force on Federal Policies and Programs for Technology Development *Northern Perspectives*: The Northern Agenda; Beaufort Sea Environmental Assessment and Review Process

Northwest Passage transit by US coast guard icebreaker *Polar Sea* sparks national debate about sovereignty DEW Line clean-up begins Canada and US agree to modernize North American air defence NWT Constitutional Alliance negotiates an agreement on a boundary to divide the Territories Porcupine Caribou Management Agreement signed in Old Crow by federal, territorial, and Indigenous representatives Start-up of the Norman Wells oilfield by Imperial Oil	1985	*Northern Perspectives*: Aboriginal Peoples Rights; Sovereignty; Alaska Native Claims Settlement Act; Native Claims Policy
Canada's straight baselines around the Arctic Archipelago, defining "the outer limit of Canada's historical internal waters" under the *Territorial Sea and Fishing Zones Act*, are effective as of 1 January Federal dismantling of National Energy Program and low oil prices bring oil and gas activity in the NWT to a virtual halt Federal government releases new *Northern Mineral Policy* NWT Land Use Planning Commission holds first meeting in Inuvik First meetings of the Porcupine Caribou Management Board held, leading to an international Porcupine Caribou Management Agreement Special Federal Parliamentary Joint Committee on Canada's International Relations releases report *Independence and Internationalism* calling for development of a comprehensive Arctic policy Polar Bear Pass National Wildlife Area established Yukon's Faro mine returns to production National task force releases recommendations on a federal land claims policy	1986	*Native Wildlife Management, the Anti-Harvest Movement, and the Commercialization of Northern Wildlife* workshop, Jan., Montreal *The Report of the Task Force on Native Claims Policy—A Public Review*, April, Yellowknife The Role of the Northern Community in the Management of Northern Resources workshop, June, Edmonton *Community Economic Development: Arctic Experiences* workshop, Sept., Frobisher Bay *Canada's Interests in the International Arctic: Toward a Circumpolar Policy* workshop, Oct., Toronto *Native Development Corporations: Strategies for the Future* workshop, Nov., Whitehorse *National Symposium on the North in the 1980s* (six seminars) *Northern Perspectives*: Anti-Harvest Campaign; Lancaster Sound; Canada's Claim in the High Arctic

The prime minister and provincial premiers, meeting in secret and without representatives from the territorial governments or national Indigenous organizations, announce the Meech Lake Accord, sparking Northern opposition Collapse of the joint Dene/Métis and Inuit agreement on a boundary to divide the NWT Intense debate over proposed NATO low-level flying training in NWT Federal and territorial governments sign a new Economic Development Agreement Pope John Paul II visits Fort Simpson Hard-rock production at open-pit and underground mines in Yukon returned to historical levels, leading to buoyant economy	1987	*Hinterland or Homeland?: Land-Use Planning in Northern Canada* (book) *Aboriginal Self-Government and Constitutional Reform: Setbacks, Opportunities and Arctic Experiences, conference organized with the Inuit Committee on National Issues*, Ottawa, June *Northern Perspectives*: Comprehensive Claims; Canada in the Circumpolar World; James Bay; Has Glasnost Come Knocking?; Arctic Fisheries; Climate Change
Canada and the United States sign the *Arctic Cooperation Agreement* Territories continue to fight against federal imposition of official bilingualism Two major policy papers favour devolving powers from the federal government: the Department of Indian Affairs and Northern Development's *Northern Political and Economic Framework and the Government of the NWT's Direction for the 1990s* Council of Yukon Indians reaches a land claim agreement-in-principle with the federal and Yukon governments Dene/Métis Agreement-in-Principle is signed in Fort Rae	1988	*The North and Canada's International Relations* (book) *Keeping on the land: A study of the feasibility of a comprehensive wildlife harvest support programme in the Northwest Territories* (book) *Running the North: The Getting and Spending of Canada's Public Finances by Canada's Territorial Governments* (book) *Northern Perspectives*: Mining and Economic Development in Yukon; Free Trade; The Soviet North
Finnish Initiative opens discussions towards an international Arctic Environmental Protection Strategy (AEPS), adopted by Canada and the other Arctic states two years later	1989	*The Mackenzie Valley Pipeline: Is the Phoenix Rising from the Ashes?: Submission to the National Energy Board Hearings on Mackenzie Delta Gas Exports*

Prime Minister Brian Mulroney proposes the formation of an Arctic Council during a speech in Leningrad	1989	*A Question of Rights: Northern Wildlife Management and the Anti-Harvest Movement: National Symposium on the North* Submission to the Public Review Panel on Tanker Safety and Marine Spills Response Capability *Northern Perspectives*: Consensus & Confusion: Thoughts on the North; Inuit Society; Mackenzie Valley Pipeline Inquiry; Women in the North
Federal government announces "Green Plan" Plans for Polar-8 Icebreaker are shelved Renewed oil exploration in the Mackenzie Delta and Beaufort Sea Tungavik Federation of Nunavut (TFN) and Government of Canada reach a land claims settlement Federal House of Commons Aboriginal Affairs Committee reports on High Arctic relocation in the 1950s Gwich'in oppose a resolution passed by the Dene/Métis Joint Assembly in Dettah to renegotiate sections of the Dene/Métis Agreement and withdraw from the assembly to pursue their own land claim	1990	"*Gossip*": A Spoken History of Women in the North (book) "Toward an Arctic Environmental Strategy: A Submission to the Ministers of Indian Affairs and Northern Development, and Environment on the Arctic Environmental Strategy" *Nunavut: Nation Building in Canada's North*, Workshop with the Tungavik Federation of Nunavut, November, Ottawa *Northern Perspectives*: Pulp and Paper on the Athabasca; Inuit of Labrador; Arctic Pollution; Nunavut Revisited
Discovery of diamonds in the NWT Territorial governments helped found the Northern Forum (regional, state, and other subnational government bodies) C-130 Hercules aircraft crashes near Alert Nellie Cournoyea elected government leader in NWT Recently retired NWT Commissioner John Parker recommends boundary between the Inuit and Dene/Métis claims	1991	*The Arctic Environment and Canada's International Relations* (book) "To establish an international Arctic Council : a framework report," prepared by the Arctic Council Panel chaired by Franklyn Griffiths and Rosemarie Kuptana Brief to a Joint Hearing of the New York State Legislature on environmental impacts of the James Bay hydroelectric projects *Northern Perspectives*: Sovereignty and Suffering in Canada's High North; Arctic Council; Hudson Bay/James Bay Conservation

Gwich'in become the first Dene group to negotiate and settle a land claim with the Government of Canada, which includes precedent-setting self-government provisions NWT votes 54% in favour of proposed "Parker line" to divide two new territories and 69% in support of the creation of Nunavut Giant Mine explosion kills nine miners in Yellowknife	1992	Submissions on proposed government amendments to the *Canadian Environmental Assessment Act* (Bill C-78) and the proposed Great Whale River hydroelectric project *Northern Perspectives*: Indigenous Knowledge; Hydroelectric Power on the Great Whale River
Umbrella Final Agreement (UFA) signed by the Governments of Canada and Yukon and the Council for Yukon Indians (now Council of Yukon First Nations). Sahtu communities vote 85% in support of the *Sahtu Dene/Métis Comprehensive Land Claim Agreement* Prime Minister Brian Mulroney, NWT premier Nellie Cournoyea, and NTI acting president James Eetooklook sign *Nunavut Land Claims Agreement Act* and *Nunavut Act* The Canada Yukon Oil and Gas Accord signed	1993	"Aboriginal Peoples, Comprehensive Land Claims, and Sustainable Development in the Territorial North: A Brief to the Royal Commission on Aboriginal Peoples" *Northern Perspectives*: Sorting It Out in the Northwest Territories; Nunavut: Preparing for Self-Government; The New Western Territory: Balkanization or Federation?; Migratory Birds Convention; Environmental Clean-up and Sustainable Development in the Circumpolar Arctic National Marine Conservation Strategy Programme established in partnership with the Canadian Nature Federation
Federal Parliament approves a Canada-U.S. agreement for cruise missile tests over the NWT Royal Commission on Aboriginal Peoples issues report on Inuit relocations	1994	*National Marine Conservation Strategy* released *A Northern Foreign Policy for Canada Conference*, Ottawa, October Brief to the Parliamentary Standing Committee on Environment and Sustainable Development on proposed amendments to the *Migratory Birds Convention Act and Canada Wildlife Act* Responses to the BHP diamond mine environmental impact statement *Northern Perspectives*: Sustainable Development; Parks and Protected Areas in the North; Sovereignty, Security, and Surveillance in the Arctic

Mary Simon appointed Canada's first ambassador for Circumpolar Affairs Nellie Cournoyea elected chair of the Inuvialuit Regional Corporation Iqaluit selected as capital of future territory of Nunavut in a regional plebiscite	1995	Workshop: *National Marine Conservation Strategy Programme workshops*, Feb.-Mar., in St. John's, Halifax, Inuvik, Iqaluit, and Vancouver CARC launches Northern Minerals Programme CARC opens an office in Yellowknife Brief on Bill C-98 (the *Canada Oceans Act*) presented to the Standing Committee on Fisheries and Oceans (with the Canadian Nature Federation) Aboriginal Communities and Base Metal Mining in Canada conference, November, Sudbury *West Kitikmeot/Slave Study Workshop*, Cambridge Bay, Sept. *Northern Perspectives*: Marine Conservation
Creation of the Arctic Council Royal Commission on Aboriginal Peoples releases its final report Métis Nation of the NWT takes the Netherlands to court at The Hague for a ban on fur imports Lead-zinc mine at Faro closes	1996	*Northern Perspectives*: Mining in Aboriginal Homelands
The Standing Committee on Foreign Affairs and International Trade releases its report on *Canada and the Circumpolar World: Meeting The Challenges of Cooperation Into The Twenty-First Century*	1997	*Voices from the Bay: Traditional Ecological Knowledge of Inuit and Cree in the Hudson Bay Bioregion* (book) *Northern Perspectives*: Voices from the Bay
The Government of Canada, Government of Yukon, Council of Yukon First Nations, Kwanlin Dün First Nation, Liard First Nation, and the Kaska Tribal Council sign the *Yukon Devolution Accord* Canada hosts the inaugural Arctic Council meeting in Iqaluit, which establishes the Sustainable Development Working Group	1998	*A Report and Recommendations for Canadian Foreign Policy in the Circumpolar Arctic* *Northern Perspectives*: Arctic Contaminants; Northern Mining Law

New territory of Nunavut created	1999	CARC files for a judicial review of the Diavik Project Comprehensive Study and eventually reaches an out-of-court settlement to conduct studies on the cumulative effects of diamond development *Northern Perspectives*: Impact and Benefit Agreements (IBAs)
The Department of Foreign Affairs releases *The Northern Dimension of Canada's Foreign Policy* A joint venture between Imperial Oil, ConocoPhillips Canada, ExxonMobil Canada and the Aboriginal Pipeline Group propose a $16.2 billion Mackenzie Gas Project that revives plans for a Mackenzie Valley pipeline	2000	*Northern Perspectives*: Persistent Organic Pollutants (POPs)
Yukon Northern Affairs Program Devolution Transfer Agreement signed Stockholm Convention on Persistent Organic Pollutants adopted at United Nations	2001	*Northern Perspectives*: Oil and Gas
1st Canadian Ranger Patrol Group conducts a sovereignty patrol to the magnetic north pole Nanisivik mine ceases operations Zacharias Kunuk's film *Atanarjuat* (The Fast Runner) wins international accolades	2002	*On Thinning Ice* conference with the Canadian Polar Commission and the Centre for Military and Strategic Studies, Jan. Ottawa *Northern Perspectives*: On Thinning Ice; Persistent Organic Pollutants (POPs)
Con mine closes marking the end of gold mining in Yellowknife	2003	*Northern Perspectives*: Plan for the Land

The federal government, Government of the NWT, and Aboriginal leaders sign the *NWT Lands and Resources Framework Agreement* Arctic Council releases landmark *Arctic Climate Impact Assessment*	2004	*Northern Perspectives*: Pipeline Perspectives
The *Tłı̨chǫ Agreement* – the first combined land claim and self-government agreement in the NWT - comes into effect Comprehensive land claim signed between the Crown and Inuit of Labrador (Nunatsiavut)	2005	
Nunavut Tunngavik Inc. (NTI) files a $1-billion lawsuit against the Government of Canada for breach of contract, claiming that Ottawa was not living up to its land claim implementation responsibilities	2006	*Northern Perspectives*: Renewing the Northern Strategy
Lowest reported Arctic Ocean sea ice extent on record The territorial premiers release *A Northern Vision: A Stronger North and a Better Canada*	2007	*Northern Perspectives*: What Price the Caribou?
Government of Canada, the Government of Nunavut and Nunavut Tunngavik, Incorporated (NTI) sign the *Lands and Resources Devolution Negotiation Protocol* U.S. Geological Survey report estimates that nearly 25% of global undiscovered hydrocarbon reserves can be found in the Circumpolar Arctic	2008	

The federal government releases *Canada's Northern Strategy: Our North, Our Heritage, Our Future* *Inuit Circumpolar Council* (ICC) releases "A Circumpolar Inuit Declaration on Sovereignty in the Arctic" Arctic Council releases *Arctic Marine Shipping Assessment Report*	2009	*2030North* Conference, June, Ottawa
The Minister of Foreign Affairs releases his *Statement on Canada's Arctic Foreign Policy* Amendments to the *Mackenzie Valley Resource Management Act* and the *NWT Territorial Lands Act* National Energy Board (NEB) approves the Mackenzie Gas Project Government of Canada apologies for the relocation of Inuit to the High Arctic in the 1950s	2010	
Territorial premiers release *Pan-Territorial Adaptation Strategy on climate change* Canada signs *Agreement on Cooperation on Aeronautical and Maritime Search and Rescue in the Arctic* ICC releases *A Circumpolar Inuit Declaration on Resource Development Principles in Inuit Nunaat*	2011	
Prime Minister Stephen Harper announces funding to construct and equip the Canadian High Arctic Research Station (CHARS) in Cambridge Bay	2012	
Canada signs *Agreement on Cooperation on Marine Oil Pollution Preparedness and Response in the Arctic*	2013	
Northwest Territories Devolution Act takes effect, making it the second territory to take over land and resources responsibilities	2014	

Canada chairs the Arctic Council for the second time (2015-17) with the theme of "development for the people of the North"	2015	
Prime Minister Justin Trudeau and U.S. President Barack Obama issue a Joint Statement on Climate, Energy, and Arctic Leadership followed by a Joint Arctic Leaders' Statement Trudeau announces moratorium on new oil and gas exploration licences in the Arctic	2016	
Inuit leader Mary Simon proposes a New Shared Arctic Leadership Model Pan-territorial strategy on sustainable development Imperial Oil announces the cancellation of the Mackenzie Gas Project	2017	*One Arctic: The Arctic Council and Circumpolar Governance* (book)
Canada signs an international agreement to prevent unregulated commercial fishing in the high seas of the central Arctic Ocean	2018	
Tallurutiup Imanga National Marine Conservation Area established in Nunavut The federal government releases its "Arctic and Northern Policy Framework," with partner chapters appended from territorial governments and Indigenous organizations	2019	Submission to Arctic and Northern Policy Framework
Coronavirus pandemic hits the Canadian North	2020	Launch of "northern caribou" website
The *UNDRIP Act* receives Royal Assent, marking a historic milestone in Canada's implementation of the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) Mary Simon is appointed the first Governor General of Canada of Indigenous descent	2021	The Canadian Arctic Resources Committee announces that it is dissolving, having fulfilled its mission of supporting informed decision-making and helping people of the North regain their place in Arctic development

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INDIGENOUS RIGHTS AND CLAIMS

LAND CLAIMS IN THE MACKENZIE

Northern Perspectives 1, no. 7 (July-August 1973)

Much to the chagrin of the federal government and the oil industry, Indian land claims in the Mackenzie River Valley erupted into a court battle when the Indians attempted to file a caveat asserting their aboriginal rights in this region last March. A caveat is a document provided for the *Land Titles Act*, whereby a person claiming an interest in land can have that interest notified on the register of titles. Once the caveat is placed on the register, persons dealing with land after that are deemed to have notice of the interest and any interest they acquire in the lands is subject to the caveator's claim. In effect, once the Indians' caveat is accepted and placed on the register, then anyone buying or otherwise acquiring an interest in the lands will do so at the risk that at some future time the Indians will prove their aboriginal claim and this claim will have priority. In these circumstances, no finance house is likely to advance money to build a pipeline so long as the caveat continues to be registered.

For the Yukon Indians, the situation is quite different from that of the Mackenzie Valley Indians; the Inuit, as well, are moving along a different path. Indian Affairs likes to project the image of Yukon Indians and the Inuit as reasonable people who are cooperating with the Department in search for a settlement of aboriginal rights. However, the Department pictures the Mackenzie Valley Indians as hot-heads who are not prepared to sit down in negotiations. Mr. Chrétien has repeatedly stated that the government is prepared to negotiate. What accounts for these differences in approach?

No treaties were made with the Indians in the Yukon save for a small area in the south-east corner of the Territory. Almost three years ago, when Indian Affairs initiated its policy of supporting Native organizations, the Yukon Native Brotherhood immediately began preparation of a position paper on aboriginal rights. Indian Affairs promised to negotiate and negotiations in fact are now under way based on the document "Together Today for Our Children Tomorrow." This document is described as a "statement of grievances and an approach to settlement by the Yukon Indian people." It is an eloquent statement of the injustices suffered by the Yukon Natives and a constructive program for land and money settlement, which the Yukon Natives believe would establish the Indians as "equal partners … to build a better Yukon society."

The Inuit have organized [the] resources necessary to complete a major study of their historic land use and occupancy as a basis for settlement negotiations. Underlying this study is the fact that nowhere in the central and eastern Arctic were treaties ever made so that, as in the case of the Yukon Natives, the aboriginal rights of the Inuit have never been surrendered or compromised in any way. It is expected that a government negotiating committee, similar to the one now meeting with the Yukon Natives, will soon be appointed to meet with the Inuit representatives.

With these examples of constructive research and negotiations, what circumstances explain the apparent intransigence of the Mackenzie Valley Natives? Two factors make all the difference. One is that in years past treaties were made covering the Mackenzie region, following the same pattern as the treaties made in southern Canada. The other is that the Mackenzie Valley is the critical focus for northern oil and gas development.

Mr. Chrétien says that he has made a standing offer to negotiate with the Indian Brotherhood of the Northwest Territories; the Indians have always understood this to mean that the government will negotiate only in the terms of the treaties. These contained the usual provisions whereby the Indians ceded their lands to the government in exchange for the establishment of reserves and vaguely worded privileges relating to hunting and fishing and the provision of a "medicine chest." In particular, the reserve lands were to be allotted on the basis of one square mile per family of five. The Indian position, simply put, is that, whatever may be the English-language version of treaties, they were never intended by the Indians to be a surrender of their lands. Consequently, the Indians will not now accept negotiations circumscribed in any way by the land settlement provisions contained in the

treaties. They insist on negotiations which are as wide open as those now going forward with the Yukon Indians. Apparently, they do not wish to disavow the treaty making procedures or to lose their status as Treaty Indians, but they insist that the treaties be rewritten to provide them a new charter of rights so that they, like the Yukon Indians, will become equal partners in the future of the Northwest Territories.

How valid is a claim to rewrite treaties? About aboriginal rights in the first place there can be no question. Such rights have long been recognized in Canadian and British courts. In the case of the Northwest Territories, they have special constitutional status. Back in 1870, when Rupert's Land and the Northwest Territories first became part of Canada, it was provided that "upon the transference of the territories in question to the Canadian government, the claims of the Indian tribes to compensation for lands required for purposes of settlement will be considered and settled in conformity with the equitable principles which have uniformly governed the British Crown in its dealings with the aborigines."

Treaties 8 and 11 were an attempt to make such a settlement, but the Indians claim, and with justification, that the treaty-making process, far from being equitable, was tantamount to a fraud perpetrated on the Indian people. Whether this claim of misrepresentation and deceit practised at the time of treaty-making can be substantiated is the question at issue in the proceedings which are being conducted this summer in Yellowknife and in other Indian villages up and down the Mackenzie River Valley. Mr. Justice Morrow, after the failure of the government attempt to stop him, has been taking testimony from Indians[,] some of whom actually took part in the ceremonies with the Treaty Commissioners in 1922 and 1923. When this evidence is presented fully, the Indians claim that it will paint a picture of past Canadian history in which Canadians will feel no pride. Some believe that this evidence will make such a strong case, that the Indians later will succeed in court actions to have the treaties declared null and void because of fraud and misunderstanding. Already, there is on record the report of the Nelson commission which investigated these treaties. That commission found that the Indians had no understanding of the treaty implications when the commission made its circuit throughout the Native villages in 1958, and it concluded that if the treaties were not understood then, they were not likely to have been understood in 1924 when the command of the English language and the level of education among the Indian people were even less.

Even if the treaties were validly negotiated and binding, the fact is that their land settlement provisions never have been carried out. No land allotment was ever made, probably because it was realized that the Indians could not be forced into an agricultural pattern of settlement such as might be appropriate on the western prairies.

'AS LONG AS THE RIVER RUNS'

Northern Perspectives 5, no. 2 (1977)

Now, at the time of the treaty … 55 years ago, it was mostly with the government, they said "As long as the river runs, as long as the sun goes up and down, and as long as you see that black mountain up there, well, you are entitled to your land." The river is still running. The sun goes up and down, and the black mountain is still up there, but today it seems that the way our people understand, the government is giving up our land. It is giving it to the Seismic people and the other people coming up here, selling us our land.

J. Sittchinli
Aklavik

It hasn't been a one-way street for the native people of the north. It hasn't been all bad.

How many people in the north really want to live in the past and live off the land? Those who really want to live off the land are already doing it. Those who think they want to live off the land, nothing but themselves is stopping them. To the rest, I say they are dreaming.

Mrs. Barnaby
Norman Wells

We do not have to fight and struggle forever just to survive as a people. Your nation has the power to destroy us tomorrow if it chooses to. It has chose instead to torture us slowly, to take our children from us and teach them foreign ways and tell us that you are teaching them to be civilized. Sometimes now we hardly know our children.

Chief T'Seleie
Fort Good Hope

When we stand up to speak we're called down. We are called radicals, leftists, communists, socialists. Why is that? In the past the Indian people fought for their land and were called pagans, savages, and today they are called militants. I don't understand these things. I don't understand sometimes the white man.

Today [Minister of Indian Affairs Judd] Buchanan is rushing the Indian people to have a land settlement. They're even rushing the Berger Commission to get the hearings over. This earth is going to be here all the time. It's not going to be taken away. Why are they rushing? These things I do not understand. The oil, the minerals are going to be there all the time. I don't think anything of this sort should be rushed.

Francois Paulette
Fort Smith

It is a good question, one that confounds those white people who like to put a priority on things, with humans and their things definitely at the top and all the rest, beasts and fishes, definitely lower down. The whole of the Northwest Territories, they say, could fit easily into Toronto's CNE Stadium, and it's true if by "whole" you mean only the humans. For sure you won't get the land in, not the land that is one-third of Canada. And you won't get all the trees in, or the animals, not the herds of caribou that thunder by in numbers exceeding one hundred thousand. But just the humans, yes. It is like measuring a Caesar salad by counting the croutons.

Chief Deneron
Fort Liard

We are here today to talk about the pipeline. We are also here to talk about people. The pipeline is the latest example of a long series of mistakes that have happened on this land when some people think more about money than they do about people.

Jen Green
Lac La Martin

I've never heard any native person say he did not want to be a Canadian citizen. They would like the power to determine their own future and I say good luck to them. I'd like a little more power to determine mine. Maybe southern Canadians should wake up to the fact that if we all had a bit more of that power and control in our own communities we'd be better off and a lot happier.

Peter Usher
Inuvik

The Eskimo is asking for a land settlement because he doesn't trust the white man any more to handle the land that he owns and that he figures he's owned for years and years. I cannot see where a white man or any government can turn it down, seeing we're not asking to claim the land for ourselves.

We're asking to share it, but share it on a fifty-fifty basis, not on a 100 per cent basis like it's been going for the last fifty or sixty or seventy years.

Vince Steen
Tuktoyaktuk

I would like to see a land settlement between the government and the people of the Northwest Territories, a land settlement where the native people will control their land and development. We are not against development but we want to control it. In every movie about the Indian wars, the Indian people always lose. I now ask the government, the southern people of Canada, to let us win this one.

Charlie Furlong
Aklavik

Some people have said that you are our last hope. And it is true that the inquiry has played an important role in the history of the Dene nation, but I think that you are not really our only hope.

But the truth of the matter is those people who say that this inquiry is our last hope are accepting the fact that the Dene have been colonized and they believe that only the colonizers can act and that the hopes of the Dene are in those same people who are colonizers. That is not true; that can never be true of any oppressed people. It is only we the Dene that can guarantee our future.

George Erasmus
Rae

BACKGROUND AND CONTEXT

Indigenous peoples have occupied what is now termed the Canadian North since "time immemorial." Canada has a recognized legal duty to consult and, where appropriate, accommodate Indigenous groups when their treaty and Aboriginal rights could be affected. Their connectedness to their ancestral lands imposes special obligations on the Canadian state to ensure that its practices are representative of Indigenous peoples' rights, interests, and wishes as recognized in both domestic and international law. The ongoing vitality of Northern Indigenous peoples makes them an influential force in Canadian domestic politics and in international norm-making in the Arctic more generally.

The majority of Canada's Inuit population lives in fifty-three communities spread across Inuit Nunangat, the Inuit homeland encompassing thirty-five percent of Canada's landmass and fifty percent of its coastline. Inuit Nunangat is comprised of four regions: the Inuvialuit Settlement Region (the Northwest Territories), Nunavut, Nunavik (Quebec), and Nunatsiavut (Labrador).

The First Nations of the Northwest Territories (NWT) and Yukon comprise various cultural and linguistic groups, the predominant ones being the Tlingit (who live in the southwest part of Yukon and on the northern coast of British Columbia and into Alaska) and the Dene (who live in Yukon, the Northwest Territories, and northern British Columbia, Alberta, and Saskatchewan). Most of these have already signed agreements with the federal government on land and governance rights, while others are still negotiating. These agreements enshrine and clarify Indigenous rights to their traditional lands and communities, including provisions for land use, cultural and social programs, and economic development.

In Canadian law, Indigenous rights are rooted in Aboriginal title, which arises from their long and continuous use and occupancy of the land prior to the arrival of European colonial powers in North America. It is a form of property right. The Royal Proclamation of 1763 recognized this title and required that the Crown (i.e., the federal government) settle outstanding Aboriginal title rights through a land-based treaty-making process. Accordingly, comprehensive claims arise in areas of Canada where Aboriginal land rights have not been dealt with by past treaties or through other legal means. In the case of the NWT and Yukon, treaties did exist, but were mostly set aside because the terms of the treaties were contested and they had never been fulfilled (see excerpt above). In these areas, forward-looking modern treaties are negotiated between the Indigenous group, Canada, and the province or territory.

Canada first established policies on Aboriginal claims in 1973, along with processes and funding for resolving these claims through negotiation. These are optional processes that provide Indigenous groups with an alternative to going to court to resolve their claims. "It is in the best interest of all Canadians, Aboriginal and non-Aboriginal alike, to find mutually-acceptable ways to resolve these claims," the Canadian federal government notes. "Negotiations lead to 'win-win' situations that balance the rights of all Canadians."[1]

The era of modern treaties with Indigenous peoples in Northern Canada was marked in 1975 with the conclusion of the James Bay and Northern

Quebec Agreement. After negotiations that went on for several years (and some false starts, such as the collapse of an NWT-wide claim for the Dene and Métis), several other Northern treaties were concluded:

- the Inuvialuit Final Agreement, signed in 1984
- the Umbrella Final Agreement for Yukon, finalized in 1990
- Eleven of the fourteen Yukon First Nations have now concluded agreements
- the Gwich'in Comprehensive Land Claim, signed in 1992
- the Nunavut Agreement, signed in 1993
- the Sahtu Dene and Métis Comprehensive Land Claim Agreement, signed in 1993
- the Tłı̨chǫ Land Claims and Self-Government Agreement, signed in 2003

Many of these land claim agreements established innovative forms of co-management by Indigenous peoples and territorial, provincial, and federal governments over land, water, and other resources. Some set up Indigenous governments, and one (the Nunavut Agreement) resulted in the creation of an entirely new territorial jurisdiction through which the Inuit agreed to exercise their self-government rights.

The federal government's website explains that:

> By entering into Comprehensive Land Claims Agreements and Self-Government Agreements, the signatories commit to a series of obligations that further the goals of all parties - to improve the social well-being and economic prosperity of Aboriginal people; to develop healthier, more sustainable communities; and to promote the participation of Aboriginal Canadians in Canada's political, social and economic environment to the benefit of all Canadians.
>
> Comprehensive Land Claims Agreements and Self-Government Agreements are complex documents. They contain objectives and obligations touching on many different jurisdictions. The signatories work together in good faith during the negotiations phase to design an agreement that is clear, reflects mutual objectives and respects obligations, and is practical in the current legislative and political landscape. On behalf of the Crown, representatives from all implicated federal departments and agencies are involved throughout the negotiations process.

> These agreements change the relationship between Aboriginal signatories, the federal government and the provincial / territorial governments concerned. According to Comprehensive Land Claims Agreements and Self-Government Agreements, Aboriginal signatories constitute governments in their own right and, as a result, the Parties to the agreements form groundbreaking government-to-government relationships that transform how they relate to and collaborate with one another.[2]

The record of implementing these modern-day treaties is mixed. While the federal government has delivered on its one-off obligations, such as transferring cash compensation or parcels of land to Indigenous peoples, Indigenous representatives report ongoing problems when it comes to the government delivering on promises or objectives that require co-operation and co-ordination between federal departments. Former Canadian Arctic Resources Committee executive director Terry Fenge summarized that:

> All involved would agree that implementing modern treaties is challenging, even with the best will in the world. Periodic reviews by independent consultants reporting to panels and committees established through the agreements, and reviews of the Gwich'in, Nunavut and Inuvialuit Agreements conducted by the Auditor General of Canada, have pinpointed numerous implementation problems. Lack of capacity, inadequate funding, institutional timidity, disagreements as to the meaning and intent of certain provisions, and inherent difficulties in breathing life into conceptually broad agreements have all been cited to explain implementation shortcomings. Some disputes remain unresolved for years, and inadequate monitoring often leaves the parties unsure if they are achieving their objectives.[3]

The spirit of land claim and self-government agreements points to "living" relationships rather than technical agreements with narrowly defined obligations. As treaties, they are constitutional arrangements for the peoples and the lands that they encompass, and their proper implementation is fundamental to establishing or maintaining trust and acceptance. Narrow approaches to treaty implementation by the federal government are perceived to diminish the benefits and rights promised to Indigenous peoples under these agreements, and thus serve as a source of frustration and perpetuate a history of "broken promises" that undermine the honour of the

Crown. Furthermore, land claims and self-government regimes also represent new "experiments" in self-determination and form new political identities and power relations.[4]

Notes

1. Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC), "Ongoing Negotiations," https://www.aadnc-aandc.gc.ca/eng/1100100030285/1100100030289.
2. CIRNAC, "General Briefing Note on Canada's Self-government and Comprehensive Land Claims Policies and the Status of Negotiations," last modified 16 August 2018, https://rcaanc-cirnac.gc.ca/eng/1373385502190/1542727338550.
3. "Implementing Comprehensive Land Claim Agreements," Policy Options, 1 July 2008, http://policyoptions.irpp.org/magazines/quebec-1608-2008/implementing-comprehensive-land-claims-agreements/.
4. See, for example, Paul Nadasdy, *Hunters and Bureaucrats: Power, Knowledge, and Aboriginal-State Relations in the Southwest Yukon* (Vancouver: University of British Columbia Press, 2003); Stephanie Irlbacher-Fox, *Finding Dahshaa: Self-Government, Social Suffering, and Aboriginal Policy in Canada* (Vancouver: University of British Columbia Press, 2010); Jack Hicks and Graham White, *Made in Nunavut: An Experiment in Decentralized Government* (Vancouver: University of British Columbia Press, 2015); and Greg Poelzer and Ken Coates, *From Treaty Peoples to Treaty Nation: A Road Map for All Canadians* (Vancouver: University of British Columbia Press, 2015).

INDIGENOUS LAND AND RIGHTS

John B. Zoe, with Jess Dunkin

In the summer of 2019, I travelled from my home in Behchokǫ̀ to Wekwìt'aɻlıɥtì (Mattberry Lake) with my brother-in-law, Richard Rabesca. At the south end of Tehgǫǫ̀tì (Basler Lake), there is a lengthy portage that skirts a series of rapids. After a long day on the water, it was refreshing to walk Hotetso, which means big portage in Tłı̨chǫ. We stopped at a site used for making birch bark canoes, identifiable because of the placement of rocks. This is one of five or six canoe-making sites in the area, indicating that this is a place where multiple families would gather to build boats in the springtime.[1]

Hotetso (Photo credit: Jess Dunkin)

The trail continues on, crossing through a park-like area carpeted with caribou lichen and then passing through dense bush before emerging below the last set of rapids. This is a trail created by generations of moccasins, an inheritance etched deep into the earth, and a reminder to future generations to use the trails so they remain open, but just as importantly so they continue to tell the stories of our travel as a people to and from hozı̨ı (the barrenlands) to intercept the caribou migration.

This is the heart of what the old people who spoke during the Berger

Inquiry in Behchokǫ̀ (Rae/Edzo) and Whatì (Lac La Martre) in August 1976 were saying. (Between 1974 and 1976, Justice Thomas Berger travelled up and down the Mackenzie Valley listening to communities speak about the "social, environmental and economic impact of the construction, operation and abandonment of [a] proposed pipeline" in the North.[2]) For example, on 12 August 1976, Chief Louis Beaulieu of Whatì testified:

> We depend highly on the land for the fishing, trapping, and hunting … the people have to help each other to survive. … This is how we lived until now. It's not going to be up until now, it's going to be done in the future too. This is the way we live, and this is the way we are going to live, in the past and in the future.[3]

It is no coincidence that after we began pursuing a regional land claim and self-government agreement in 1992 – we had previously been part of the Dene-Métis claim, which fell apart in 1990 – the Tłı̨chǫ Nation started a canoe program that brought Tłı̨chǫ young and old together to travel our ancient trails. Whaèhdǫǫ̀ Etǫ K'è (Trails of Our Ancestors) had the dual purpose of reviving trails that had been infrequently used since the 1960s and 1970s and drawing energy from the land, energy that would propel us forward as we negotiated with the federal and territorial governments.

Chief Jimmy Bruneau and Louis Beaulieu, c. 1950s. (Photo credit: NWT Archives/Henry Busse)

In this chapter, I reflect on the related subjects of Indigenous land and rights, drawing on my experience of the negotiation and implementation of the *Tłı̨chǫ Land Claims and Self-Government Agreement,* which was signed by the parties on 25 August 2003 and took effect on 4 August 2005.[4]

Life Before and After Contact

Before colonization, our language, culture, way of life, and systems of governance were strong, honed by practices repeated for thousands of years, embedded in the landscape, and kept alive by stories. We had an inherent and intimate relationship with the land, the water, the plants, the birds, the fish, the animals that roam. We knew how these things could be used to sustain us. We knew where and when to harvest. We knew what was good for medicine. We had rich systems and practices of kinship that included naming ceremonies, puberty rites, marriages, and burials. We had knowledge holders, teachers, counsellors, mentors, Elders, and decision-making bodies. We manufactured clothing, equipment, and games. We traded among ourselves, but also with others. We were constantly evaluating how things were; we did this especially in the summertime, when we gathered to feast, to tell stories, and to share.

All of this was disrupted by the arrival of the early explorers, who were conducting research for their financiers, including governments. Initially, their interest centred on food sources and the abundance of fur-bearing animals. Later, new arrivals to our territory were concerned with the presence (or absence) of gold, silver, agricultural capacity, subsurface resources, and labour. State-supported capitalism resulted in the commercialization of the land, the animals, the fish, the trees. This put a strain on the very things that sustained us as a people, the things that allowed us to thrive in Tłı̨chǫ nèk'e (the place where Tłı̨chǫ belong).

Our lives were further disrupted by treaty. Though people speak of treaty negotiations, in actuality, the text of Treaty 11 was drafted before the commissioners arrived in our territory in the summer of 1921. With treaty, the government imposed colonial names on our traditional leaders, they gave title to our land to settlers, and they enforced a system of rule that was designed elsewhere, a system that did not allow for our full participation. Settlers on our lands had legislated rights, but our rights were stripped away or ignored.

From the perspective of the Canadian state, treaties were tools for the management of resources, including wildlife and subsurface resources, as well as the management of people. The government placed us into a box, which was legislated by the *Indian Act* (1876) and managed by Indian Affairs through Indian Agents. This whole system was financed by the resources from our lands, but we saw very little benefit from this so-called development. One example of development that took place on our land without our consent and with more harm than benefit to our people is the Rayrock

Mine.[5] The funds that did find their way back to our communities were not used to strengthen our land, our people, our culture, and our way of life, but to take more, to further impoverish us.

The imposed management of our lands and the taking of our resources was accompanied by the loss of our children to mission schools and Indian residential schools, where clergy and teachers worked to indoctrinate and assimilate them, so they could not make their way back to their communities. Depending on the year, Tłı̨chǫ children were sent away to schools in Fort Providence, Fort Resolution, Fort Smith, Fort Simpson, and Yellowknife. While children attending residential schools after the 1950s were more likely to return home, their absence nevertheless left gaping holes in our families and communities.

Shifts in federal Indian policy in the 1950s resulted in the greater involvement of the provinces and later the territories in the delivery of health, education, and social services to Indigenous peoples.[6] Disparities in the standards between Indian Affairs and provincial/territorial social services provided the institutional rationale for the mass removal of Indigenous children, including Tłı̨chǫ children, from their families in a phenomenon known as the Sixties Scoop, but which spanned the 1950s to the 1980s.[7]

In the early 1970s, when the Canadian Arctic Resources Committee (CARC) was being formed, the question of Indigenous rights and lands was increasingly front of mind in the North, but also in Canada more broadly. Trudeau's 1969 White Paper on Indian Policy had galvanized a generation of Indigenous activists, who were also inspired by the American Indian and Black Power movements in the U.S. In the North, the formation of the Indian Brotherhood of the Northwest Territories (NWT) in 1969 was at once a response to and an important mechanism for drawing attention to the Canadian government's failure to meet its obligations under Treaties 8 and 11.[8]

The Calder decision of 1973 opened the door for Indigenous peoples to pursue land claims in cases where treaty promises remained unfulfilled. The first federal claims policy was passed that same year.[9] The Indian Brotherhood of the NWT, which became the Dene Nation in 1978, took up the land claim as its chief pursuit, eventually joining forces with the Métis Association of the NWT. The Dene-Métis Secretariat was established in 1978, and land claim negotiations began in earnest in 1981.

The Tłı̨chǫ was one of five regions that were part of the Dene-Métis claim until disagreement fractured the collective in 1990.[10] Subsequently, the federal government pulled funding from the Dene-Métis Secretariat, declaring

it would thereafter only negotiate regional claims. In 1992, as the ink was drying on the *Gwich'in Comprehensive Land Claims Agreement* and the Sahtú Dene and Métis were in the final stages of their claim, members of the Tłı̨chǫ Nation voted to pursue a regional claim.[11]

We pursued a land claim because we wanted control over our lands and our lives. We wanted our children to remain with their families, to be raised in their language and culture, and to be educated in their communities. We wanted to be able to create employment opportunities for our citizens. We wanted to be able to determine how our land would be used. We wanted future generations to be able to spend time on the land the way our ancestors had. We wanted to revive our systems of governance.

In 2005, the *Tłı̨chǫ Land Claims and Self-Government Agreement* came into effect, and Tłı̨chǫ Ndek'àowo (Tłı̨chǫ Government) was finally recognized through legislation.

There was strong support for the Tłı̨chǫ Land Claims and Self-Government Agreement amongst the people of the Tłı̨chǫ Nation. On 26-27 June 2003, eighty-four percent of eligible voters (ninety-three percent of eligible voters participated) supported the ratification of the Tłı̨chǫ Agreement. (Photo credit: John B. Zoe)

The Context for Claims

Perhaps the one constant in the historic and ongoing struggles of Indigenous peoples for control over our lands and recognition of our rights is diversity. The comprehensive claims process involves overlap agreements for the very reason that what works for one nation will not necessarily work for another. We have different landscapes and languages, legal orders and systems of governance. Even as we share the fact of having been subject to colonization and dispossession, the experience of these has looked very different for different Indigenous nations.

Canada, likewise, is a mosaic of provinces and territories with distinct if connected political and economic histories. Federally, there are multiple political parties that compete for authority, each with its own policy statements, conventions, and decision-making processes. There are a range of perspectives on and approaches to Indigenous rights among these parties. This is what Indigenous nations have to deal with when we are seeking recognition of our right to land and life: a complex and ever-changing system of colonial government.

As a result of our different geographical and historical circumstances, there is great variety in the legal relationships that we as Indigenous peoples have with our lands.[12] Some nations have unresolved treaties. Some nations have treaties that have not been implemented. Some are negotiating an implementation of treaties. Still others have settled or are pursuing comprehensive land claims, or modern treaties, a term used to distinguish more recent agreements from the historic treaties signed between 1701 and 1923.[13]

In this chapter, I focus on the subject of comprehensive land claims, or modern treaties, because it is the most common approach in the North. It is also the approach with which I am most familiar. I became involved with claims work in 1989 when I was appointed Regional Negotiator for the Dogrib Tribal Council to the Dene-Métis claim. From 1992 until settlement, I was the Chief Negotiator for the regional claim being pursued by the Dogrib Treaty 11 Council, working alongside Ted Blondin (Manager for Negotiations), Eddie Erasmus (Lands Negotiator), and James Wahshee (Self-Government Negotiator). From 2005 to 2009, I served as the Tłı̨chǫ Executive Officer (TEO) of Tłı ch Ndek'àowo. Since then, I have been an advisor to Tłı̨chǫ Ndek'àowo.

The Nature of Negotiations

From the perspective of the claimant group, there are two parts to negotiation: having a clear vision and being able to translate that vision so it is legible to the other parties at the table. It was the Elders who carried the vision and who mentored the negotiators through the claims process. We were fortunate that all of the members of the negotiating team spoke Tłı̨chǫ and were grounded in the Tłı̨chǫ way of life, which facilitated the process of knowledge transmission from the Elders to the negotiators. Even as we spoke Tłı̨chǫ and were rooted in our way of life, our understanding of and approaches to the claims process were shaped by our experiences in the Western education system – all of the members of our negotiating team had attended residential and/or federal Indian day schools, though some of us only occasionally – but also our participation in Western institutions and governments – collectively, we had experience as members of the Legislative Assembly, band councillors, and non-profit administrators. Still, we did not necessarily have the full suite of skills needed for engaging in the comprehensive claims process. For this reason, we had lawyers, including constitutional specialists, who had the technical expertise to capture our vision in legal language.

So much of claims work is listening: listening to the government representatives so you are able to report back to the communities, but even more

Young people walking What'aa Hotee to Dıgaatì (Grizzle Bear Lake) as part of the reviving trails project. (Photo credit: Petter Jacobsen)

importantly, listening to the Elders. And not just listening, but listening and listening and listening, because the Elders want to download as much as they can to the negotiators, to the ones who have been tasked with leading, and they do so through stories. Our goal as negotiators was to make sense of these stories, communicate them to the lawyers, and, in the process, lead the nation toward an agreement "that worked." Alexis Arrowmaker (Wekweètì), a former chief and Tłı̨chǫ Elder who was an advisor to the negotiating team along with Joe Migwi (Behchokǫ̀), Harry Simpson (Gamètì), and Johnny Nitsiza/Jimmy B. Rabesca (Whatì), liked to ask, "Can we live with it?"

We talk about the claim as a new thing, but it merely gave official (or perhaps more accurately colonial) recognition to something that has existed since time immemorial. I think of the claim as a tool for managing relationships and transactions between the signatories. It has also created the conditions for returning to our people some of what had been taken from us, including identity, self-determination, and resources.

The Possibilities and Challenges of Implementation

The real benchmark for a claim is implementation. To date, we have focused so much of our energies on developing corporate structures. While establishing systems of governance that will allow us to manage our relationship with Canada and the Government of the Northwest Territories is important, we should not lose sight of re-building ourselves. We have our land and a government. Now, we need to re-strengthen ourselves as Tłı̨chǫ, to recuperate the losses we have experienced. Our investments should be focused on our land, culture, and way of life. We need to invest in going back to the land, going back to hunting and trapping, teaching our young people to fish, preparing hides, gathering medicines, and speaking the language.

I see great potential in evaluation and research for advancing implementation. When Canada reviews its spending, its systems of evaluation are designed for it, for its way of working and its values. We are developing our own ways of evaluating our systems and investments using our own values and practices. Of course, our evaluation still needs to be legible to the government and its entities. One example of an evaluation that centres Tłı̨chǫ knowledges and values can be found in Ekwǫ̀ Nàxoèdɛ K'è (Boots on the Ground), a caribou monitoring program grounded in the traditional knowledge of Tłı̨chǫ Elders and harvesters.

On the research side, we need to concentrate on developing opportunities for Tłı̨chǫ Elders and knowledge holders to transfer knowledge to

young people. The systems we develop need to be constructive. They should create opportunities for our people who want to come home to reintegrate themselves into our communities and to be nurtured in our land, language, culture, and way of life.

I see the evidence of resurgence in every direction: a resurgence of spending time on the land, a resurgence of moose hide tanning, a resurgence of making ehgwàa (dryfish), a resurgence of place names, a resurgence of handgames, a resurgence of traditional clothing. There are lots of different energies out there, but at times it feels fragmented. We do not have the common vision that the old people had. We may know more, but really we just have a better understanding of the system that contained our people.

Conclusion

In 1971, the same year that CARC was founded, grade four, five, and six students at the Rae Federal Day School, which opened in 1948, undertook a social studies project about their community. The project culminated in a thirty-five-page document that offers a detailed portrait of "the town of Rae" as it was in 1971. Amongst other things, the students describe the land, climate, and people; report on community services and leadership; and document local pastimes.

There is much that has changed in the fifty years since the completion of this project. The community has grown from 1,300 residents "when everyone is in town" to almost 2,000 in 2020.[14] The land bears the imprints of climate change and a variety of resource development projects. The federal day school was replaced by a community school named for the long-serving chief and education advocate, Jimmy Bruneau. There is no longer a hospital in Rae (now called Behchokǫ̀); the Faraud Hospital, which opened in 1936, was shuttered in 1974 and torn down a few years later.[15] With the completion of the Deh Cho Bridge in 2012, the transportation of goods to the community is no longer disrupted by freezeup and breakup. We are now governed by Tłı̨chǫ Ndek'àowo instead of the band council.

For all that has changed, many of our goals as Tłı̨chǫ remain the same in 2021 as they were in 1971. We want to be autonomous, as we were before contact. We want our authority over our lands and our lives to be recognized and respected. As Chief Louis Beaulieu said in 1976, we want to be able to live as our ancestors did, in intimate relation with the land, and we want our grandchildren and their grandchildren to be able to do the same. To that end, we continue to pursue implementation in a way that strengthens who we are

and what we have. Self-government has given us a greater capacity to shape our communities and our future, though the work continues. We look to the old ways, to the relations our ancestors had with the land and each other, and we keep the trails open, so that we may live as we did in the past in the future.

Of course, our story is just one story among many. Our experiences of negotiating and implementing a land claim and self-government agreement have parallels in other places, but there is also much that is specific to our nation. We can learn from one another, but we also need to find our own paths, paths that are grounded in our respective lands, languages, cultures, and ways of life.

Notes

This work was supported by the Tłı̨chǫ Government.

1. This site was likely last used for canoe making around 1939. After that time, Tłı̨chǫ primarily used canvas canoes with a kicker to travel by water. See John B. Zoe and Jessica Dunkin, "Whaèhdǫǫ̀ Etǫ K'è," in The Politics of the Canoe, eds. Bruce Erickson and Sarah Wylie Krotz (Winnipeg: University of Manitoba Press, 2021).
2. Mackenzie Valley Pipeline Inquiry (Canada), and Thomas R. Berger, Northern Frontier, Northern Homeland: The Report of the Mackenzie Valley Pipeline Inquiry (Ottawa: J. Lorimer in association with Pub. Centre, Supply and Services Canada, 1977).
3. Transcripts of the Mackenzie Valley Pipeline Inquiry, Proceedings at a Community Hearing, Lac La Martre (12 August 1976), 8156-8157. Chief Louis Beaulieu was speaking through an interpreter, Francis Zoe. In the transcripts, the interpreter refers to the chief in the third person. We have edited the transcript so that Chief Beaulieu is speaking in the first person.
4. *Tłı̨chǫ Land Claims and Self-Government Act*, SC 2005, https://www.tlicho.ca/sites/default/files/documents/government/T%C5%82%C4%B1%C-C%A8cho%CC%A8%20Agreement%20-%20English.pdf, accessed 2 November 2020.
5. Dedats'eetsaa, *The Trees all Changed to Wood: Remembering Rayrock Uranium Mine* (1997/2015), https://research.tlicho.ca/sites/default/files/trees_all_change_to_woods_report.pdf, accessed 2 November 2020.
6. John F. Leslie, "Chapter 5: Efforts to Forge a Renewed Indian-Government Relationship, 1951-1957: Advancing the Integration Agenda," in "Assimilation, Integration, or Termination? The Development of Canadian Indian Policy, 1943-1963" (PhD dissertation, Carleton University, 1999), 244-303.
7. Paul L. Chartrand and Wendy Whitecloud, "The Sixties Scoop," in *The Justice System and Aboriginal People*, http://www.ajic.mb.ca/reports/final_toc.html, accessed 5 October 2020. Arguably, the Sixties Scoop has never really ended.

A 2010 report revealed that while Indigenous people make up 50% of the population in the NWT, 95% of the children in care are First Nations, Métis, and Inuit. Cindy Blackstock, *I Want to Grow Up in My Community: A Special Report to the NWT Standing Committee on Social Programs* (2010), https://www.ntassembly.ca/sites/assembly/files/10-10-21blackstockreport.pdf, accessed 6 October 2020.

8. Glen Sean Coulthard, *Red Skin, White Masks: Rejecting the Colonial Politics of Recognition* (Minneapolis: University of Minnesota Press, 2014), 57. See also Rene Fumoleau, *As Long as This Land Shall Last: A History of Treaty 8 and Treaty 11, 1870-1939* (Toronto: McClelland and Stewart Limited, 1975).

9. Department of Indian Affairs and Northern Development, *Statement on Claims on Indian and Inuit People* (1973). The federal claims policy was "clarified with the publication of *In All Fairness: A Native Claims Policy – Comprehensive Claims* (1981) and reaffirmed in 1986, with the *Comprehensive Land Claims Policy* (1986)." Aboriginal Affairs and Northern Development Canada, *Renewing the Comprehensive Land Claims Policy: Towards a Framework for Addressing Section 35 Aboriginal Rights* (2014).

10. Coulthard, *Red Skin, White Masks*, 76.

11. Department of Indian Affairs and Northern Development, *Gwich'in Comprehensive Land Claim Agreement* (Ottawa: Minister of Public Works and Government Services Canada, 1992); Department of Indian Affairs and Northern Development, *Sahtú Dene and Métis Comprehensive Land Claim Agreement* (Ottawa: Minister of Public Works and Government Services Canada, 1993).

12. Here we are referring specifically to colonial legal relationships. We recognize that Indigenous nations have legal orders that reflect and shape their land relations.

13. Modern treaties are negotiated where Indigenous rights and title have not been settled. To date, modern treaties have largely been negotiated in the North and British Columbia. For a timeline of modern treaties, visit "What is a Modern Treaty?" Land Claims Agreements Coalition, https://landclaimscoalition.ca/modern-treaty/, accessed 17 September 2021.

14. NWT Bureau of Statistics, *Population Estimates by Community*, https://www.statsnwt.ca/population/population-estimates/bycommunity.php, accessed 5 November 2020.

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2

ENVIRONMENTAL ASSESSMENT

ENVIRONMENTAL IMPACT ASSESSMENT: ANOTHER VIEW

A.R. Lucas, CARC Legal Committee

Northern Perspectives 1, no. 6 (June 1973)

There are several reasons why it is important that the North be given first priority in developing and implementing effective environmental impact assessment requirements. First, the North is largely unspoiled. We have a unique opportunity to ensure that ecological and social damage is avoided from the outset of major development; no costly 'roll backs', when damage is critical, would be necessary—as it now is in many areas of southern Canada.

Second, the northern ecosystems and cultures have been shown to be easily damaged.

Third, the proposed Mackenzie valley pipeline provides a classic opportunity for development of a prototype Canadian regulatory package for environmental impact assessment. The opportunity is even more attractive considering the fact that the pipeline is under the exclusive jurisdiction of the federal government and none of the usual murky federal-provincial jurisdictional issues will intrude.

DELTA GAS: NOW OR LATER?

Douglas Pimlott

Northern Perspectives 2, no. 3 (1974)

The environment has a high platitude priority in ministerial speeches but a low practical priority when important decisions are made for the Arctic. As a close observer of decisions north of 60, I have regretfully drawn the conclusion that during the last five years, the protection of the environment and the interests of the native people have increasingly been subverted to the development of non-renewable resources. There are many examples of DIAND's [the Department of Indian Affairs and Northern Development's] inability to incorporate environmental considerations in decisions on resource development.

Even a short list would include the limited research undertaken to determine the impact of seismic and other exploration work on the tundra and animals in the Delta and the Arctic islands; the approval of Panarctic's first offshore drilling operation after only a crude and limited study had been made of environmental considerations; the recent approval-in-principle by Cabinet of major expenditures to support the development of mining operations in the Strathcona Sound area of Baffin Island, again before the Department of the Environment had conducted any environmental research; the decision to promote the development of the hydro potential of Great Bear Lake before any program of environmental assessment had been undertaken; [and] the failure of the government to undertake even preliminary studies of much of the animal-resource base of the people of Victoria Island and Resolute Bay, even though oil companies were granted exploration permits for large areas on the island some time ago.

The list is long. It clearly demonstrates that the federal government's adaptation to environmental concerns has been made primarily on paper. So far it has had little effect on events in the real world.

The approach of DIAND and DOE [the Department of the Environment] to preparation for offshore drilling in the Beaufort Sea is another example of the government's inability to bring environmental protection into perspective with the development of non-renewable resources. There are a number of off-shore drilling projects either underway or scheduled for different parts of the Arctic. They all have on[e] thing in common. They are all being conducted in advance of the development of adequate technology for Arctic

operations because the companies involved are rushing to prove reserves so that the construction of a gas, and possibly an oil, pipeline can be justified at the National Energy Board before the end of this decade. A more seasoned pace of development could have greatly minimized the environmental risks involved in these hazardous operations.

BACKGROUND AND CONTEXT

For many Northerners and students of the North, the 'big bang' moment for environmental assessments was the appointment of Justice Thomas Berger in 1974 to lead a Royal Commission to consider two proposals for natural gas pipelines in Northern Canada. One of the proposals stretched from Alaska, over northern Yukon to the Mackenzie Delta, then followed the Mackenzie Valley to Alberta. The other proposal originally planned to connect the Mackenzie Delta to Alberta, but later switched to an alternative Alaska Highway route. In 1975-76, the Commission heard from people in thirty-five communities in Yukon and the Northwest Territories (NWT), and also held some hearings in southern cities. In 1977, Berger's recommendations were released. The bottom lines were that there should be no pipeline across northern Yukon, and a Mackenzie Valley route should be postponed for ten years to allow for the settlement of Indigenous claims to the land and self-determination.

The Berger Commission was unique. It occurred at a time when the Canadian government was trying to grapple with the principles and mechanics of environmental assessments. It set a high bar in terms of not only listening to the people of the North, but also in terms of its final recommendations. In his reports, Berger spoke not only of environmental impacts, but of social, economic, and cultural impacts. While Canada as a whole was still working through what an environmental assessment process should look like, Northerners were being treated to a complete and inclusive assessment that did not rubber-stamp an application but instead made recommendations that effectively stopped the project in its tracks.

In the 1970s, no land claims had been settled in Canada's North with the exception of the *James Bay and Northern Quebec Agreement* in 1975. In the territories, this meant that lands were still officially under federal jurisdiction,

so the only environmental assessment rules were the federal government's rules. In 1984, the government introduced the Environmental Assessment and Review Process Guidelines Order (EARPGO). The scope of environmental assessment responsibilities was initially interpreted quite narrowly, but court decisions in the late 1980s and early 1990s prodded the government into a broader interpretation of its responsibilities. The federal government introduced the *Canadian Environmental Assessment Act* (CEAA) in 1990. Due to intervening elections and political wrangling, the act was not passed until 1995.

Meanwhile, environmental assessments in the North were being driven by the settlement of Indigenous land and governance rights. The Inuvialuit on the Arctic coast of the Northwest Territories settled a claim in 1984. Under the terms of their claim, co-management boards (half appointed by the federal government and half by the claimant group) were established to deal with environmental assessments in the region. There is an Environmental Impact Screening Committee that determines the likely impact of a project, and an Environmental Impact Review Board that takes projects to public review if necessary.

> "There is a myth that terms and conditions that will protect the environment can be imposed, no matter how large a project is proposed. There is a feeling that, with enough studies and reports, and once enough evidence is accumulated, somehow all will be well. It is an assumption that implies the choice we intend to make. It is an assumption that does not hold in the North."
>
> *Thomas Berger,* Northern Frontier, Northern Homeland *(1977), xi.*

Subsequent land claims in the Northwest Territories in the Gwich'in, Sahtu, and Tłı̨chǫ regions also set up screening processes for proposed projects through their individual land and water boards, but if a project is referred for public review, it goes to the Mackenzie Valley Environmental Impact Review Board. This board covers all environmental reviews in the NWT with the exception of the Inuvialuit region.

Nunavut also got its own environmental assessment process under the terms of its land claim. The Nunavut Impact Review Board (NIRB) screens projects and then reports to the responsible federal minister. The minister can accept or vary recommendations made by the review board. The board can recommend a full public review process for a project, and if the minister accepts that recommendation, the NIRB sets up the review.

Yukon's environmental assessment process also flowed from land claims in the territory. All of the seven members of the Yukon Environmental and Socio-economic Assessment Board are appointed by the federal government, but three are nominated by the Council of Yukon First Nations, and the chair is chosen by both parties.

The environmental assessment regimes in the three territories were all set up under federal legislation, and so require federal legislation to be changed – both the *Mackenzie Valley Resource Management Act* and the *Yukon Environmental and Socio-economic Assessment Act* have been amended after a first version was passed.

In 2018, a long-standing complaint about Northern environmental reviews was addressed when the federal government announced the creation of a Northern Participant funding program. The program allocated just over ten million dollars over five years to give Northern people and organizations money to better take part in assessments of major resource or infrastructure projects.

ENVIRONMENTAL ASSESSMENT

Bram Noble

The environmental assessment (EA) has come a long way since the Mackenzie Valley (Berger) Pipeline Inquiry (1974-77). Across the Canadian Arctic, the EA is now a primary instrument for identifying and mitigating the impacts of development on ecosystems and on the wellbeing of Northerners.[1] Although still relatively young, the EA systems of Yukon, the Inuvialuit Settlement Region, the Mackenzie Valley, and Nunavut are often regarded as more advanced than those of the rest of Canada in terms of local engagement and the incorporation of traditional knowledge in the assessment and decision-making processes.[2] That said, the Arctic is facing unprecedented challenges due to increasing resource development pressures,[3] which, coupled with the rapidly changing climatic conditions,[4] are resulting in potentially adverse cumulative effects to Arctic ecosystems and social and economic livelihoods.[5]

Cumulative effects are the effects that result from multiple disturbances (e.g., project developments, land uses, resource harvesting) acting together across space and over time. Taken together, these impacts influence the health and functioning of a system or its components – whether environmental, social, or cultural.[6] EAs across Canada and internationally are not well equipped to deal with cumulative effects[7] – the Arctic is no exception. The focus of EA is on a single project proposal, such as a mine site, an access road, or a wind farm.[8] The EA process identifies the potential impacts that may arise from projects and suggests measures to mitigate them. It often does not address the legacy effects of past activities or the cumulative impacts of regional land use and development pressures. It fails to shape the nature and types of future development that may occur in a resource-rich region.[9] As noted in a recent Gwich'in Council International report on EA in the Arctic, "good decisions are based on cumulative impacts."[10] EA systems should evolve to tackle the pressing cumulative effects issues and challenges facing Arctic environments, and thus enable Northerners to chart their own development futures.

Three Pillars to Support the Future of Arctic EAs

The GLOBIO Report, issued by the United Nations Environment Programme, indicates that between fifty and eighty percent of the Arctic may be impacted by human-induced disturbances by 2050, including mining, oil and gas exploration, roads, ports, tourism, and other developments. Internationally, EA is viewed as an essential management tool in the Arctic, as emphasized by the Arctic Council working groups in documents such as the 1991 Strategy for the Protection of the Arctic Environment and the Arctic Monitoring and Assessment Program's 2007 report on oil and gas.[11] As we enter the third decade of the twenty-first century, however, many questions have been raised about the success of EA and whether it is sufficiently designed to address some of the biggest challenges facing Arctic environments.[12]

In a recent gap analysis of Arctic EAs, Noble and Hanna[13] identified several important areas where research and development are needed to strengthen EA systems. These priority areas range from climate change adaptation measures in EAs, to ensuring a flexible and responsive EA process that aligns with communities' and proponents' needs without compromising its effectiveness.

Strengthening EA practices and regulatory requirements, including mitigation follow-up, participant funding programs to support community engagement, and baseline data collection, is clearly important. However, if EA is to measure up to the challenges facing Arctic environments, it is necessary to go beyond the EA process itself. The future of EA requires support from complementary regional assessment, monitoring, and knowledge brokering initiatives.

Regional Strategic Assessment

As we have seen, EAs are not good at dealing with issues broader than the project at hand.[14] The solution is not to make EAs *bigger to try and tackle these issues at the time projects are proposed, but to advance a separate yet complementary model of EAs on a regional basis, to better understand the potential* cumulative effects of different land and resource use possibilities (Table 1). Regional strategic assessment (RSA), sometimes referred to as the regional assessment, is gaining considerable traction across Canada as a 'higher order' approach to assessment. It occurs before irreversible development decisions are taken, when alternative futures and options for regional land use, development, and conservation are still open. Simply put,

RSA is about identifying and assessing the potential implications of alternative scenarios of land use and resource development. This can be coupled with climate change scenarios to provide direction for resource development decisions, including project EAs and regional impact management strategies. RSA provides an opportunity for early participatory planning and government-to-government negotiations about resource development futures.[15]

The argument for RSA to set the context and direction for development planning and decision-making in the Arctic, especially project EA, is not new[16] – it was the premise of a 2004 request from the Inuvialuit Game Council to the federal Minister of the Environment regarding future energy development in the Beaufort Sea. There has been some slow progress in recent years, including assessments for the Davis Strait and Beaufort Sea – both focused on offshore hydrocarbon activity. RSA is an important precursor to meaningful project EAs in the Arctic, and is essential to planning for and responding to the large-scale cumulative effects challenges facing Arctic ecosystems and communities.

Cumulative Effects Monitoring

Monitoring is foundational to identifying, assessing, and managing the cumulative effects on Arctic environments, yet monitoring for cumulative change is currently one of the most deficient aspects of EA systems.[17] Monitoring under project-based EA, when done, is focused primarily on ensuring compliance with regulatory standards and proponent commitments, and assuring that mitigation measures are working to reduce the incremental stress caused by the project.[18] Although important, monitoring of this scope and scale is not sufficient to detect cumulative effects,[19] or to understand the multiple pathways that lead to adverse cumulative change in Arctic environments.

Environmental effects monitoring is needed at the regional scale (e.g., watersheds, eco-regions, planning units) to strengthen cumulative effects management and to inform land use decisions and project EA processes. In contrast to project-based monitoring under current EA systems, environmental effects monitoring is focused on monitoring trends in baseline conditions, detecting cumulative change or risk, and establishing benchmarks or limits of change to support project decisions. To facilitate this, it develops the science and models needed to better predict the cumulative effects of development proposals.[20] The monitoring that occurs under project EA can

then provide regulators, communities, and decision-makers with meaningful data on more localized environmental change due to project actions, the significance of which can be interpreted in the context of regional environmental trends.[21]

There are examples of programs to advance the cumulative effects monitoring agenda in the Canadian Arctic. The Cumulative Impact Monitoring Program (CIMP), for example, established by the Government of the Northwest Territories, functions as a regional monitoring organization across the Mackenzie Valley. CIMP's purpose is to support resource management

Table 1: Key characteristics of project-based EAs and regional strategic assessment

	Project EA	Regional strategic assessment
Proponent	Private developer, operator, or government agency	Government, public-private partnership, Indigenous government
Trigger for assessment	Project proposal (e.g., mine site, water license)	Cumulative change, recognized need for coordinated land use strategy, multiple project proposals
Scenarios considered	Future condition(s) with the proposed project	Future conditions under alternative scenarios and assumptions about development and environmental change
Spatial scale	Project environment, with local to regional study area	Regional environment, such as watershed, planning unit, or eco-region
Time horizon	Project life cycle	Past, present, and longer-term futures
Impact sources & pathways	Individual, project actions, direct and (sometimes) indirect impact	Multiple land uses, natural disturbances, and interactions
Management approach	Mitigate adverse impacts to level of acceptable damage	Avoid adverse outcomes, identify opportunities for net benefit, adaptive management
Citizen engagement	Consultation with affected interests, within the scope of project issues and concerns	Collaborative, participatory, ongoing relationship building to identify desirable futures
Influence	Project-specific actions and compliance measures	Multiple land use activities, policies, and EA decision processes

Source: Based on Canadian Council of Ministers of the Environment (CCME), *Regional Strategic Environmental Assessment in Canada: Principles and Guidance* (Winnipeg, MB: CCME, 2009), and Bram Noble, *Getting the Big Picture: How Regional Assessment Can Pave the Way for More Inclusive and Effective Environmental Assessments* (Ottawa: Macdonald-Laurier Institute, 2017).

decisions, including project EAs and mitigation, by furthering the understanding of environmental trends and conditions. Data are collated from various government and community-based monitoring initiatives, and from project proponents via project-specific licensing requirements. Reviews of CIMP's performance, however, have identified several challenges, including the need for greater consistency in the indicators monitored and methods used for data collection, improved access to data (especially access to data collected by project proponents under EA monitoring requirements), and the need for clear questions to guide monitoring efforts.[22]

Good cumulative effects monitoring in the Arctic requires clear direction from governments, local communities, and the scientific community that, at a minimum, identifies the types of monitoring questions that need to be answered, establishes the types of indicators that are most useful for understanding cumulative effects, and ensures timely and relevant output to support project EA decisions.[23] When done correctly, monitoring can transform EA in the Arctic from a static exercise of impact prediction and project approval to a dynamic system of impact management and ongoing learning.[24]

Brokering Knowledge

EA involves the exchange of technical information about a project, usually between a proponent (or their consultants) and decision-makers. It also provides information to and receives knowledge from affected communities and traditional knowledge holders.[25] Sharing knowledge from one project to the next is essential in Arctic regions where baseline data can be scarce, projects new or innovative, and impacts and mitigation solutions often uncertain. Doing so ensures longer-term knowledge creation beyond the scope of the project being assessed.[26] This can lead to new ideas and innovations in assessment methods, and to an improved knowledge and understanding of potential cumulative effects and management solutions.[27]

That said, little has changed since Mulvihill and Baker's observation that too little information is shared about EAs and their outcomes in the North.[28] As a result, new assessments do not benefit from the information, data, and lessons learned from past assessments. Given the co-management and independent boards that run EAs across Canada's Arctic, the opportunity exists to strengthen the role of assessment boards as knowledge brokers – as agencies that foster relationships and networks within, among, and between knowledge producers and knowledge users. Of course, this requires significant investment and capacity building. To date, the majority of attention

to knowledge exchange in EAs has focused on building capacity within the context of the project at hand – e.g., participant funding programs and community roundtables to address project-specific concerns. Although this is important and much needed in the Arctic, longer-term investment in knowledge brokering capacity is also needed to establish the "systems, skills, behaviours and networks" to ensure long-term learning from EA application.[29]

An Integration Imperative

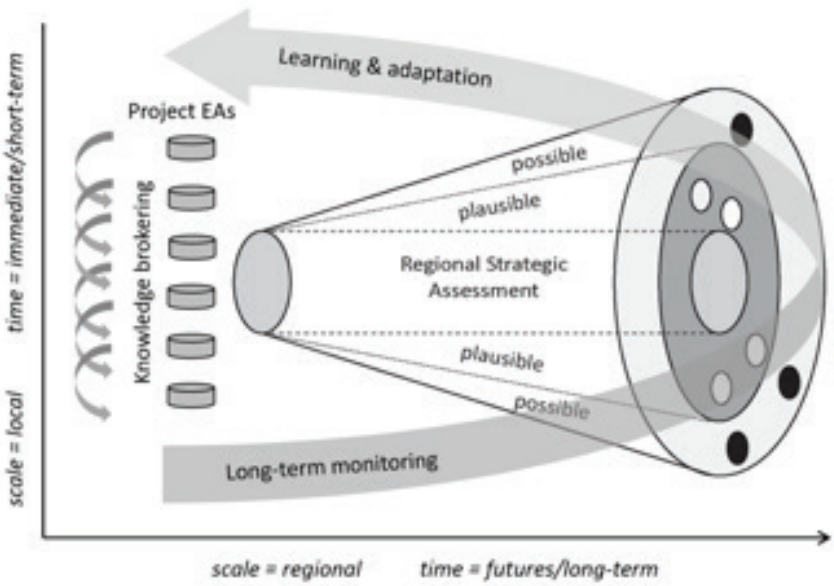
EA is an effective instrument in the Arctic when communities are engaged and the focus is on identifying, evaluating, and finding ways to mitigate the impacts of the project at hand. But what is increasingly clear is that the EA process alone, responding to one project at a time, cannot address large-scale, complex cumulative effects challenges or manage the trajectory of resource development.

There are two paths forward for EAs to address the future challenges facing Arctic environments and communities: expand the scope of project EAs to do more, tackling big-picture cumulative effects issues and challenges when projects are proposed; or embed project EAs in a nested and integrated system of regional assessment, long-term monitoring, and knowledge brokering (Figure 2-1). The first path is not a viable option for the future of Arctic EAs – it risks a cumbersome EA process and stifled decision-making, and is likely to fall short of all expectations.

Under the second path, RSAs become the norm rather than the exception, and projects are triggered and shaped not based solely on economic opportunity but on carefully thought-out planning objectives.[30] Under this model, project EAs are focused on what they do best – addressing the immediate issues and impacts attributed to individual projects – but they benefit from the insight of longer-term, futures-based analyses, thus ensuring that the 'right' projects are being approved and under the right conditions. Project impact mitigation and monitoring programs are established based on the knowledge generated from regional environmental effects monitoring, providing context for understanding and interpreting the significance of a project's incremental impact. Knowledge is transferred from project to project, filling gaps in baseline data and facilitating longer-term learning about 'what works, and what doesn't' regarding impacts and the most effective strategies for their management.

This may seem like an ambitious vision, but EA systems across Canada's Arctic are still evolving and are uniquely couched in a variety of co-management arrangements capable of achieving this level of integration. It is also a necessary vision if EA is to play a major role in charting a course for sustainable resource development in the Arctic. As noted in Justice Thomas Berger's 1977 report on the Mackenzie Valley Pipeline Inquiry, *Northern Frontier, Northern Homeland*, the greatest issue facing the North is not accelerated resource development per se, but that Northerners are able to determine their own futures.

Figure 2-1: Project EA as part of an integrated system of regional assessment, monitoring, and knowledge brokering



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3

OIL AND GAS PIPELINES

RETURN OF THE PIPELINE

John Crump

Northern Perspectives 27, no. 1 (Fall/Winter 2001)

Welcome to the oil and gas issue of *Northern Perspectives*. This is the first time in many years that we have devoted a whole issue of our magazine to oil and gas development in Canada's North. But these pages were once entirely devoted to the issue, as long-time readers may recall. This is the issue that gave birth to CARC [the Canadian Arctic Resources Committee], 30 years ago. In those days, the "energy crisis" was in full swing, hydrocarbon prices were headed nowhere but up, and the industry was ranging far afield in its search for North American prospects, including North of 60°. Some people became alarmed at the prospect of oil and gas companies undertaking a massive development project in what was even then one of the last great swaths of wilderness. These same people were also concerned that the voices of northerners might be lost in the project.

And so CARC was formed, to articulate these concerns, and to push for a fair assessment process for the proposed developments. CARC wanted a process that would respect the desires of local people to have a say in what was occurring on their lands, and would respect the desires of people across Canada to minimize environmental harm to the country's emotional heart. We are proud to say that partly due to our efforts, the people of the North were consulted about proposed oil and gas developments, and assessments were put in place that examined the possible social, cultural,

and environmental effects of massive oil and gas development. Northern oil and gas development, at least on the massive scale that was proposed, was subsequently shelved.

Now the issue is back. Alaskan producers are talking about proposals to move Alaskan gas to American markets through Canada, either along the Alaska Highway through the Yukon, or through a connection to a new Mackenzie Valley pipeline that would run adjacent to the Mackenzie River in the Northwest Territories. There is also talk of a stand-alone pipeline along the Mackenzie Valley, which would transport gas from the Mackenzie Delta and Beaufort coast, as well as from smaller gas fields along the route.

Much has changed since the first time such mega-projects were proposed. Northern governments have gained in power and experience. Not just territorial governments but also Aboriginal governments, some of which are still negotiating their powers and jurisdictions following land settlements in much of the North.

However, much has also not changed. There are still Aboriginal land and governance questions that remain to be settled in both the Yukon and Northwest Territories. This would still be the largest and most invasive industrial development the North has ever seen. Oil and gas development is part of a pattern of increasing development throughout the circumpolar North. As the United Nations Environment Programme pointed out in a news release earlier this year,

> At the turn of this new millennium less than 15 per cent of the Arctic's land was heavily impacted by human activity and infrastructure. However, if exploration for oil, gas, and minerals, developments such as hydro-electric schemes and timber extraction continue at current rates, more than half of the Arctic will be seriously threatened in less than 50 years.

This pattern can be seen across Canada's North. In the central Arctic, mining and accompanying infrastructure projects are dicing habitat into smaller chunks; in the Mackenzie Valley, a pipeline proposal and potential hydro projects are looming; the Yukon is facing the prospect of the resurrection of the Alaska Highway pipeline proposal, and with the devolution of oil and gas to the territorial government, northern areas are now open for exploration; across the border in Alaska, further oil and gas development is threatening the calving grounds of the Porcupine caribou herd relied on by people in the Yukon and Northwest Territories. This pattern of increasing industrialization can be seen all around the pole, fragmenting

and degrading some of the world's last great wilderness areas and, in extreme cases, threatening the health and well-being of northern peoples.

This is not to say that we think the Arctic should be turned into a wilderness theme park for the rest of the world. We appreciate that there are strong locally driven pressures to develop northern resources. These include a burgeoning northern population and Aboriginal peoples' increasing readiness and desire to participate in the wage economy.

What continues to concern us is that these pressures may lead some people to cut corners in their eagerness to attract development. We are particularly concerned that the rivalry between the Yukon and Northwest Territories is in danger of becoming a race to the bottom, as each territory feels it must promise the least rigorous regulatory regime to be the most attractive option to developers. Developers can hardly be blamed for taking advantage of the situation. Their job is the same as in any industrial enterprise, to realize the greatest profits for shareholders. Some may decide to also position themselves as more socially and environmentally responsible, but the bottom line of any publicly traded company is still to provide return on investment to investors.

Given this equation, CARC's role is as important as it was 30 years ago. We are not driven by economic imperatives to offer developers the best possible deal for them. We can instead push for a harder bargain, the best possible deal for northern peoples and the northern environment.

What we want for the North has not changed over time. In January 1974, we wrote in *Northern Perspectives*,

> The intent of CARC's intervention is not to stop the pipeline but to ensure that all the long-term social, economic and environmental consequences of a pipeline are brought to light and carefully considered by regulatory agencies in a manner that will enable Canadians to decide the many important issues that are involved.

Then, as now, we wanted a clear accounting of the costs, as well as the benefits, of development; a solid commitment on the part of developers to minimize and mitigate the negative social and environmental impacts of development; and policies designed to maximize continuing benefits to northerners from any major development. These ideas are more clearly articulated in a principles document released earlier this year.[1]

BACKGROUND AND CONTEXT

Estimates suggest that Canada's North contains over one-third of the country's remaining recoverable oil and gas resources. Although there is currently no drilling (exploratory or otherwise) taking place in Canada's Arctic offshore, some commentators expect that it will resume in the coming decades as technology, equipment, and expertise advance, and melting sea ice opens access to the area. While such activity will bring economic growth and opportunities to Northern populations, it will also bring an increased risk of oil spills from offshore oil and gas operations and from ships.

Debates about oil and gas prospects – and the need to balance economic, environmental, and political considerations – are nothing new. When Alexander Mackenzie travelled to the Arctic Ocean in the summer of 1789, he noticed oil seeping from the banks of what became his namesake river. When petroleum geologist T.O. Bosworth staked three claims to oil prospects along that river in 1914 on behalf of a syndicate of businessmen who sold them later to Imperial Oil Limited, the modern Canadian Arctic energy boom began. Five years later, Imperial began exploratory drilling, which led to the first oil production at Norman Wells in the following year. Both the refinery and oil field closed in 1921 owing to costs, but a new refinery was built in 1936 to supply the Eldorado Mine at Great Bear Lake. During the Second World War, the construction of the 950-kilometre Canol Pipeline to carry oil from Norman Wells to a refinery in Whitehorse, driven by the perceived imperative to ensure a secure supply to American forces in Alaska, proved a "white elephant" but served as proof of concept for Northern pipelines. When the war ended, the Canol Pipeline was abandoned and the Whitehorse refinery was dismantled and shipped south to Edmonton, but Norman Wells continued to produce oil. A second pipeline was built to carry oil from Norman Wells to Alberta in the 1980s, prompting a major expansion in production.

Meanwhile, other parts of the North were being explored for their oil and gas potential. In 1957, Western Minerals and a small exploration company called Peel Plateau Exploration drilled the first well in Yukon at Eagle Plains, about 800 kilometres from Whitehorse. The wells came up dry, but Calgary-based Chance Oil and Gas recently bought these legacy wells – and has submitted proposals to drill up to thirty wells in the region (reigniting debates about potential impacts on the Porcupine caribou herd as well as economic opportunities for Yukoners, particularly the Vuntut Gwitchin

First Nation community of Old Crow, about 195 kilometres northwest of the potential development area).[2] In the winter of 1961-62, Dome Petroleum drilled the first well on the Arctic islands, but it found nothing on Melville, Cornwallis, or Bathurst Islands. Nevertheless, Arctic oil and gas exploration received a dramatic boost when Panarctic Oils was formed in 1968, bringing together more than seventy companies with oil and gas prospects in the Arctic islands, as well as the federal government with its forty-five percent ownership stake.[3] The first well in the Mackenzie River Delta was drilled in 1962, but the persistent challenge in that region – as with Panarctic's discovery of large gas fields – was how to get the product to market by tanker or pipeline.

The following chapter describes the intense interest in Mackenzie Delta oil and gas during the 1970s and the concomitant discussions about how to move Alaskan and Mackenzie Delta gas south to Canadian and U.S. markets. Initial American plans to transport Alaskan gas to the lower states involved a pipeline that would run along the Mackenzie Valley, where it could also collect gas from the Beaufort/Delta region. In response to this proposal, the federal government asked Justice Thomas Berger in 1974 to conduct a commission to look into the idea. Drawing unprecedented national attention to Arctic issues, his hearings in more than thirty communities throughout the valley revealed that Indigenous residents were largely opposed to pipeline development before their land rights were settled. It proved to be a watershed moment in Indigenous-Crown relations.

The Canadian Arctic Resources Committee was instrumental in insisting that the proposal received a thorough technical and socio-economic assessment. It offered critical feedback on National Energy Board guidelines about feasibility and environmental and social consequences, as well as associated Indigenous rights issues that fell within the purview of the Department of Indian Affairs and Northern Development. "CARC believes that the pipeline presents Canadians with a 'once and for all' opportunity to establish policies for the North," *Northern Perspectives* explained in June 1973. The Committee had written a letter to Prime Minister Pierre Trudeau to this effect earlier in the year, "urging him to take steps to ensure that the community at large, especially the northern community, be given the opportunity to participate in discussions which may affect them profoundly." It raised the importance of inclusive policymaking, noted the absence of "clear established arrangements for public fact finding and discussion," and insisted that the federal government not allow the energy industry

to railroad it into hasty decisions before Canadians had "a broadly based discussion of the momentous issues now being raised."[4] Over the next four years, CARC watched developments intensely, hosted conferences involving key stakeholders, and presented various (and often competing) viewpoints in its publications.

In 1977, the Commission recommended a ten-year postponement of Mackenzie Valley pipelines to allow for the settlement of Indigenous land rights, and called for a permanent ban on pipeline development along the Yukon North Slope because of the environmental and cultural concerns raised during the hearings. As an alternative, the Commission supported a competing proposal to carry Alaskan gas along the Alaska Highway through Yukon. A second commission, chaired by Kenneth Lysyk in 1977, made recommendations similar to those of the Berger Commission and advised that pipeline construction across Yukon should not start until after August 1981. Southern connector portions of the Alaska Natural Gas Transportation System (ANGTS) were built by 1982, but the northern portions were never completed, owing to lower gas prices and new gas finds along the southern portions of the pipeline. Another formal application to build a pipeline for Arctic gas was made in 1984, but it also died due to poor economics. CARC helped to ensure rigorous public debate about all of these proposals, as well as exploratory work offshore in the Beaufort Sea involving artificial islands, drill ships, and the complicated issue of how to get oil to market. (Only one major shipment of Beaufort oil was made. In 1986, Gulf Oil delivered 320,000 barrels of Beaufort oil to Japan, the product of a production test of one of the company's wells. Shortly afterward, Gulf mothballed its Beaufort Sea operations.)

Much had changed by the dawn of the twenty-first century when the Mackenzie Valley pipeline debate returned. As John Crump noted in the introductory excerpt, territorial and Indigenous governments had "gained in power and experience," several land claims had been settled, and a short pipeline had been built to bring natural gas to the Mackenzie Delta town of Inuvik. Doug Matthews chronicles in the following chapter how an Imperial Oil-led application to the National Energy Board (NEB) to process natural gas from three fields in the Mackenzie Delta and to ship the gas and associated liquids to southern markets by pipeline stimulated renewed debate. This time, the Aboriginal Pipeline Group reached an agreement to secure a one-third ownership in the pipeline – the first time that a consortium of Indigenous groups had negotiated participation as an owner in a multi-billion dollar

resource development project.[5] By the time the Mackenzie Gas project worked its way through the environmental and regulatory review process and received federal approval, market conditions had changed. By 2017, Imperial Oil officially dissolved the joint-venture partnership. "This pipeline was really just a pipe dream," Tuktoyaktuk mayor-elect Merven Gruben told reporters. "We gambled on it and a lot of people lost."[6]

In the following chapter, Matthews ultimately concludes that "it's over for northern oil and gas," which are now "resources of the past" as the world transitions to a green economy. Other analysts are less certain, with global primary energy demand projected to grow dramatically in the next two decades. To meet this growing demand, some suggest that unconventional and remote energy resources, such as those found in the Arctic, will be needed. The obstacles to exploiting Arctic resources are large: the vast majority of the Arctic's estimated oil and gas exploration (eighty-four percent) is expected to occur offshore, and energy explorers must contend with many challenges including prohibitive costs, stormy seas, ice shelves and icebergs, vicious winds, months of darkness, and isolated locations.

In late 2016, Prime Minister Justin Trudeau announced a five-year ban on drilling for offshore Arctic oil and gas, arguing that "it has never been determined that it can be done safely. ... The cataclysmic impact of an oil spill in the High Arctic Ocean is unimaginable. That's why we made the decision that there needed to be a moratorium on Arctic oil and gas exploration." The territorial premiers expressed displeasure at the announcement, which was made without prior consultation with them. Nunavut Premier Peter Taptuna suggested that the decision to ban oil and gas drilling in Arctic waters could cripple Nunavut's future financial independence, and that Ottawa's unilateral decision to restrict any offshore licensing for five years created uncertainty for Canada's least developed economic jurisdiction and was detrimental to the territory's devolution negotiations. "We do want to be getting to a state where we can make our own determination of our priorities, and the way to do that is [to] gain meaningful revenue from resource development," Taptuna suggested. "And at the same time, when one potential source of revenue is taken off the table, it puts us back at practically Square 1 where Ottawa will make the decisions for us." Northwest Territories Premier Bob McLeod also decried that this decision felt like "a step backward," explaining that "we spent a lot of time negotiating a devolution agreement, and we thought the days were gone when we'd have unilateral decisions made about the North in some faraway place like Ottawa, and that northerners would be making

the decisions about issues that affected northerners." Other local government and Indigenous leaders in the territories expressed similar frustrations with the federal decision. Did the federal government make the right choice? Do the environmental risks of offshore oil and gas development outweigh its economic benefits?

Notes

1. See "Northern NGO Statement of Principles for Oil and Gas Development," *Northern Perspectives* 27/1 (Fall/Winter 2001): 3-5.

2. Carol Linnitt, "How eight wells might determine the future of oil and gas in Yukon," *The Narwhal*, 1 June 2021, https://thenarwhal.ca/yukon-chance-oil-gas-idle-wells/.

3. In 1986, the company began its first production, with a 100,000-barrel tanker load of oil, which was shipped from the Bent Horn oil field, close to the magnetic North Pole. Its biggest delivery was 300,000 barrels in 1988.

4. "Preamble to the Hearings," *Northern Perspectives* 1/6 (June 1973): 1.

5. Government of the Northwest Territories, "Mackenzie Gas Project," 15 December 2011, https://www.gov.nt.ca/en/newsroom/mackenzie-gas-project.

6. Walter Strong, "Mackenzie Valley pipeline project officially one for the history books," *CBC News*, 28 December 2017, https://www.cbc.ca/news/canada/north/mackenzie-valley-gas-project-no-more-1.4465997.

HINTERLAND BLUES

Doug Matthews

The Northwest Territories is a hinterland and as anyone who lives there can tell you, it's not an easy thing being a hinterland. It is blessed with resources – oil, natural gas, gold, diamonds, forests, fish, clean, rapid-running waters – they are all present and in abundance.

But the problem for the territory, and the very reason why we categorize it as a hinterland, is that those vast resources are all far too big for domestic demand to absorb and far from markets. If we want to develop them, if we want to see economic gains from them, we need access to external markets. Those markets are only open to the North if others, non-Northerners, want them to be. The Northwest Territories (NWT) is distant from those markets, has no control over the level of demand in those markets, and as a result, has no control over pricing.

A hinterland is almost totally subject to decisions made in and around distant markets, ones financed by banks and investors who live far away in cities like Toronto, Houston, London, Washington, Paris, and Riyadh, to name but a few. We are a source of raw materials, and always have been. As a result, we are always faced with losing our markets. The world innovates, and so we move from whale oil, to gaslight, to electric light bulbs. Style changes, so no more baleen is needed for corsets, no more beaver pelts for hats. Attitudes change, and we lose markets for our furs, our polar bear skins, and our sealskin products.

In order to demonstrate the downside of being a hinterland, this paper will briefly review a number of planned fossil fuel projects in the territory over the past eighty years, show what got them started and, in most cases, what got them stopped. At the same time, running in the background of these individual stories, the paper will follow the paths set by two books, both published in the 1960s,[1] that would, unknown to the world of energy at the time, help get us to where we are today, on the cusp of a significant transition away from fossil fuels.

Let's start with a war. The Norman Wells oil field, originally discovered by Imperial Oil in the early 1920s, produced small volumes of oil for local communities and mines on Great Bear Lake in the 1930s, but then came the war and the need for more oil.

There were really two issues here. First, the war effort would require vast additional supplies of petroleum products for all the trucks, planes, tanks, and ships. Second, the war was disrupting the supply of this petroleum, especially in the Pacific after the Japanese attacked Pearl Harbor.

The need to regain control of the North Pacific, and protect Alaska from the Japanese, became a big issue. Oil was needed in Alaska – oil for the Army and the Air Force, oil for all the military vehicles that would soon be driving up the Alaska Highway, oil that in normal times would be supplied from California. West Coast tanker traffic was no longer secure, as it could not depend on the Navy for protection, much of the U.S. Pacific Fleet having been destroyed or damaged at Pearl Harbor. An alternative source, one nearer to Alaska, had to be found.

The Norman Wells field was the answer. The Canol Pipeline was built through the mountains to the west of Norman Wells to a refinery in Whitehorse, with connections on from there to Watson Lake, the port of Skagway, and Fairbanks. It was a small line, about four inches in diameter, and it wasn't buried, just laid along the surface of the land, along a route that people from the region helped to find. It was all paid for by the Americans. After some shipments, and much more spillage, the line was shut down, due to a combination of the end of the war, the loss of American support for expansion, and the 1947 Imperial Oil discovery at Leduc. For many years, Norman Wells went back to being a small regional supplier.

Petroleum development in the NWT would be quiet for the next thirty years, but then activity returned with a vengeance, starting with competing Arctic gas pipeline projects. We are now introduced to the Canadian Arctic Resources Committee (CARC) and to Justice Thomas Berger. Things get interesting.

In the mid-1970s, there were two gas pipeline proposals before Canada's National Energy Board (NEB), the federal energy regulator. One proposal, Canadian Arctic Gas, would see Alaskan and Mackenzie Delta gas moved south to Canadian and U.S. markets, while the other, the Foothills Pipeline, would limit its supply basin to the Mackenzie Delta and its market to Canada. There was a third project, also advanced by Foothills, for Prudhoe Bay gas to move through Yukon to Alberta and south to the United States, but we will focus on the Mackenzie Valley projects.

It is important to note that the federal government had already foreseen the need for Arctic natural gas when it published its Northern Pipeline Guidelines in August 1970. It is also important to note that this publication

effectively signalled the federal government's full support for such pipelines. This support, however, was not a *carte blanche* to develop Northern resources. In a first for Northern projects, the Guidelines, among other things, specifically charged the NEB with ensuring that a comprehensive report assessing the expected impact on the environment of any pipeline project would be provided to inform the Board's decision on whether or not to approve the project.

The stage was set. The federal government supported Northern pipelines. The NEB had its environmental marching orders. The markets to the south, both Alberta and the United States, needed Northern natural gas, and two companies were seeking approval to begin laying pipe. What could possibly go wrong?

The NEB panel charged with hearing the Northern pipeline proposals was chaired by Board member Mr. Marshall Crowe, a man well known in the oil and gas industry and one who had recently retired from his association with the Canadian Development Corporation (CDC) in order to be appointed to the NEB. The problem was that the CDC was one of the members of the Canadian Arctic Gas Pipelines consortium, one of the two companies now appearing before Mr. Crowe and the NEB panel.

"Aha," said the recently formed Canadian Arctic Resources Committee, "we smell something fishy here." CARC, along with the Committee for Justice and Liberty Foundation, the Consumers' Association of Canada, and the Working Group on Canadian Energy Policy, sought to have Mr. Crowe removed from the panel, arguing that there was a reasonable apprehension of bias against him by virtue of his previous relationship with one of the proponents. The charge moved through the lower courts to the Supreme Court, and that court declared that Mr. Crowe should remove himself from the NEB panel.

Of perhaps more importance is how groups such as CARC and its allies came to appear before the NEB panel in the first place. For this, we can thank the *National Energy Board Act* of 1959 that provided for the Board to hear from "interested persons" in its deliberations. No more were federal resource development decisions to be made solely in Ottawa by politicians, senior civil servants, and investors. Others would be heard and their views considered. The door to involving ordinary citizens in resource decisions had been opened a crack by the *NEB Act*. A judge from British Columbia would now kick it wide open.

While the federal government believed that Northern pipelines were needed and had implicitly approved their construction, there were processes to be followed, issues to be considered, and protections against environmental and social damage to be put in place. It was felt to be important that Northern voices be heard, and so Justice Thomas Berger of the Supreme Court of British Columbia was appointed by the government to "recommend the terms and conditions to be imposed on the construction, operation and abandonment of the Mackenzie Valley pipeline."

Notice that the good judge was not charged with approving, or denying, the project. That would be a decision to be made by the National Energy Board. To the federal government, that approval was a foregone conclusion, as Minister of Indian Affairs, Jean Chrétien, said in 1974: "We will safeguard the rights of the people and we will protect the environment, but we will build the pipeline."

Imagine the surprise in Ottawa just three years later when Justice Berger concluded his report by recommending against an energy corridor across Northern Yukon and then going on to say that while he believed such a corridor could be established along the Mackenzie Valley, "a Mackenzie Valley pipeline should be postponed for ten years."

The judge's recommendation, coupled with the conclusion of the NEB's 1979 gas supply and demand forecast, one that saw much less need for frontier gas, effectively killed the Mackenzie Valley pipeline.

The Berger Inquiry was a watershed moment in Northern development. From that point on, it was clear that the people of the North, those most affected by a proposal, must have their voices heard, and in a setting in which they feel most comfortable.

Of course, the world is not a perfect place. Justice Berger's ten-year gas pipeline moratorium was only partly met, and the people were only partly heard. The continuing concern for Canadian energy security, brought into stark relief once again by the Organization of the Petroleum Exporting Countries (OPEC) oil embargo of 1979, led to the 1982-85 expansion of the Norman Wells oil field and the construction of a pipeline from the oil field to Zama, Alberta. The concerns of the locals were notably absent from this decision.

The same year that Justice Berger put paid to the Mackenzie Valley gas pipeline, Ottawa developed the Frontier Exploration Allowance, a financial incentive to encourage oil exploration on federal lands in the North. Exploration began in the Mackenzie Delta and, bit by bit, moved offshore into the

Beaufort Sea, supported by the government's National Energy Program of 1980 with its generous tax write-offs and grants, aimed principally at Canadian-owned explorers.

But this exploration was not your father's model when it came to regulation. For the first time, the regulators included the Inuvialuit, the people who actually lived in the region.

The signing of the Inuvialuit Final Agreement in June 1984 saw, among other things, the establishment of both the Environmental Impact Screening Committee and the Environmental Impact Review Board, bodies that were charged with screening and reviewing resource development projects in the Inuvialuit Settlement Region and providing recommendations to the federal regulators. More to the point, both bodies included members appointed by the Inuvialuit themselves.

What started with the NEB hearing from "interested persons" at formal hearings evolved to the Berger Inquiry listening to all local voices in their own homeland, and progressed further to Indigenous Northerners' significant participation in the regulatory decisions.

And make no mistake: the Inuvialuit regulators did make decisions. In 1989, the Review Board approved Esso's *Isserk* well program in the offshore, but three years later, it declined to support Gulf Oil's *Kulluk* program. That action, coupled with a steep decline in world oil prices (from over $100/barrel in 1980 to less than half that value in 1989) and the government's cancellation of the generous federal exploration grants, shut down Beaufort Sea exploration for the next fifteen years.

But this is the North, after all, the place where resource dreams never fully stop. Once again, in 2004, four companies, led by Imperial Oil, filed an application with the National Energy Board to construct natural gas producing, gathering, and processing facilities for three long-known gas fields in the Mackenzie Delta. The natural gas and associated liquids were to be shipped south by pipeline to, once again, meet a forecasted supply shortage in the United States. This saw the first major Indigenous ownership stake in a Northern pipeline in the Northwest Territories. The Aboriginal Pipeline Group (APG), a consortium of Northern Indigenous groups, signed an agreement with TransCanada Pipelines that effectively guaranteed them one-third ownership in the pipeline. For a brief while, the APG had that long-sought-after "seat at the table" when it came to Northern resource development, but the table was bare.

Regrettably, although the project received both NEB and Cabinet approval, it was abandoned by its proponents at the end of 2017, the result of supply and demand changes in the United States. The U.S. no longer needed Northern gas, either from Canada or from Alaska.

Based on the expectation of a Mackenzie Gas pipeline, exploration interest in the Sahtu Region was fairly consistent through the years from 2003 to 2007, with a total of twenty-one exploration licenses being issued during that period. The cumulative work bids on those licenses amounted to just over $203 million. The demise of the Mackenzie Gas Project led to an industry bidding slowdown in the years 2008 through 2010, but the increasing interest in shale oil led to a significant upsurge in industry bidding.

The excitement in the Sahtu Region, and indeed throughout the NWT, was palpable and was further heightened with the 2015 release by the National Energy Board of its Canol and Bluefish shale deposit estimates, with the larger of the two, the Canol, believed to contain some 145 billion barrels of oil in place. Assuming a three percent recovery, similar to that in North Dakota's Bakken play, development would see some four billion barrels of oil being produced over the life of the field, with royalties flowing to governments in the hundreds of millions of dollars. Perhaps even more exciting were the prospects for the Tulita District Land Corporation, the owner of a number of Indigenous-owned subsurface parcels in the area.

And yet, by 2016, it was all over. Oil had fallen from a 2011 high above $120/barrel to less than half of that in 2015. Vocal local opposition to fracking was never fully rebutted by either the companies active in the area nor the Government of the Northwest Territories (GNWT). There was a lack of pipeline infrastructure, as well as more attractive opportunities in other basins like in North Dakota. Finally, greater attention was being paid throughout the world to the impacts of fossil fuel use on the environment and the need for change.

The use of fossil fuels was under attack. Pope Francis came out carrying an anti-fracking t-shirt that said, in Spanish, "No to fracking," followed up by his 2015 Papal encyclical on climate change, *Laudato Si'*. Mark Carney, then the governor of the Bank of England, argued that investments in fossil fuels were more and more exposed to becoming stranded assets as the world transitioned to green energy. But really, who even read the encyclical and who is Mark Carney, other than a replanted Fort Smith boy? So on we go with oil and gas, and the dream of Northern riches lives on.

While the shale play was raising expectations on land, the forecast of oil energy shortages and higher prices led industry back into the deep waters of the Beaufort Sea. Imperial Oil, that old friend of the North, got the game going, seeking an exploration license in 2007 with a mind-boggling bid of $585 million in work program commitments.

Not to be outdone, BP followed two years later with an even more astonishing bid of nearly $1.2 billion. Others, smaller companies with smaller bids, followed, and the Beaufort Sea was once again the new frontier of oil exploration.

Exploration was, however, slow coming, as industry fought Canada's long-held position that any company drilling in the Arctic offshore must be able to drill a relief well in the same drilling season as the original well. BP's 2010 Macondo well blowout in the Gulf of Mexico, one watched in real time throughout the world, had not filled Northerners with confidence that an oil company could control an Arctic blowout. As a result, there was strong Northern support for the continuation of the same season relief well policy.

The NEB's Arctic Offshore Drilling Review concluded that the policy was to remain in place, absent a clear, and equivalent, alternative from industry. No such equivalent has been forthcoming.

Then, just before Christmas, 2016, Prime Minister Trudeau delivered his lump of coal to then-Premier Bob McLeod and the economy of the NWT. Simultaneously with President Obama, who imposed a moratorium on oil and gas exploration in American Arctic waters, Mr. Trudeau did the same for the Canadian Beaufort Sea, subject to a five-year review. By 2018, it was becoming apparent to the exploration license holders that the future of their drilling programs was uncertain at best and unlikely at worst, and the companies began negotiations with the government to retrieve their financial deposit balances.

Once again, the dream is dashed. The table is again bare. It is not an easy thing being a hinterland. Companies refocus their exploration budgets. And that refocus is often made on the basis of shoddy supply and demand forecasting by both companies and regulators. Prime ministers act unilaterally and without advance notice. Energy demand changes from coal to oil to natural gas to electricity, and we lose to renewables and green energy policies. We have, over the past sixty years, seen individual Northern projects fall by the wayside as world prices changed, other basins developed, politicians embraced the earth, and cleaner technologies came to market.

There was always a hope that the next project, the next big one, would return the North to its rightful place as an energy supplier to the south. The jobs would come back, the money would flow, and once again Inuvik would be the centre of the petroleum world. With one final kick to our hinterland shins, the world is now telling us that those days will not be coming back. There will not be another "big one" in the North.

While we no longer concern ourselves with the issue of "peak oil," a growing number of commentators are raising the possibility of "peak demand," the latter a result of slowing economic growth, more stringent climate change policies, increased fuel efficiency, and fuel switching.

The oil and gas multinational ExxonMobil made the point in its 2018 Outlook for Energy that while global energy demand will continue to rise through 2040, a combination of growing energy efficiencies, climate change policies, and fuel switching will alter the supply of that demand from where it is today. "A significant energy transition is underway," said the company, noting, among other conclusions, that "the use of liquid fuels by the world's light duty vehicle fleet will likely peak in 2030." ExxonMobil expects the world's energy growth to be some twenty-five percent over the next twenty-five years, growth that would have been one hundred percent in the absence of efficiency gains. These material gains in energy efficiency are perhaps one of the strongest factors affecting global energy demand.

Bank of America and Shell Oil are on record as saying that peak demand may occur within ten years, while OPEC believes it could occur within thirteen years. The World Energy Council and BP have issued similar projections. The Norwegian company DNV believes that peak demand will occur in 2023; China says two years later. The International Energy Agency says the date is 2040, and in Canada, the Canada Energy Regulator believes that Canadian oil demand will peak in 2025. While the estimates of the peak year vary, the direction of change does not.

There are three points to be made here:

1. The growing markets for fossil fuels are going to be farther from Canada than has been the case in the past, as continental demand slows;
2. Fuel switching will continue to change the relative components of energy demand, with natural gas and renewables becoming more and more the fuels of choice; and
3. Ongoing efficiency gains, in many cases spurred by carbon tax costs and nations' concerns for energy security, will act in concert to reduce the aggregate world energy demand.

There is less and less space for the old fuels in a world where environmental, social, and governance issues are coming to the fore, where bankers worry about stranded assets, and where the changes to the climate can no longer be denied.

We are all moving into a new future, with our engines powered by electricity, not fossil fuel molecules. In this future world of an uncertain and changing fossil fuel demand, it will be in the interests of oil companies to maximize their current opportunities. On the way to that peak year, the high cost, infrastructure-challenged, environmentally sensitive, long-term payout projects – the Arctic ones – will be the first to be left off of company exploration programs.

Our Northern oil and gas resources, while still plentiful, are the resources of the past. There will be no new oil and gas projects to promote, no new pipelines to consider.

It's over for Northern oil and gas. Done.

We may not have gained the hoped-for oil wealth, but we have gained something important in the fifty years since Justice Berger tabled his report. We have seen citizen participation in resource development decisions continue to improve from the days when Indigenous people needed to talk to that nice white man from B.C. to get their story across, to today, when those same people are on the boards that help to determine if, when, and how those developments should occur.

We have, through numerous court decisions, recognized the right of Indigenous peoples to be meaningfully consulted before development happens, and, with the full implementation of the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP), we will more and more move beyond consultation and towards consent.

The developments to be considered will, of course, change too. The new projects to be reviewed and consented to will be dams, wind farms, solar arrays, and numerous others, many focused on how to clean up the mess left behind by past developments. The world has changed for good. Northerners living in the hinterland will be involved in all the decisions that will need to be made in the years to come.

Notes

1. Jane Jacobs, *The Death and Life of Great American Cities* (New York: Random House, 1961), and Rachel Carson, *Silent Spring* (New York: Houghton Mifflin, 1962).

4

CLIMATE CHANGE

THE HUMAN FACE OF CLIMATE CHANGE

Northern Perspectives 27, no. 2 (Spring 2002)

Sheila Watt-Cloutier, President of the Inuit Circumpolar Conference (Canada)[,] has recently moved to Iqaluit, capital of the territory of Nunavut. She could not believe what she saw there this past winter. "We had a very late freeze-up this year, which created an incredible amount of anxiety... Without snow, without ice freezing, life almost stops in the Arctic. As you know, we're still very connected to our traditional way of life and if the ice doesn't freeze, there's no seal hunting, if there's no snow on the land, there's no caribou hunting."

To Watt-Cloutier, and thousands of Inuit around the pole, climate change is not an academic problem, it is a present and personal problem. They are well aware of scientific predictions that polar regions are likely to be among the first and hardest hit by climate change.

Nunavut Tunngavik Incorporated, the Inuit land claims group, recently brought Inuit together to discuss changes they are seeing, and the effects of those changes. According to Watt-Cloutier, people spoke of melting permafrost, retreating glaciers, a shorter snowmobiling season, more sunburn, more windstorms. She says conservation groups tend to concentrate on such things as the effects of climate change on polar bears, and she adds "We agree, there are effects on polar bears. But to us it's about more than bears, it's about our culture, it's about our health, it's about our very survival as a people."

Aside from the considerable direct impacts of climate change, Watt-Cloutier is concerned about the indirect effects that could flow from an Arctic

made more accessible by melting sea ice. "We will most likely experience disproportionate adverse impacts from the potential environmental incidences that may occur, such as oil spills, wildlife, such as the changes in the breeding and migration routes, and the socio-economic disruption such as illegal immigration and possible increased drug trafficking in the Arctic."

As for challenges to Canada's sovereignty by other nations taking advantage of melting Arctic ice, Watt-Cloutier says Inuit solidly back Canada's claim to sovereignty over the Arctic islands and the waterways between them. In 1985, Canada's sovereignty was challenged by an American icebreaker which cruised through Canadian Arctic waters without permission. Watt-Cloutier reminds people of the response of the then-minister of External Affairs, Joe Clark. "Canada's sovereignty in the Arctic is indivisible. It embraces land[,] sea and ice, it extends without interruption to the seaward facing coasts of the Arctic Islands. These islands are joined and not divided by the waters between them. They are bridged for most of the year by the ice, and from time immemorial Canada's Inuit people have used and occupied the ice as they have used and occupied the land."

Watt-Cloutier says the well-documented Inuit use and occupancy of Arctic land and waters is still Canada's best argument in asserting sovereignty over the region. Despite being on the front lines of climate change impacts and their sovereignty implications, Watt-Cloutier says Inuit have not been engaged on the issue by the federal government. She says Inuit will not be powerless victims of climate change, but will lobby actively in international meetings to ensure that their concerns are not ignored.

"We must give climate change in the Arctic a human face, an Inuk face, and we must show climate change negotiators [that] impacts in the Arctic foreshadow impacts around the globe."

BACKGROUND AND CONTEXT

The climate of the Arctic is indisputably changing. Reports from the United Nations Intergovernmental Panel on Climate Change, and the Arctic Council, based on thousands of peer-reviewed papers, show that change. The Arctic's climate has changed before. An analysis by Miller et al. (2010)[1] of the Northern Hemisphere's air temperature, based on a comprehensive review of climate proxy information (e.g., tree rings and isotope signatures in ice cores and marine sediments), shows variable temperatures over the past 2,000 years with three distinctly different periods: the Medieval Warm Period between roughly 950 and 1200 AD, the Little Ice Age between roughly 1250 AD and 1850 AD, and a rapid warming during the twentieth century.

What is different now is that the speed and amount of warming appear to be unprecedented. A study of the age of plants revealed by melting Arctic caps suggests that the Arctic is now the warmest it has been in the last 44,000 years.[2] More recent warming trends such as the Medieval Warm Period do not seem to have been as warm as recently experienced temperatures. The speed of change in the Arctic is astonishing. The *Arctic Climate Change Update 2021* by the Arctic Monitoring and Assessment Programme (AMAP) found that the Arctic has warmed at three times the global average over the past forty-nine years. This "Arctic amplification" of warming has been attributed to a various causes. Snow/ice-albedo feedback is one of the primary drivers. As the snow cover and ice area decline, the amount of solar radiation that is reflected also decreases, which leads to the warming of the Earth's surface and the overlaying atmosphere. This warming leads to more melting of snow and ice, which warms the surface even more.

There has been a growing concern about the role of black carbon (soot) on bright snow and ice surfaces. Any resident of high latitudes knows from experience that as the Sun returns in the spring and the snow begins to melt, dark dirt particles on the snow surface hasten snowmelt. The Arctic Council took on the impact of soot and other short-lived climate forcers as a way to try to act locally to reduce Arctic warming. The Council estimates that thirty percent of the warming produced by black carbon is from sources within Arctic states such as gas flaring. The Council says that about 0.25°C of Arctic warming could be avoided by global actions to reduce the emissions of black carbon and co-emitted air pollutants.[3]

While increasing amounts of carbon dioxide have been pumped into the atmosphere in the centuries since the Industrial Revolution, it was only in

the 1980s-1990s that a consistent signal of Arctic warming began to be picked up.[4] By the 1990s, reports began to emerge from Arctic Indigenous peoples about changes they were observing, such as thinning and unstable sea ice, changes in precipitation, and sightings of unusual animal species or changes in the behaviours and numbers of animal species. These themes were also picked up by scientific research, and the pace of peer-reviewed publications about Arctic climate change started its upward trend.

The research started to uncouple the current era of climate change from previous climatic changes. It began to focus on the climate forcing caused by human activity, through our generation of increasing amounts of greenhouse gases, such as carbon dioxide and methane. In 1992, at the United Nations Rio Earth Summit, global leaders agreed to set up the United Nations Framework Convention on Climate Change (UNFCCC). Negotiations on an agreement to limit climate change began in 1995. In 1997, the Kyoto Protocol that created emissions targets for greenhouse gases was signed, although it took until 2005 to come into force.

In January 2002, CARC convened "On Thinning Ice," a conference of more than 200 people in Ottawa to examine the implications of climate change in the Canadian Arctic. The conference identified several key themes that continue to run through the climate change discourse almost two decades later:

- Ice thickness is declining at between four percent and ten percent per decade along the Northwest Passage. At this rate, the Passage will become navigable for much of the year within the next three decades.
- Ice conditions throughout the Arctic have already begun to disrupt hunting and may well have implications for the survival of some species.
- Canada has neither the policy nor the resources required to defend and administer a Northern border accessible to international shipping.
- Without the ability to protect an accessible Northern border, our claim to Arctic sovereignty is in jeopardy.
- Even the full implementation of the Kyoto Protocol will only slow the rate of these impacts; they cannot be stopped.
- Although the impacts of climate change are greatest in the polar regions, Northerners often feel powerless to influence the international debate that is so closely controlled by economic interests.

A landmark report that really focused global attention on climate change in the Arctic was released in 2005. The *Arctic Climate Impact Assessment* (ACIA),

conducted by the Arctic Council and the International Arctic Science Committee (IASC), was highly influential in providing empirical evidence about the changes occurring in the Arctic and their implications for the future of our planet. The assessment highlighted the global impacts of Arctic change, such as sea-level rise and the impact of Arctic change on mid-latitude weather, particularly on extreme weather events.

The 2009 UNFCCC conference in Copenhagen resulted in the Copenhagen Accord, which set a goal of no more than a 2°C rise in global temperatures. This goal was reaffirmed in the 2015 Paris Agreement, which also required signatory countries to track and report back on their efforts at controlling greenhouse gas emission levels.

With Arctic temperatures rising at three times the global average, meeting a target of 2° globally could mean an average 6° temperature increase in the Arctic. A 2018 report by the Intergovernmental Panel on Climate Change looked at the differences between aiming for a 1.5° or less global average temperature increase and a 2° increase. It found that "[w]ith 1.5°C of global warming, one sea ice-free Arctic summer is projected per century. This likelihood is increased to at least one per decade with 2°C global warming."[5]

As science and diplomacy have continued, Northern community members have been actively involved in those efforts, and also involved in recording observations, impacts, and local adaptations taking place as a result of climate and other forms of environmental change. Over the years, *Northern Perspectives* has offered a platform for Northerners to share their knowledge and stories of how climate change is linked to and affecting their lives and communities. Common observations include the increased frequency of storms, thinning ice and snow, more freezing rain events, and more intense solar radiation. Unpredictable weather has left more people stranded on the land. Changes in ice and snow conditions and unusual weather inhibit access to local foods and affect travel. Changes to lakes and rivers have affected fresh drinking water sources. Northerners consider search and rescue capabilities to be inadequate at the community level. Indigenous organizations worry that the changing conditions will reverberate far into the future of their cultures, compromising opportunities for youth to learn from Elders about Indigenous ways of life. Because Northern Indigenous peoples possess unique knowledge about the Arctic environment, their leaders argue that there should be a place for this expertise in regional, national, and international climate assessments and agreements.[6]

Individuals and communities have already started to adapt or react to these impacts in order to minimize the effects. Northern governments are beginning the process of helping communities to develop their own climate change adaptation plans. There are also larger-scale adaptation planning tools, such as the "Adaptation Actions for a Changing Arctic" reports put out by the Arctic Monitoring and Assessment Programme.

Whatever the course of climate negotiations and climate mitigation measures, adaptation will surely be needed. According to the latest projection from the Arctic Monitoring and Assessment Programme, "the newest generation of coupled global climate model projections (CMIP6) show[s] that annual mean surface air temperatures in the Arctic will rise to 3.3-10°C above the 1985-2014 average by 2100, depending on the course of future emissions."[7]

Notes

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CLIMATE WARMING: THE PAST AND FUTURE ARCTIC

Edward Struzik

In the spring of 2006, I was flying from Tuktoyaktuk to Inuvik after having spent several days with scientists who were catching polar bears on the sea ice and tagging them with satellite transmitters. Oftentimes, Arctic pilots deliver tantalizing bits of news and gossip long before it makes it to the newspaper, radio, or Internet. This pilot was abuzz about a story of an American hunter who had shot a strange-looking bear off the coast of Banks Island. "I heard it looked like a polar bear and grizzly bear mixed into one," he told me. "The wildlife officer was apparently so confused that he seized it."

Up until the 1990s, sightings of grizzly bears in the High Arctic were extremely rare. But ever since a Northwest Territories biologist came upon a grizzly 600 kilometres north of the mainland in 1991, an increasing number of brown bears have been spotted on the ice and on the High Arctic islands. Most scientists, however, expected a "flight or fight" scenario in the event that one of the grizzlies encountered a polar bear. The notion that they would mate and produce a hybrid was considered possible, but highly unlikely.

I ended up dismissing this as another one of the tall tales often told to gullible people who are new to the Arctic, as the pilot turned out to be. So instead of checking in at the wildlife office in Inuvik to see if there was any truth to it, I headed home on the first plane south. When I got back to my office, I learned that the grizzly-polar bear cross story was altogether true. DNA evidence had proved it. The Inuk who guided the hunter to the bear was Roger Kuptana, a Sachs Harbour man I knew well.

The Inuit by this time were already warning the world that big changes were coming to the Arctic. Rosemarie Kuptana, Roger's sister, was part of a film team that spelled it out in the 2000 documentary *Sila Alangotok: Inuit observations on climate change = observations des Inuit sur le changement climatique*. The film's message did not get the sustained international attention it deserved. Chinese rice paddies, belching cows, and dirty diesel trucks were the things that the media was homing in on during those early stages of the climate change discussions.

In 2002, the Canadian Arctic Resources Committee (CARC) sought to change that by bringing in 200 experts from the government,

military, universities, non-profit institutes, and Indigenous organizations to a conference on climate change in the Arctic. The speakers included Sheila Watt-Cloutier, President of the Inuit Circumpolar Conference (Canada); Mary Simon, Canadian Ambassador for Circumpolar Affairs; and Lieutenant General George MacDonald, Canada's Vice Chief of the Defence Staff. Everyone agreed with Watt-Cloutier when she said that climate change was much more than the impact it will have on polar bears and grizzlies. "To us, (the Inuit), it's more than bears, it's about our culture. It's about our health. It's about our very survival as a people."

Most everyone attending that conference went home with the realization that the "business as usual" approach taken by the Canadian government would no longer suffice as global interest in an increasingly ice-free Arctic was growing.

"Canada can pretend that the ice is not melting," said Rob Huebert, a CARC board member and associate director of the Centre for Military and Strategic Studies at the University of Calgary. "That would mean the surrender of Canadian sovereignty without a fight."

Although there was a sense then that the Arctic was rapidly shifting into a new state, no one expected the tipping point to come as quickly as it did in 2007, when it was clear that winter's freeze was losing its ability to keep up with summer's melt; when an unprecedented, extraordinarily large tundra fire on the north slope of Alaska accounted for forty percent of the area burned in the state;[1] and when avian cholera, a disease that is common in the South but largely absent in the Eastern Arctic, killed nearly a third of the nesting female common eiders at East Bay, home to the largest colony of the species in the region.[2]

It was so warm that summer that the Inuit of Grise Fiord, the most northerly civilian community on the continent, were forced to stockpile sea ice for drinking water because the run-off from a nearby glacier dried up.[3] For the third year in a row that fall, hundreds of beluga whales and narwhal made the mistake of staying in the Canadian Arctic longer than they should have because there was so much open water in the region. In Lancaster Sound alone, Inuit hunters shot more than 600 beluga whales that would have otherwise drowned as the small pools of open water they were trapped in quickly shrank to nothing over a ten-day period.

The pace of change has been breathtaking since then. Sea ice retreated to another record low in 2012, while ninety-seven percent of the Greenland Ice Cap surface showed some sign of melting.[4] All five species of Pacific salmon

were not only migrating up the Mackenzie Delta, as they had been for several years in small numbers, but they were also being netted by Inuit in the Eastern Arctic. If there were any doubts about this migration of salmon into the Canadian Arctic, they were put to rest in 2019 when Northerners sent 2,400 salmon samples to the Department of Fisheries and Oceans.

The pace of change was driven home for me in the summers of 2018 and 2019 when I was a member of a U.S. National Science Foundation expedition that travelled from Greenland through Canada's Northwest Passage. The first trip underscored the warning for readiness that Huebert had espoused at that CARC conference in 2002.

When the ship carrying 102 passengers and twenty-four crew members grounded in a remote area of the Gulf of Boothia, it took nine hours for a Hercules aircraft to fly in from the Canadian National Defence Joint Rescue Coordination Centre in Trenton, Ontario, to our grounded ship, twelve hours for another smaller defence plane to come in from Winnipeg, and twenty hours for a Canadian Coast Guard helicopter to arrive and assess the condition of our badly-damaged vessel. If the weather had been worse, wind could have driven thick ice against the damaged ship, and we would have been goners.

The trip the following year was just as sobering as we passed through open-water parts of the Northwest Passage that are often choked with ice. The biggest surprise was the wildfire that burned the tundra in Greenland, two years after a similar fire ignited on the west coast. No one who attended the CARC conference in 2002 even considered the possibility that the land of ice would some day catch fire.

It was yet another addition to the list of emerging questions about Arctic warming for which we have no answers. Progress is being made in mapping out the future of the Arctic, but it is not nearly fast enough to address the multitude of new questions that are unfolding in surprising ways.

These changes in the Arctic have potentially positive ramifications for some observers. Receding sea ice could make the estimated twenty-two percent of the undiscovered, technically recoverable hydrocarbon resources in the world more accessible.[5] Arctic shipping lanes are opening up that are far shorter, cheaper, and potentially safer (from pirates) than existing routes that must pass through the Panama or Suez Canals. Warmer Canadian Arctic waters may set the stage for the kind of commercial fishery that Greenlanders are now benefiting from.

There is also compelling evidence to suggest that some sub-Arctic and Arctic animals – the muskox and the barren-ground grizzly bear – will likely thrive in this warmer world. So, too, may the wood bison, which emerged from the nineteenth century greatly diminished in the sub-Arctic due to habitat loss and overhunting before animals were reintroduced to parts of the Northwest Territories, Yukon, Siberia, and Alaska. There are even signs that lions – the cougar, in this case – could stage a comeback in a land in which the maneless Beringian lion once preyed on animals such as the saiga antelope.

But this rapid warming will likely be a challenge for the Indigenous peoples of the Arctic. With sea ice melting, glaciers receding, permafrost thawing, and Arctic storms picking up steam as ocean levels rise, dozens of low-lying coastal communities that are vulnerable to flooding and erosion, such as Shishmaref in Alaska and Tuktoyaktuk in the Northwest Territories, will have to be shored up or moved. A warmer and shorter ice season will result in less time for some polar bears to hunt seals, and more time for mosquitoes and flies to take their toll on caribou. Increasingly powerful storm surges could result in massive seawater intrusions that will, in the absence of the sea ice that used to buffer shorelines, swamp the freshwater Arctic deltas and coastal wetlands that are nesting areas for millions of birds from all over the world.

We are already seeing the effects of some of these changes rippling through various ecosystems. Capelin, not Arctic cod, is the dominant fish in Hudson Bay;[6] killer whales, once stopped by sea ice, are now regular visitors, preying on whale species throughout the Arctic Ocean;[7] polar bears at the southern end of their range are getting thinner and producing fewer cubs than they have in the past.

The changes that are occurring are circumpolar in scope.[8] Chukchi Sea walruses have been hauling out on land by the tens of thousands, as 35,000 of them did in September 2014 when there was no more sea ice for them to use as platforms. Fearing that disturbances from planes might result in a deadly stampede, the Federal Aviation Administration recommended that all aircraft maintain a minimum altitude of 5,000 feet above ground level within a three-mile radius of the area.[9]

In the Norwegian archipelago of Svalbard, fjords on the west coast have not been frozen for more than a decade.[10] The tundra there is being overtaken by shrubs, just as it is in Siberia, Chukotka, Arctic Canada, and the north slope of Alaska, where barren-ground caribou herds – fixtures on the

summer tundra – have been mostly suffering serious losses. According to CARMA, the CircumArctic Rangifer Monitoring and Assessment Network, half of the world's twenty-four barren-ground caribou herds that are routinely counted are in decline.[11] Only four are increasing, and they are doing so only modestly. Measured another way by biologists Liv Vors and Mark Boyce, who included the fate of boreal forest and mountain caribou in their survey, thirty-four of the forty-three major herds that scientists have studied worldwide in the past decade are in a free-fall.[12]

There is very little that can be done to stop the Arctic from warming in the short term. Greenhouse gases are still being emitted from fossil fuel consumption. Warming fossil carbon stores are adding to the problem in the form of the methane gas that is seeping out of the ground as permafrost thaws and sea ice melts. It would take centuries to halt or reverse the decline of sea ice cover, the thawing of the permafrost, the meltdown of the glaciers, and the acidification of the Arctic Ocean, which is directly attributable to the increase in carbon emissions.

The climate will stay altered for a long time because it will take centuries for forests, oceans, and other natural systems to sequester all the excess greenhouse gases that have accumulated in the atmosphere.

That is no reason not to try to curb these greenhouse gas emissions, however, and it is imperative that it be done.

Alongside that effort, we must use both scientific and Indigenous knowledge to help manage the end of the Arctic world as we know it, so that the new Arctic that is unfolding does not bring surprises that we are not prepared to deal with or exploit.

If, for example, caribou, Yukon salmon, nesting shorebirds, sea birds, and polar bears continue to disappear as they have been doing in recent years, the already impoverished people of the Arctic will be worse off for it. New economic opportunities that may arise from oil and gas developments, commercial shipping, and tourism could cushion the blow for some of them. Those economic benefits would be clouded by the potential of a blowout or shipping accident, which could prove to be even more catastrophic than the Alaskan Exxon Valdez disaster, or the blowout that occurred when BP's Deepwater Horizon leaked more than 130 million gallons of oil into the Gulf of Mexico. Unlike the Gulf of Mexico or Prince William Sound, there is ice in the Arctic. There is currently no practical way of separating oil from ice.

One of the biggest challenges in planning for the future is to figure out what the new Arctic (including the sub-Arctic) might look like. Against a

backdrop of boreal forest, tundra, permafrost, polar deserts, glaciers, ice caps, mountains, rivers, deltas, sea ice, polynyas, gyres, and open ocean, that will not be easy to do. There are thousands of pieces to this puzzle that we know of so far (discoveries of microscopic creatures new to science such as the picobiliphytes found in the Arctic in 2006 are inevitable).[13] They include the 21,000 cold-climate mammals, birds, fish, invertebrates, plants, and fungi that we know a lot about. They exclude the microbes and endoparasites that remain largely a mystery.[14]

What we do know about the future Arctic is this: temperatures will continue to rise, resulting in the Arctic Ocean being seasonally ice-free by 2040 or possibly earlier. Two-thirds of the world's polar bears will likely be gone a decade later, as will one-third of the 45,000 lakes in the Mackenzie, one of the largest deltas in the Arctic.

In 2100, when trees and shrubs overtake much of the grasses and sedges on the tundra, what we think of as the traditional habitat for barren-ground caribou will have shrunk by as much as eighty-nine percent.[15] Coniferous forests will be replaced by deciduous ones in many places. The polar ice cap on Melville Island will have melted away. Brintnell Glacier, the last remaining ice field on the mainland of the Northwest Territories, will be gone as well.

River deltas such as the Mackenzie and the Yukon-Kuskokwim have suffered storm surges that sent ocean water more than thirty kilometres inland between 1999 and 2011. The deltas will be even more vulnerable to flooding and erosion as sea levels rise, permafrost continues to thaw, and the Western Arctic sinks. That will be a blow for the million birds that nest in the Yukon-Kuskokwim each year, according to Torre Jorgenson, a landscape ecologist and adjunct professor at the University of Alaska Fairbanks who recently co-authored a study on flooding in the delta.[16] The changes will also challenge fisheries managers trying to manage the sharp decline in Chinook salmon runs that has resulted in commercial fishing closures and reductions in the number of fish that Indigenous people can take for subsistence purposes in the region. This year's (2021) estimated salmon run of between 42,000 and 77,000 on the Yukon River is expected to be one of the lowest on record.

As much as we do know and think we know about what the future Arctic might look like, it is what we do not know that worries scientists and Indigenous peoples.

The list of emerging questions is long, and they come from unexpected developments. Consider, for instance, the following: the discovery that beluga

whales and narwhals in the Arctic have little or no immunity to diseases such as phocine distemper that are common in mid-latitude marine environments;[17] the 1999 storm surge in the Mackenzie Delta in Arctic Canada that sent a huge wave of seawater more than twenty kilometers inland, turning much of the tundra that was swamped into a dead zone;[18] the record-breaking "humdinger" of a cyclone that tore through the Arctic for two weeks in the summer of 2012;[19] and the hybridization that has already occurred between grizzly bears and polar bears and is occurring between harp and hooded seals, narwhals and beluga whales, and very likely between North Pacific right whales and bowhead whales. (Looking at the potential for more of this hybridization to happen, scientists Brendan Kelly, David Tallmon, and Andrew Whiteley concluded that at least twenty-two Arctic marine mammals are at risk and that many of these species – fourteen in all – are threatened or endangered.)[20]

A rigorous assessment of what the future might look like could help decision-makers understand who the winners and losers will be in a future Arctic and what other surprises we can expect. This will help decide which Arctic communities need to be shored up, moved, or made wildfire safe. It could guide decision-makers in designing better rules and regulations for pipelines and resource development, as well as for commercial shipping. It could also help wildlife managers identify in advance which species are most at risk, which ecosystems are worth protecting, and what future management programs might do for conserving and maintaining the abundance of non-threatened species.[21]

There are initiatives, projects, and successful programs being discussed or already in place that could point the way towards creating a roadmap to a future Arctic. In Old Crow, the most northerly community in Yukon, a program has successfully paired scientists with community leaders to address the issue of food security in a quickly changing climate.

What the Arctic really needs, in addition to more of these and other small-scale local initiatives, is international cooperation, either through an overarching Arctic climate treaty or through a series of binding agreements. The challenges from climate change are too big, too complex, and in many cases too overlapping to be left to individual countries to address. In order for this to happen, the role of the Arctic Council needs to be strengthened. Science needs to be funded much better than it has been, and the Indigenous peoples of the Arctic must be equal partners in the decision-making process.

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5

CARIBOU

WHAT PRICE THE CARIBOU?

Northern Perspectives 31, no. 1 (Spring 2007)

Alarming figures have been reported on some of the northern herds and populations. The Peary caribou that inhabit the northernmost part of the caribou range in Canada, on the islands of the High Arctic, are officially designated as "Threatened" by the Committee on the Status of Endangered Wildlife in Canada. Several years ago, government officials even put together a plan to establish a breeding herd in Calgary, in case the animals were to die out in the wild.

The barren-ground caribou herds are also on the decline. Some herds have undergone a shocking decrease. The Cape Bathurst herd, which ranges around the Mackenzie River delta, has gone from an estimated 17,500 animals in 1992 to 2,400 in 2005. The Porcupine herd, which ranges between the Arctic coast of Yukon and Alaska, is down to about 110,000 animals according to recent official estimates, from a high of about 178,000 in 1989.

What is driving the decreases is not clear, and the reasons may be different for different herds and populations. The traditional knowledge of local indigenous peoples, which goes back much further than scientific monitoring, suggests that there are natural cycles in the growth and decline of herds, probably connected to changes in climate. While those climate changes may have been cyclical, the current climate change being experienced in the Arctic is unprecedented in its speed, and may not have the same effects as previous changes. On top of the climate change factors, the caribou ranges are becoming more heavily used by industry. There are also more hunters

than ever before, with more access to caribou, and more efficient hunting methods.

Some governments are paying attention to the shrinking herds. The Government of the Northwest Territories has instituted a barren-ground caribou management strategy for the years 2006-2010. As part of this strategy, it has put in place lower limits on the numbers of caribou that can be taken by non-native and non-resident hunters. At the same time, it has increased the numbers of wolves that can be hunted, and has also started delaying the publication of the movements of caribou herds. These had previously been available immediately on the Internet, by tracking the movements of animals fitted with radio collars.

There are few promising signs for the caribou. However, there is one northern herd that appears to be bucking the trend. The Fortymile herd in Yukon and Alaska, once estimated at over half a million animals, was reduced to an estimated 5,000 at its lowest point. Since then, it has been rebounding, and although there are no recent survey figures, it is now thought to number about 40,000. The rebound was not achieved just by letting nature take its course. The numbers in the herd only started improving after hunting was restricted and predation by wolves was limited.

This approach worked for one herd, but what measures will be necessary to help the other declining herds and populations, and what price will have to be paid for those measures? For each place in the north where the caribou are still hunted for subsistence — whether it is Old Crow in Yukon, or Wekwe[è]ti in the Northwest Territories, or Resolute Bay in Nunavut — there is concern over the dwindling caribou numbers, but also concern about limitations on hunting. The value of caribou consumed for subsistence has not been precisely calculated for each of the northern territories, but is probably in the realm of tens of millions of dollars per year. That is what it would cost for people to replace the caribou meat in their diets with expensive meat shipped up from southern Canada, and to replace the other economic benefits generated by the caribou hunts.

While the economic values can be calculated, the other values represented by caribou hunting are incalculable. The caribou is central to many of the northern cultures. In hunting the caribou, northern peoples repeat rhythms established over thousands of years, following tracks and trails trodden by distant ancestors. Following these trails, taking part in the same activities, is an essential part of their identity. To take away that ability to partake in the caribou hunt is simply unthinkable. When it seemed that the

federal government would restrict the hunting of Peary caribou, *Nunatsiaq News* reported this reaction from Marty Kuluguqtuq, secretary-treasurer for the Hunters and Trappers Organization in Grise Fiord. "We feel it's our right to continue to harvest them. We've got no alternative for our livelihood, our food and our well-being."

THE BATHURST HERD: TRADITION FOOD, AND RESPONSIBILITY

Fred Sangris, a chief of the Yellowknives Dene, in conversation with *Northern Perspectives* editor Clive Tesar

How important is the Bathurst herd to the Yellowknives?

It's very important. I've been working with the elders on our history for the past ten years, and most of the history bring[s] people back to the caribou, the trails, the history, how our people depended on it. Without the caribou, we wouldn't have made it through. The caribou provided everything, tools, food, and clothing. The caribou are central to Dene culture. Even today, when people harvest it, they have so much respect for caribou. But now the caribou is in trouble with declining numbers, and so people are all concerned. There's so much concern that we're going to be involved and do our part as much as we can.

Your society has changed over the last few years, people are getting jobs, going out to work at mines, how does this change how people value caribou?

It doesn't change very much. Most of the people that work at [the] mines or [the] oil and gas industry, when they do get time off, they're back on the land again. They take their families on the land, because they have families to feed. Another part of it is there's a high degree of diabetes in our community because of too much junk food, so now people are more aware of that and thinking traditional food was the best thing after all. A lot of the people who work at the mine still have a connection to the land. Even though they have a good income doesn't mean they go to the grocery store and just buy cans of beans. The caribou and the whitefish is still out there; they're harvesters as well.

What do you think is driving the decline of the herd?

Twenty-five years ago, I made my living as a trapper on the south side of Lac de Gras. I saw the great herds go through in the winters; sometimes I'd spend the winter there with the caribou grazing nearby. My family and other families were nearby and caribou were important. There was no winter road, no traffic; there was no diamond rush and no gold rush at that time. If you broke down there, you'd be stuck for weeks; there was no airplane, no nothing going on, not like today. Now when the winter roads are open, the trucks start moving, you better get out of the way, or you get run over; that's how much traffic is out there now. I think we have to ask, should we regulate the winter roads now? It opens up access to the caribou area too. A lot of things come into question, including the number of flights into the area. In the end of August we saw eight low-level flights in the MacKay Lake area while we were on our fall hunt; we'd never seen that number before. We're looking at all factors and we're trying to figure out what is causing the decline of caribou.

From the 1990s, the population of wolves and other predators has gone up, with the decline of the trapping industry. I think that's an area where the outfitter could help us, concentrate less on caribou and more on predators. In the aboriginal way, we're not able to do that ourselves, but the hunters could help us.

What management measures would you like to see?

Where there are settled claims, the government needs to support the wildlife management boards. In areas like ours, where claims are not settled, we still need to work in regulating our own hunting area and setting up our own wildlife management boards. I think those will come in the near future, but before that happens we need to meet with a lot of people. We hope that the next step is an elders' conference, and bring in the trappers and hunters affected. We need to really consciously think about regulating ourselves. We know the caribou is declining, we know the numbers; we know it's real and it's going to affect us in many ways. As aboriginal people, we have to make sure we play our part as well.

When you start talking about regulating subsistence hunting, what sort of reaction do you think you're going to get?

It's going to be kind of difficult. In our region there are many families who depend on caribou for ceremonies, for sharing, for community, for

gatherings. Caribou is the centre of our life. To ask our people to go on regulation to regulate themselves, to maybe even look at quotas so that the numbers will come back strongly, it's going to affect them. We know that there will be some strong words exchanged, but we have to be understanding, we all have to try to do our part. If the herd is going to be there for the next generation, we have to think about that. Otherwise the next generation may not see caribou at all, so we have to do our part, and ask all people to work with us as well.

BACKGROUND AND CONTEXT

Caribou once ranged all across Canada, from the Maritime provinces in the east to Haida Gwaii (the Queen Charlotte Islands) in the west, and up to the Arctic islands. They have now disappeared from many parts of the country, leaving only the North of Canada with large populations. Now even those herds are threatened. In this chapter, we focus on these Northern caribou, including the barren-ground herds, the Peary caribou of the Arctic islands, and the Dolphin and Union herd, which is neither barren-ground nor Peary, and migrates between the islands and the mainland. The Northern herds can number in the hundreds of thousands and range from Yukon through the Northwest Territories to Nunavut, and as far south as northern Saskatchewan and Manitoba. The largest of the Canadian herds is the Qamanirjuaq herd, estimated at 288,000 animals in 2017.

Barren-ground caribou declines and concerns about them are not new. There are natural variations in the numbers of caribou. This variability is thought to run in cycles and to be influenced by the overgrazing of habitat when populations are at their peak. Indigenous knowledge holders speak of barren-ground caribou cycles that run over decades. Scientific studies have found similar cycles.

Natural variability can produce low numbers in any given herd or location, and then the low numbers may be driven even lower by other threat factors, making it harder for the caribou to rebound. The rate of change of caribou herds can be steep. They can double in size in as little as three years, or rapidly shrink.

The current rates of decline in some herds are astonishing. The Bathurst herd that currently ranges between the Northwest Territories (NWT) and Nunavut may have fallen the furthest from a high of 472,000 in 1986 to an estimated 8,200 in 2018. That is a decrease of more than 98%. The Dolphin and Union herd has shrunk to just over 4,000 animals, based on a 2018 survey. In 1997, this herd was estimated at about 28,000. Most Northern herds are in decline at present. The Porcupine herd shared between Canada and Alaska is an exception among the migratory tundra herds as it is increasing. Due to the many changes in the harvest levels of caribou and the alterations to their habitat, it is not known if caribou numbers will ever return to the historical high levels seen in the late 1980s-early 1990s, when barren-ground caribou numbers were thought to have peaked at over two million.

The causes of the declines may be different for different herds, but there is a significant opinion that the development of mining and infrastructure (particularly roads) within the range of some of the herds facing the steepest declines is a contributing factor. Hunting pressure and predation are other significant factors that have been identified. As the NWT Species at Risk assessment for the barren-ground caribou notes, "Most barren-ground caribou herds are now at low points in their abundance and they are facing cumulative effects from multiple interacting threats that are unprecedented."

The steep decline of these herds has led to a moratorium on hunting some of the declining herds. For instance, in 2015, the NWT government created a Mobile Core Bathurst Caribou Conservation Area in which no caribou hunting is allowed. The government moves the zone around according to where it thinks the Bathurst caribou are, based on the tracking of radio-collared members of the herd. The limited hunting of other caribou whose range overlaps with the Bathurst herd is still allowed, but not when they are in the mobile conservation area. Some Indigenous peoples have adopted voluntary measures to reduce the harvest of caribou, or have stopped hunting them altogether. For instance, Innu, Cree, and Inuit governments and organizations have all enacted a voluntary ban on hunting the George River herd, currently estimated at 8,100 animals, down from a historical high of an estimated 750,000.

Caribou herd declines make life difficult for Indigenous peoples who rely on them for sustenance. There are people still alive today who lived through the starvation events among Inuit living in the Kivalliq Region of Nunavut in the 1950s. It is estimated that as many as two-thirds of the population of "Caribou Inuit" in the region starved when caribou migrations

changed. Food insecurity is still a major problem in Northern Canada. Caribou declines and the resulting hunting bans or lowered quotas contribute to that insecurity.

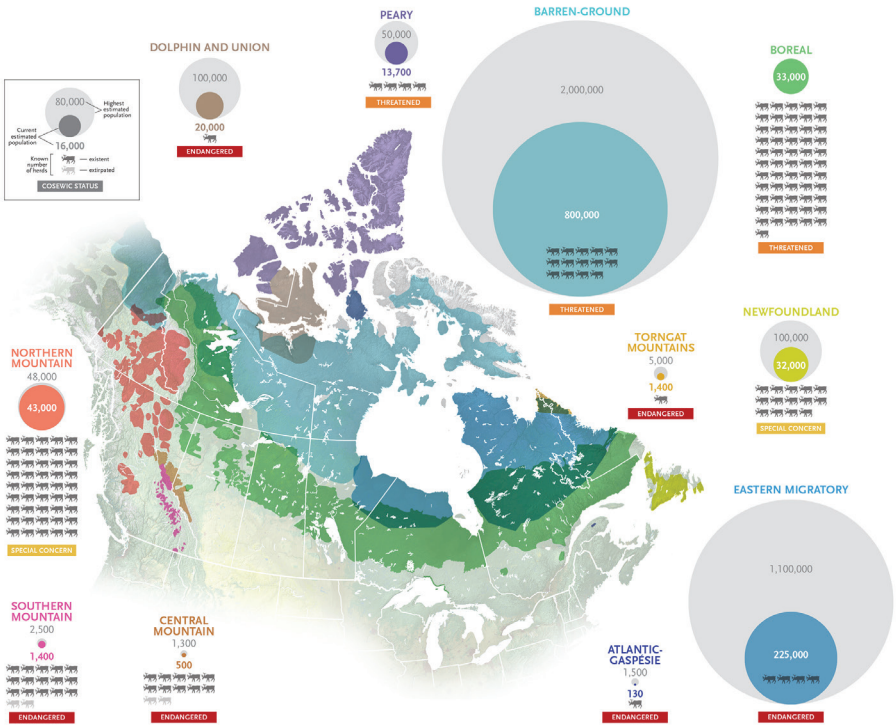
Caribou are part of the histories and identities of many Northern Indigenous peoples. There is archaeological evidence linking people and caribou in Yukon as early as 25,000 years ago. That connection is not just historical, but something that continues to the present day. Speaking in the *Above and Beyond* magazine in 2017, Gwich'in Elder Charlie Swaney was reported as saying, "They, the elders, look at us and the caribou as one … cause we roam this land together."[1] Researchers are starting to document the deep feelings of grief that people are experiencing due to the caribou declines. There are concerns about how the dwindling caribou numbers may drive cultural loss amongst Northern Indigenous peoples. They worry that the knowledge passed on during caribou hunts may not be effectively passed on to successive generations if there is no hunting. There are also customs related to sharing caribou meat, preparing it, and using other parts of the caribou for clothing, tools, and other purposes that could be jeopardized without the caribou harvest to sustain them.

There have been attempts to quantify the economic value of caribou to Northern peoples. A *Canadian Geographic* article in 2007 estimated that 11,000 caribou harvested in a year were worth about $17 million.[2] A study done for the Beverly and Qamanirjuaq Caribou Management Board the following year put the replacement value figure for the annual harvest from those two herds alone at $20 million. The replacement value refers to what it would cost people to replace food and other caribou products.

The national status of the barren-ground caribou is "threatened" according to the 2016 assessment from the Committee on the Status of Endangered Wildlife in Canada (COSEWIC). This status is defined by COSEWIC as "[a] wildlife species that is likely to become endangered if nothing is done to reverse the factors leading to its extirpation or extinction." The federal government is now considering adding barren-ground caribou to schedule 1 of the *Species at Risk Act*. If the species is listed, the government has a year to come up with a recovery strategy.

In 2018, barren-ground caribou were also listed as threatened under the Northwest Territories' *Species at Risk (NWT) Act*. A recovery strategy for NWT barren-ground caribou was published in 2020. There are some herd-specific management plans, including for the Porcupine, Beverly, and Qamanirjuaq herds. These were developed by co-management boards whose

members are nominated by territorial, provincial, and Indigenous governments. Herd range management plans have also been developed for other herds by a combination of governments and co-management boards. Community-level plans are beginning to emerge – the Łutsël K'é Dene First Nation and two communities in the Sahtu Region of the Northwest Territories have their own caribou management plans.



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OPTIMISM FOR CARIBOU

Anne Gunn, Aimee Guile, Laura Meinert, and Jody Pellissey

Will We Ever Get Past the Current Declines?

The answer to whether we will get past the current declines is a guarded "yes"; guarded because it partly depends on our behaviour and our willingness to change. The point about human behaviour is, for example, in the excerpt quoted from the 2020 NWT barren-ground caribou recovery strategy (see the text box below), which firmly brings to the forefront Indigenous viewpoints on respecting caribou.

Getting beyond the current declines is likely for three reasons.[1] First, the caribou themselves: caribou are a superbly adapted and adaptable species. Their resilience, a measure of their ability to rebuild their numbers and re-occupy their landscape, is strong. Cows can have a calf every year, and under ideal conditions, numbers can double every three years, though hot, dry summers or exceptionally snowy winters can be interruptions to recovery. We see evidence of resilience, as caribou previously recovered from historic declines. Indigenous Elders tell us that caribou typically fluctuate in number, and we see the imprint of these cycles in the patterns of hoof scars left on exposed spruce roots as caribou follow their traditional pathways. The most recent historical decline was from the 1950s to 1970s, followed by increasing numbers until peaks in the late-1990s.

Regular fluctuations (cycles) are familiar from our knowledge of lemmings and their predators, and snowshoe hares and lynx. Surprisingly, given studies over some fifty years, the underlying mechanisms for these cycles are still incompletely understood.[2] In the past, caribou declines halted partly because as herds declined, their seasonal ranges and migration routes shifted. Those changes to their seasonal ranges would have taken caribou out of reach of many people, and so harvesting was 'self-limiting.' This has parallels with wolf predation: as caribou

> Etthën hurétth'ą (the caribou are listening to us) – we shouldn't talk too much about ʔetthën; they are listening to us; we must speak good words for them; and we must help protect them. The ʔetthën have their own natural laws and, as such, we have to respect the ways of the ʔetthën and all other life forms.
>
> One of the four Łutsël K'é Dënesųłı́né values listed in Yúnethé Xá ʔetthën Hádı (Łutsël K'é Dene First Nation's Caribou Stewardship Plan), 11.

decline, after a time lag, wolf numbers decline as their recruitment drops.[3] However, the twenty-first century brought many changes to Northern lives, and during the current declines, access to harvesting increased due to rapid communication on caribou whereabouts and improved transport. Harvesting effort was therefore uncoupled from caribou abundance, but, critically, we have recognized this now and know it requires addressing.

The second reason to be optimistic about recovery from the current declines is that the caribou's habitat on the tundra and Northern boreal forests is mostly intact at the moment. However, threats are growing in the shape of all-weather roads, increased development, and a warming climate.

The third reason to be optimistic is that the declines have triggered collaborative management planning. While on one hand, the declines occurred while most herds had some level of management planning, things are changing as awareness of the declines has brought the realization that we need to change our behaviour. We now have community-based planning, herd-specific management plans, and regional planning, which all contain ideas, values, and a sense of what to do.

Management planning, in a narrow technical sense, emphasizes harvesting and predator management actions that target the adult caribou's survival because adult survival largely determines herd size trends. Harvesting is complex spiritually and culturally. It is more than a caribou death and more than a statistic from balancing births and deaths. Harvesting regulation is an Indigenous rights issue that carries the burden of past and present wrongs and a lack of trust. As well as harvesting, wolf predation is a large part of caribou deaths. For herd recovery, targeted wolf removal (versus support for wolf harvesting) is also controversial and a complex clash of values and conservation gain.[4]

When the caribou harvest is restricted (during declines and early recovery) and harvest is allocated among different communities, misunderstandings, uncertainty, and perceived unfairness can occur, which is a typical problem for common pool resource management.[5] However, co-management is effective for sharing a common resource such as a caribou herd whose seasonal movements expose them to different communities and land claim groups. We have learned during the caribou declines that co-management helps people to reconcile conflicts when caribou harvests are in short supply. In the Northwest Territories and western Nunavut, a transboundary advisory committee[6] cooperates on annual monitoring and community information for the Bluenose-East, Bluenose-West, and Cape Bathurst

herds, and advises on management. In the Northwest Territories (NWT), two herds had recovery actions implemented early: the Bluenose-West and Cape Bathurst herds had harvest restrictions imposed in 2007. The two herds continued to decline before stabilizing at low numbers between 2015 and 2018, at less than three-quarters of their peak size in the 1990s. In Nunavut, herds have exceptionally high calf survival, potentially due to the high rates of wolf harvest by Indigenous hunters acting as a management action.[7] The Beverly/Ahiak and Qamanirjuaq herds declined more slowly, and without caribou harvest restrictions.

Initial management actions of restricting or halting the caribou harvest did not reveal much about the causes of the declines, and the declines continued. Caribou adult survival remained low, and so wolf predation was a likely cause. The delays in reducing predation compared to reducing harvesting[8] added complexity to management. At least on the Bathurst herd's summer ranges, as the caribou numbers declined, so did the wolves.[9] By 2018, adult caribou survival had increased, suggesting that the decline had likely halted. Despite the NWT government's emphasis on harvesting and predation, Indigenous communities identify mining exploration and development as partly causing the declines and changes in movement patterns.

Three herds had essentially collapsed by 2018 to just a few percent of their peak herd sizes, either because of delays in management actions (Bathurst and George River herds) or delays in monitoring and management planning (the caribou on Baffin Island). Indigenous Elders identified the extreme declines as having fewer animals than historically observed. Extremely low numbers reduce the likelihood of recovery, as not halting a decline early on prolongs the recovery time and increases the risk of bad luck, such as the herd experiencing an unexpected event such as a severe drought or icing. For example, the Fortymile herd in Alaska numbered about 6,000-8,000 in 1976, and it took forty years to reach 84,000 caribou (2017).

Caribou may change their behaviour when abundance declines to the point where they cannot maintain safety in numbers. At this point, cows may abandon their calving grounds,[10] as calving is the time of the greatest need for the safety of neighbouring cows. After 2017, the overlap of the Bathurst herd with the neighbouring Beverly/Ahiak and Bluenose-East herds increased,[11] and some satellite-collared cows switched from the Bathurst to the Beverly/Ahiak calving ground.[12] The risk that numbers can decline to a threshold where the caribou's need for safety in numbers causes the remaining survivors to join another herd cannot be ruled out.

There are other possible consequences of extremely low numbers. An extremely low herd size reduces overall genetic variation,[13] which may constrain future adaptability. Our reasoning is the recent discovery that Svalbard reindeer have different adaptations for body temperature regulation. Other traits that may be inadvertently lost include caribou memories and knowledge of their landscapes, such as the routes back to their traditional calving grounds. Recently, biologists are seeing how the caribou's learned and social behaviours underpin migratory behaviour. Disturbances from industrial development and harvesting reinforce each other and increase caribou responsiveness to traffic.

A large part of the caribou's behaviour is social. Phrases such as 'safety in numbers' and 'many eyes' capture the advantages of living in social groups. Social behaviour is how caribou share knowledge of their landscapes between individuals and generations. For example, calves stay with their maternal cow and learn the route to the calving ground where they were born. When migrating, caribou take their cues about where to go from the neighbouring caribou in their social group.[14] The dependence on neighbouring individuals for cues during migration was revealed using video footage from drones and image classification to track the turns and twists of individual caribou. Not surprisingly, calves were more responsive than mature bulls to their neighbours.

Co-management has laid the groundwork for future recovery planning, and we know more about caribou and how we see our relationship with caribou through conversations documented during public hearings. During the hearings, people were clear about their sense of loss and grief and their fears about food security and future on-the-land knowledge and skills if caribou harvesting is lost. Co-management boards have compelling accounts of their efforts since 2007 to halt declines.[15]

Efforts to rebound from declines on the Arctic islands have had mixed results. The abundance of Peary caribou on the High Arctic islands has fluctuated, with a notable collapse in the late 1990s on the western High Arctic islands and a natural recovery by 2012.[16] The communities of Resolute and Grise Fiord voluntarily reduced their harvesting. On the larger and mid-Arctic islands, the recovery of the Peary caribou has been slow or has not occurred, despite community-based harvest restrictions on Banks and northwest Victoria Island.[17] The Dolphin and Union herd, which calves and summers on Victoria Island but crosses in the fall to the mainland for the winter, has sharply declined from a peak of 28,000 in 1997 to 3,700 caribou in 2018,[18] and emergency harvest restrictions have been applied.

Given the events of the last fifteen years, when declines were detected and management actions were undertaken, we have likely learned enough about the resilience of caribou and our responses to the declines to get beyond the current declines and move towards recovery. We have also seen what happens when actions are delayed and slow declines accelerate into collapses. We know that severe declines lead to delayed and slow recovery. So, yes, the potential exists for the current declines to halt and for caribou herds to recover and re-occupy their seasonal ranges. There are reasons to be optimistic and reasons to be cautious.

Can Caribou and People Successfully Share Northern Landscapes into the Future?

Caribou use of Northern landscapes revolves around migration, especially for barren-ground caribou. Migration and abundance are inextricably linked, and social behaviour is a large part of why migration is feasible. Migration is an adaptation to annually variable foraging. The Arctic, while not pristine, does have a relatively unfragmented caribou habitat,[19] and we know how to keep the caribou habitat intact, if we apply what we have learned.

Roads are a growing threat to whether we can successfully share Northern landscapes.

All-season and ice roads create two threats that in theory are easy to manage, but in practice are not well managed. These threats are high traffic frequency and increased exposure to harvesting. The high frequency of traffic is manageable by creating predictable gaps in traffic for caribou to cross – temporary closures are a proven solution, such as at the Meadowbank gold mine in Nunavut.[20] Road access increases local harvesting and increases disrespectful harvesting.[21] Hunting along roads also increases caribou fear and hesitancy in crossing roads.

The *Mackenzie Valley Resource Management Act* (1998), the *Inuvialuit Final Agreement* (1984), and the *Nunavut Land Claims Agreement Act* (1993) give Northern communities a stronger voice in environmental assessments, which has led to increased monitoring and mitigation. But in practice, mitigation effectiveness often wavers and needs more review and revision (adaptive mitigation). A useful step would be to build in mitigation costs more transparently during mine feasibility costing. This would mean the costs of, for example, road closures to allow caribou migration being included in the costing of mine economic feasibility. As mines develop, a common pattern

is that longer roads are built, as more remote pits require their ore to be trucked to a central processing plant. We are finding that caribou delay their crossings of, and do not always cross, these roads. This indicates the need for improved traffic management to create predictable gaps for the caribou, and as Indigenous Elders suggest, let the lead caribou pass. Again, it comes down to fine-tuning mitigation effectiveness and sharing experience between mine companies. Fortunately, advisory bodies that review project-specific monitoring and mitigation can prompt and prod the mines to improve their monitoring and mitigation. The NWT has independent environmental oversight bodies.[22] In Nunavut, the Nunavut Impact Review Board recommends technical advisory committees for mines to advise on monitoring and mitigation. The presence of Indigenous organizations on the technical committees gives a voice to the communities.

Thus, we are in a position to both apply and increase our knowledge, which improves the likelihood that we can share the Northern landscape with caribou into the future. The urgency for this is increasing as global warming intensifies. More and more, we will need to leave caribou enough room to make their decisions, to adapt and move in response to conditions such as rain-on-snow that limit their access to food. Leaving caribou room means ensuring their free passage across transport corridors and respecting their use of habitats where they are the most vulnerable, such as calving grounds. Freezing rain and rain-on-snow events are increasing in frequency, and caribou respond by moving to areas where they can more easily find forage by digging through the snow. We theoretically know enough about mitigation to allow caribou to freely cross roads, and perhaps enough to know how to protect calving grounds and other seasonal ranges. Putting mitigation and innovative landscape management into practice is, however, a complicated story.

The complications for land management arise from people's paradoxical wishes about how they want to live, which often come down to wanting to perpetuate hunting and fishing cultures without precluding economic development. Communities, regional groups, and agencies are faced with diverging needs, differing priorities, and private versus public interests. Efforts at landscape management using conventional tools can run into difficulties when attempting to resolve the conflicting objectives of caribou conservation and economic development. A useful tool is to follow up on describing the economics of Arctic biodiversity.[23] There have been initial moves toward this for Northern caribou. For instance, the Beverly and Qamanirjuaq Caribou

Management Board described the annual harvest value of the two herds as $20 million in 2013. However, a more detailed approach to evaluating caribou as natural capital would be useful. It is common to be faced with economic arguments in environmental assessments, such as mining companies arguing the relative economic risks when mine roads are temporarily closed for caribou migration. Although Indigenous knowledge and cultural values are intangible, an analysis using a natural capital approach would help contribute additional information on the other side of the economic arguments put forward by developers.

The debate about conservation and economic development is foremost in discussing permanent protected areas for landscape management. This is a long-standing and still unresolved issue, as most calving grounds remain unprotected. Conserving caribou ranges will require innovation and drawing on experience from elsewhere, including fisheries and their range of area- and time-based tools to conserve, for example, spawning areas. In that context, other potential approaches are to be found in the International Union for Conservation of Nature's (IUCN's) approach to defining "other effective area-based conservation measures" as part of the progress toward meeting the international Convention on Biological Diversity.[24]

A glimpse into the future of sharing caribou landscapes is available through the Bathurst Caribou Range Plan.[25] The Range Plan is innovative and collaborative, with thresholds to limit the amount of development at any one time with flexible mitigation. The extent of its implementation depends on how people choose to balance Northern biodiversity and economic development. The collaboration and innovation in the Bathurst Caribou Range Plan should be scaled up to other herds, including by applying area-based tools and trade-offs to offset cumulative effects. These will be key to building the adaptive capacity of the landscape and the caribou so we can share the land in the future.

What Do We Need to Do Now to Ensure that Recovery Can Happen?

To move beyond the current declines and to share the landscape with caribou, we need to invest in recovery planning and be prepared to learn from elsewhere. Herd management planning does not yet always specify herd recovery goals and actions. Recovery planning depends on remembering the past and preparing now for the inevitable hard choices about caribou, harvesting, and land use. We can gain useful lessons from fisheries management, given their experience with declines and recoveries.[26] One of these

lessons is that for caribou recovery, we need to move assertively earlier in the declines and not let the remaining herds collapse. We need to collaboratively set recovery goals early in recovery planning. These goals must aim for a fast rate of recovery, and keep in mind the many roles that caribou play in the ecosystem, instead of just the goal of returning to harvesting. The key lesson from the Fortymile herd's recovery experience was that it took collaborative planning among the different user groups to kickstart recovery.

Determining recovery goals should be collaborative and consider harvesting relative to building herd size. Sharing the harvest and deciding on, if necessary, additional actions to support recovery will be helped by learning from the experiences with different herds. The NWT herds were recognized in 2017 as Threatened under the *Species at Risk (NWT) Act*. The *Act* also established a Conference of Management Authorities (CMA) to coordinate and lead recovery activities. CMA has already completed a barren-ground caribou recovery strategy.[27] The Committee on the Status of Endangered Wildlife in Canada (COSEWIC) categorized barren-ground caribou as Threatened in 2016. If this is followed by a listing in the *Species at Risk Act* (SARA), it will lead to a national recovery plan. National recovery plans are high-level plans that are useful to leverage support, but to date, SARA recovery planning is slow and unresponsive. The Dolphin and Union herd was assessed and listed as being of Special Concern in 2004, with a requirement for a management plan. The plan was completed in 2017, by which time numbers had plummeted, and the herd was reclassified as Endangered also in 2017.[28]

Tłı̨chǫ Elders have described the role of caribou in ecology, and this ecological approach is also reflected on a more global scale, such as in the IUCN's approach. The IUCN's approach to recovery planning is through its Green Status of Species – a complementary initiative to the IUCN Red List of Threatened Species. The Green Status of Species emphasizes recovery goals for a population sufficient in size to rebuild ecological functionality.

To not forget the past is to remember when caribou were abundant and appeared as 'living tides' across Northern landscapes, while also penetrating deep into the Northern boreal forests. Each generation forgets how wildlife used to be and redefines what is natural, which can lead to shrinking expectations for recovery.[29] Specifically, we should not be trapped into thinking that because caribou do not use a particular area now, they will not use it in the future. When caribou decline, their use of seasonal ranges changes, especially the winter ranges. This is why initiatives such as Ya'thi Néné Lands and Resources' to create Indigenous Protected and Conserved Areas (IPCAs)

in Nuhenéné, the traditional territory of the Athabasca Denesułiné and the winter range of the Qamanirjuaq and Beverly herds, are so important.

A wild card in recovery planning is climate change. Some changes may be beneficial, such as increased plant growth and flowering and a shorter snow season. Other changes are detrimental, including high summer temperatures, as caribou are not adapted to heat. Conditions that reduce the availability of forage, or increase the energetic cost of foraging, such as ice on and in the snow layers, are also detrimental to caribou. It is the extremes of annual conditions that affect survival or movements. Adaptive co-management can be used to accommodate recovery actions to the caribou's responses to climate extremes, as the probability of detecting changes is high through community and technical monitoring.

To move beyond the current declines and renew the Arctic landscape with living tides of caribou will require us to collectively speak up to ensure that herd recovery and landscape plans are implemented. We should not forget that the current declines and collapses were known as they unfolded, but effective actions were stalled. We cannot let a similar inertia inhibit action. The grief and shock of the current declines are in themselves an incentive that we can channel towards recovery. The declines have brought us together, and now we can use that collaborative groundwork to shepherd the current low numbers toward again seeing streaming lines of migrating caribou. The key, especially as global warming takes hold and infrastructure proliferates, is to keep the landscape open for unfettered passage. Room for a migratory species will be the pathway for recovered abundance.

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6

SECURITY

ON GUARD FOR THEE? PREPARING FOR A NAVIGABLE NORTHWWEST PASSAGE

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Issues of control, sovereignty, and security will all flow from a navigable Northwest Passage, according to University of Calgary Political Scientist Dr. Rob Huebert. But the problem in getting the Canadian government to address any of those issues is that the event that will trigger them, the melting of Arctic ice which currently blocks the passage, is uncertain. Current trends suggest the passage will become increasingly ice-free, and for longer periods of time, but nobody can predict exactly when that will happen.

Although the event may be considered safely far off, Huebert says the government must act now, because of the lengthy period required to prepare adequate resources to meet the challenges. …

Ships are not all that is required. Huebert warns that it will also take several years to develop the necessary infrastructure, to train and prepare the human resources, and to design and build an adequate surveillance network.

Whether or not the federal government sees the issue of Canadian sovereignty as important, Huebert believes there could be a major influx of traffic through Canada's Arctic waters. "If ice conditions improve substantially to allow passage there is a substantial saving for international shipping, particularly between Asia and Europe, and Asia and the Eastern United States. Furthermore, it also has to be recognised that if the passage is

in fact to clear, it has certain advantages over the Panama Canal." … Huebert says that … the Canadian government should start now by asking itself some critical questions, "How do we maintain the proper abilities to protect the environment, protect those who live in that region of the world, and to provide the necessary opportunities that would come from increased shipping?"

Sovereignty, Whose Sovereignty?

For University of Toronto professor Franklyn Griffiths, the concepts of sovereignty and security are not the right way to go about looking at climate change in the Arctic.

Griffiths calls those concepts "old think." Firstly, he says, the idea of Canadian sovereignty is rapidly becoming outmoded, due to the melding of Canadian and American security systems. By the time the Northwest Passage becomes navigable, adds Griffiths, the question of Canadian sovereignty may well be moot. "In some ways, it seems to me, the Canada-U.S. border is now up in Iqaluit, it's up in Resolute, it's in Inuvik. This is the outer perimeter of this place that Canada inhabits with the United States, this common North American space. The United States is not going to allow a challenge to its own sovereignty in effect, or Canadian sovereignty in Arctic waters. There will be ways found to deal with anybody who wants to come through."

Griffiths also argues that security is not the correct term to use in considering climate change impacts. He says it has been bandied about so much that the term has become almost meaningless, used by people who are looking to lay a better claim on resources by framing it as a security issue, "Security as a whole suggests that there is an external threat; where climate change is concerned, we are the threat."

Rather than speaking of security and sovereignty, Griffiths believes northern governments should support Inuit in taking the lead in dealing with the new challenges brought by climate change. "The Inuit are not hung up on sovereignty the way southerners are, and I think there is an opportunity for the Inuit to take a lead, to think in terms of sustainability rather than sovereignty when we look to Arctic waters and Canada's Arctic waters in particular. I think a stewardship approach, which is innate to Inuit, is one that we need, rather than title."

The Canadian Rangers

Whitney Lackenbauer, a Research Associate at the University of Calgary's Centre for Military and Strategic Studies, poses the question at the centre of traditional ideas of sovereignty; "How can Canada deal with the realities of maintaining a military presence in isolated areas of the country, on a very low budget, to maintain at least the veneer of sovereignty?" For Lackenbauer, this is a rhetorical question. While global climate change sharpens the debate about the nature and form of Arctic sovereignty, one government program is quietly going about asserting sovereignty the old-fashioned way, through a military presence.

But this is no ordinary military. These are units of what Lackenbauer describes as "low-cost, localized, citizen-soldiers," otherwise known as the Canadian Rangers. The Rangers, formed in the 1940s, are a force of local people recruited to act as the eyes and ears of the Canadian military in areas where it would not be cost-effective to have regular forces on patrol. They also take part in search and rescue operations. In the North, the Ranger patrols are predominantly Aboriginal.

Lackenbauer says apart from the value to Canadian sovereignty, [the Canadian Ranger organization] adds to the communities where it operates. … "The last few decades have been marked by repeated calls for demilitarization of the North, on the grounds that military activities threaten both the environment and Northern ways of life," says Lackenbauer. "The Rangers appear to do neither. The [Reserve organization] focuses on human rather than physical infrastructure or environmentally threatening technological solutions to Northern sovereignty and security dilemmas. Furthermore, Ranger activities are usually pursued in conjunction with subsistence and traditional activities in Northern communities and on the land. This is significant. Northerners do not have to leave their communities, or abandon their lifestyles, traditional practices, and Northern identity to serve in the Canadian Forces."

BACKGROUND AND CONTEXT

The Canadian Arctic Resources Committee (CARC) has been a long-time observer of and participant in debates over the connections between security, sovereignty, surveillance, and stewardship in the Canadian Arctic. Since the 1980s, analysts have emphasized how changes in military technology and geopolitical perceptions demand the ongoing reconsideration of security assumptions and defence postures. By encouraging Canadians to look beyond their typical Mercator projection of our country's place on the globe and instead embrace a polar projection, many contributors to CARC have emphasized how the Arctic actually lies on the "front lines" of international relations, where the relative proximity of major actors is much different than most Canadians hold in their mental maps. They have critically reflected on how, during cycles of waxing and waning interest in the region since the Second World War, the Canadian military has had a substantive impact on Northern development, peoples, and the environment.[1] Thomas C. Pullen framed a dichotomy of Northern policy development: "How should national policy be derived – in response to domestic considerations, such as the economic health of the country, or in response to international pressures, such as the increasing use of the Arctic for military purposes?"[2] Over the years Canada has veered between these two frames, currently arriving at a sort of synthesis of both.

During the Cold War, Canadian concepts of Arctic security tended to be state-based and focused on the nuclear threat posed by the Soviet Union – as well as the perceived need to "defend against help" from our American allies, lest their continental defence interests undermined Canadian sovereignty. "Canada is poised between the superpowers in a region of rising strategic importance to both the Soviet Union and the United States," Oran Young wrote in *Northern Perspectives* in 1987. "Canada must also contend with the pervasive, though implicit, threat to its effective occupancy of the Far North arising from the burgeoning U.S. presence in the Arctic."[3] Canada and the U.S. successfully avoided allowing their differences of opinion about Arctic sovereignty (see chapter 14) to impede their "special relationship" while they grappled with the last surge of Cold War competition. Submarines designed specifically to operate in ice-covered waters, cruise missiles, ballistic missiles, long-range bombers, and other delivery systems required the modernization of the binational North American Aerospace Defence Command (NORAD) and continental defence. In pushing for expanding radar warning and

interceptor coverage in 1986, Brigadier Generals (retired) C.E. Beattie and Keith Greenaway emphasized that, "in planning for the defence of Canada within NORAD and NATO, it is clear that the temptation to cling slavishly to the compromises of the past must be avoided, no matter how economically attractive such thinking might appear. A 30-year-old strategy will only prove illusory, and Canada could, before long, find itself saddled with an upgraded, but equally inadequate, air defence system."[4]

The changes to the global system at the end of the twentieth century soon altered the Arctic security calculus. Mikhail Gorbachev's landmark Murmansk speech in October 1987 called for the Arctic to become a "zone of peace." Although Western commentators treated the Russian policy initiatives with skepticism, the potential de-securitization of the region opened up opportunities for political, economic, and environmental agendas that had been previously subordinated to national security interests. In Canada, the Mulroney government shifted from a strong sovereignty and military emphasis after the 1985 *Polar Sea* voyage to propose, in 1989, an international Arctic Council predicated on circumpolar cooperation (see chapter 17). With the end of the Cold War, mounting budget pressures, promises of a "peace dividend," and few direct military threats on Canada's Northern horizon, the federal government's focus shifted away from the Canadian Armed Forces and towards international Arctic cooperation through multilateral governance (particularly the Arctic Council) to address pressing "human security" and environmental challenges in the region. In 1997, the House of Commons Standing Committee on Foreign Affairs and International Trade's landmark report on *Canada and the Circumpolar World* accepted that the concept of security had broadened from military issues to encompass an array of social and environmental issues. "This new agenda for security cooperation is inextricably linked to the aims of environmentally sustainable human development," it observed. "Meeting these challenges is essential to the long-term foundation for assuring circumpolar security, with priority being given to the well-being of Arctic peoples and to safeguarding northern habitants from intrusions which have impinged aggressively on them."[5] The Government of Canada embraced the multi-dimensional nature of Arctic security and adopted definitions that move beyond traditional frameworks fixated on military conflict to emphasize broader human and environmental issues – the most pressing Arctic security and safety concerns, according to many government and Northern representatives.[6]

The Liberal government under Jean Chrétien embraced this emphasis on international cooperation and reconfigured Canada's approach to Arctic sovereignty and security accordingly. Although the government rejected the committee's recommendation that the Arctic should become a nuclear-free zone, it did not perceive any security crisis that warranted an increased military presence beyond a modest expansion in the number of Northerners serving with the Canadian Rangers.[7] In 2000, the Department of Foreign Affairs and International Trade issued *The Northern Dimension of Canada's Foreign Policy* (NDFP), which revealed how environmental and social challenges were predominant. "Whereas the politics of the Cold War dictated that the Arctic region be treated as part of a broader strategy of exclusion and confrontation," the document noted, "now the politics of globalization and power diffusion highlight the importance of the circumpolar world as an area for inclusion and co-operation."[8]

Military interest in Canada's North remained low during the 1990s and early 2000s, but a handful of scholars continued to debate the implications of a changing Arctic for the future security environment. The release of the *Arctic Climate Impact Assessment* (ACIA) in 2004, which demonstrated the disproportionate effects that global warming was having on the Arctic,[9] soon amplified the debate. Various commentators associated climate change with a projected surge in security challenges in and to Canada's Arctic, encapsulated in a "sovereignty on thinning ice" thesis that treated sovereignty and security as inextricably intertwined – and set expectations that the military and other security agencies could bolster Canada's sovereignty. Rob Huebert suggested that the melting of the polar ice cap, owing to global warming, would unlock natural resources and strategic shipping routes, resulting in conflict over competing national claims and an erosion of Canadian sovereignty. Accordingly, Huebert prioritized investments in more robust military forces to project state presence and protect Canada's Arctic sovereignty. Franklyn Griffiths' counter argument was more subdued, focusing on the longer-term concept of "stewardship" and the promotion of Indigenous peoples and the environment, whilst deemphasizing the short-run probability of military conflict, transpolar shipping, or a "race for resources." Accordingly, he prioritized regional "civility" over militarism and highlighted the rights of Indigenous peoples.[10]

During Conservative Prime Minister Stephen Harper's early years in office (2006-08), Canada articulated a nationalistic approach that suggested that Arctic sovereignty was fundamentally a matter of "use it or lose it," with

military forces as the primary means to defend it.[11] This differed from previous Liberal policies that had more closely paralleled Griffiths' human security prescriptions.[12] The planting of a titanium Russian flag on the North Pole's seafloor by explorer and parliamentarian Artur Chilingarov in 2007,[13] followed by the release of the United States Geological Survey's appraisal of Arctic hydrocarbon reserves the next year,[14] also seemed to support a "thinning ice" thesis positing that Canadian sovereignty and security were increasingly precarious. The Government of Canada mobilized this threat narrative to justify providing the Canadian Armed Forces with enhanced Northern capabilities, such as the acquisition of new maritime patrol aircraft, radar systems, satellites to provide for Arctic surveillance, and a fleet of Arctic/offshore patrol ships (AOPS).[15] The Arctic also appeared as a major theme in the Government of Canada's *Canada First Defence Strategy* (2008), which explicitly cited the defence of the region as a part of the military's preeminent mission.

As Canada's *Northern Strategy* (2009) proclaimed, "The Government of Canada is firmly asserting its presence in the North, ensuring we have the capability and capacity to protect and patrol the land, sea and sky in our sovereign Arctic territory. We are putting more boots on the Arctic tundra, more ships in the icy water and a better eye-in-the-sky."[16] Lawyers quickly pointed out that an expanded military presence has no role in creating or expanding Canadian sovereign rights to resources in its exclusive economic zone (EEZ) or on its continental shelf, but it could play a role in *enforcing* those rights if they were encroached upon by a foreign entity. Furthermore, some Inuit representatives asserted that the government agenda prioritized military investments at the expense of environmental protection and improved social and economic conditions in the North. They insisted that "sovereignty begins at home" and that the primary challenges were domestic human security issues, requiring investments in infrastructure, education, and health care.[17]

By 2008, the official Arctic security discourse in Canada had moved away from a hardline "defence of sovereignty" logic and towards a narrative of "exercising sovereignty" – often with a "soft security" emphasis.[18] Canadian Arctic strategic and operational documents produced during the 2010s downplayed the threat of a foreign military attacking the Canadian Arctic and instead emphasized the need to plan and prepare to support "soft" security activities such as search and rescue (SAR), transportation practices related to transit shipping or resource development, and responding to major transportation disasters, environmental disasters, pandemics, the loss of essential

services (i.e., potable water, power, fuel supplies), organized crime, foreign state or non-state actor intelligence gathering activities, attacks on critical infrastructure, and food security and disruptions to local hunting.[19] This encouraged changes in conceptualizing Arctic security. "Security in a rapidly changing Arctic region can no longer be exclusively about military threats and dangers, and sovereignty cannot fixate solely on the rights of states," Wilfrid Greaves and Whitney Lackenbauer insist. "We must deepen and broaden our understanding … if we are to reduce the vulnerability and increase the resilience of Arctic societies in the face of compounding and accelerating social and environmental changes."[20]

While most strategists conclude that conventional defence threats do not pose an acute risk to Canada's Arctic security, other safety and security challenges become more pressing as climate change opens the region to increased and more varied forms of activity. This, in turn, requires more comprehensive "whole of government" or "whole of society" approaches to coordinate efforts in an efficient and credible manner. While this justifies increasing the military's footprint, heightening its situational awareness, and enhancing its capacity to act in the region, it promotes doing so without resorting to overly alarmist narratives about the threats to Canadian Arctic sovereignty and security posed by other states.[21]

The transition to the Liberal government of Justin Trudeau has seen a continuation of this general direction vis-à-vis Arctic security. The Liberals promised in their 2015 election platform to maintain current National Defence spending levels, pledging "a renewed focus on [the] surveillance and control of Canadian territory and approaches, particularly our Arctic regions," and an "increase [in] the size of the Canadian Rangers."[22] Prime Minister Trudeau's bilateral statements with President Barack Obama in 2016 articulated a model for Arctic leadership that placed a clear priority on Indigenous and "soft security" issues and abandoned the classic sovereignty-focused messaging of Harper.[23] Nevertheless, Canada's 2017 defence policy and 2019 Arctic and Northern Policy Framework continue to promise an expanded military presence and enhanced capabilities. This commitment is predicated both on the resurgent international great power competition between Russia, the United States, and the self-proclaimed "near-Arctic state" of China, as well as the security and safety challenges in and to the Canadian Arctic that fall within the comprehensive approaches to Arctic defence and security framed over the last decade. Some actors and issues are new, but the premise is longstanding. "The legitimacy of Canada's claim

in the High Arctic rests, in part, on a strong civilian and military presence," the 1986 issue of *Northern Perspectives* noted. "Meeting that condition has proved easier said than done."

Notes

1. On these themes, see Kenneth C. Eyre, "Forty Years of Military Activity in the Canadian North, 1947-87," *Arctic* 40/4 (1987): 292-299; Ken Coates, Whitney Lackenbauer, Bill Morrison, and Greg Poelzer, *Arctic Front: Defending Canada in the Far North* (Toronto: Thomas Allen & Son, 2008); and Lackenbauer, ed., *Canada and Arctic Sovereignty and Security: Historical Perspectives* (Calgary: Centre for Military and Strategic Studies, 2011).

2. T.C. Pullen, "That Polar Ice-breaker," *Northern Perspectives* 14/4 (September-October 1986).

3. Oran R. Young, "Canada and the United States in the Arctic: Testing the 'Special Relationship,'" *Northern Perspectives* 15/2 (May-June 1987).

4. Brigadier General (Ret'd.) C.E. Beattie and Brigadier General (Ret'd.) K.R. Greenaway, "Offering Up Canada's North," *Northern Perspectives* 14/2 (September-October 1986).

5. House of Commons Standing Committee on Foreign Affairs and International Trade (HCSCFAIT), *Canada and the Circumpolar World: Meeting the Challenges of Cooperation into the Twenty-First Century* (1997), ix, 100.

6. See, for example, Mary Simon, "Inuit and the Canadian Arctic: Sovereignty begins at home," *Journal of Canadian Studies* 43/2 (2009): 250-260; Franklyn Griffiths, ed., *Arctic Alternatives: Civility of Militarism in the Circumpolar North* (Toronto: Science for Peace/Samuel Stevens, 1992); P. Whitney Lackenbauer, *From Polar Race to Polar Saga: An Integrated Strategy for Canada and the Circumpolar World* (Toronto: Canadian International Council, 2009); Inuit Knowledge Centre, *Nilliajut: Inuit Perspectives on Security, Patriotism and Sovereignty* (Toronto: Munk-Gordon Arctic Security Program, 2013); Gunhild Hoogensen Gjørv, Dawn Bazely, Marina Goloviznina, and Andrew Tanentzap, eds., *Environmental and human security in the Arctic* (London: Routledge, 2013); Heather N. Nicol and Lassi Heininen, "Human security, the Arctic Council and climate change: competition or co-existence?" *Polar Record* 50/1 (2014): 80-85; and Wilfrid Greaves, "Arctic (in)security and Indigenous peoples: Comparing Inuit in Canada and Sámi in Norway," *Security Dialogue* 47/6 (2016): 461-480.

7. Department of Foreign Affairs and International Trade, *Government Response to Standing Committee on Foreign Affairs and International Trade Report "Canada and the Circumpolar World: Meeting the Challenges of Cooperation Into the Twenty-First Century"* (Ottawa: Department of Foreign Affairs and International Trade, 1998).

8. Department of Foreign Affairs and International Trade, *The Northern Dimension of Canada's Foreign Policy* (Ottawa: Department of Foreign Affairs and International Trade, 2000).

9. *Arctic Climate Impact Assessment: Key Findings* (Cambridge: Cambridge University Press, 2004), http://amap.no/acia/, accessed 10 February 2008.

10. On this debate, see Franklyn Griffiths, Rob Huebert, and P. Whitney Lackenbauer, *Canada and the Changing Arctic: Sovereignty, Security and Stewardship* (Waterloo: Wilfrid Laurier University Press, 2011). The core articles framing it were Huebert, "Climate Change and Canadian Sovereignty in the Northwest Passage," *Isuma* 2/4 (Winter 2001): 86-94; Griffiths, "The Shipping News: Canada's Arctic Sovereignty Not on Thinning Ice," *International Journal* 58/2 (2003): 257-282; and Huebert, "The Shipping News Part II: How Canada's Arctic Sovereignty is on thinning ice," *International Journal* 58/3 (2003): 295-308.

11. See "Harper Stands Up for Arctic Sovereignty," in *Canada's Northern Strategy under the Harper Conservatives: Key Speeches and Documents on Sovereignty, Security, and Governance, 2006-15*, eds. P. Whitney Lackenbauer and Ryan Dean (Calgary and Waterloo: Centre for Military and Strategic Studies/ Centre on Foreign Policy and Federalism, 2014), 1-3. See also Rob Huebert, "Renaissance in Canadian Arctic Security?" *Canadian Military Journal* 6/4 (2005-06): 17-29, and Lieutenant-Commander Guy Killaby, "Great Game in a Cold Climate: Canada's Arctic Sovereignty in Question," *Canadian Military Journal* 6/4 (2005-06): 31-40.

12. See, for example, Department of Foreign Affairs and International Trade (DFAIT), *The Northern Dimension of Canada's Foreign Policy* (Ottawa: DFAIT, 2000).

13. "Russia plants flag under N Pole," *BBC*, 2 August 2007, http://news.bbc.co.uk/2/hi/europe/6927395.stm, accessed 10 December 2017.

14. Kenneth J. Bird et al., "Circum-Arctic Resource Appraisal: Estimates of Undiscovered Oil and Gas North of the Arctic Circle," *U.S. Geological Survey Fact Sheet 2008-3049* (2008), https://pubs.usgs.gov/fs/2008/3049/, accessed 10 December 2017.

15. See Department of National Defence (DND), *Canada First Defence Strategy* (2008), 4, 6, 17-18.

16. Government of Canada, *Canada's Northern Strategy* (Ottawa: Aboriginal Affairs and Northern Development Canada, 2009).

17. See, for example, Paul Kaludjak, "The Inuit are here, use us," *Ottawa Citizen*, 18 July 2007; Mary Simon, "Does Ottawa's northern focus look backwards?" *Nunatsiaq News*, 11 April 2008; and the perspectives in Inuit Tapiriit Kanatami, *Nilliajut: Inuit Perspectives on Security, Patriotism and Sovereignty* (Ottawa: Inuit Qaujisarvingat, 2013).

18. P. Whitney Lackenbauer, "From 'Defending Sovereignty' to Comprehensive Security in a Whole of Government Framework: Government Narratives

of Arctic Sovereignty and Security in the Harper Era," in *Understanding Sovereignty and Security in the Circumpolar Arctic*, eds. Wilfrid Greaves and P. Whitney Lackenbauer (Toronto: University of Toronto Press, 2021), 137-167.

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21. See also Adam Lajeunesse and P. Whitney Lackenbauer, eds., *Canadian Armed Forces Arctic Operations, 1945-2015: Historical and Contemporary Lessons Learned* (Fredericton: Gregg Centre for the Study of War and Society, 2017), and Lackenbauer and Heather Nicol, eds., *Whole of Government through an Arctic Lens* (Antigonish: Mulroney Institute on Government, 2017).

22. Liberal Party of Canada, "Defence Platform [2015]," https://www.liberal.ca/realchange/royal-canadian-navy/, last accessed 21 October 2015.

23. "U.S.-Canada Joint Statement on Climate, Energy, and Arctic Leadership," 10 March 2016, http://www.pm.gc.ca/eng/news/2016/03/10/us-canada-joint-statement-climate-energy-and-arctic-leadership#sthash.XjRoT2R7.dpuf; "United States-Canada Joint Arctic Leaders' Statement," 20 December 2016, http://pm.gc.ca/eng/news/2016/12/20/united-states-canada-joint-arctic-leaders-statement; P. Whitney Lackenbauer, "Arctic Defence and Security: Transitioning to the Trudeau Government," in *Whole of Government through an Arctic Lens,* eds. P. Whitney Lackenbauer and Heather Nicol (Antigonish: Mulroney Institute on Government, 2017), 308-340.

CONCEPTUALIZING CANADIAN ARCTIC SECURITY IN THE TWENTY-FIRST CENTURY

P. Whitney Lackenbauer

This chapter offers a framework to conceptualize the origin and destination of specific security challenges rather than bundling them all together as a generic laundry list of "Arctic threats." First, threats passing *through* the Canadian Arctic emanate from outside of the region and pass through or over it to strike targets also outside of the region. For example, a ballistic missile launched from Russia would likely pass over the Canadian Arctic before striking at a target in the northern continental United States. Sensor systems that detect the launch and track the missile might be based in the Arctic, but it would be misconstrued as an *Arctic* threat in a defence of North America context. Second, threats *to* the Canadian Arctic are those that emanate from outside of the region and affect the region itself. Examples could include a below-the-threshold attack on critical Arctic infrastructure, a foreign vessel running aground in Canadian waters with deleterious environmental effects, the introduction of a pandemic, or the acquisition of a port or airfield at a strategic location by a company owned and controlled by a non-like-minded state. Third, threats *in* the Arctic originate within the region and have primary implications for the region. Examples include the failure of a diesel-electric generator powering an isolated community, permafrost degradation threatening critical infrastructure, or the heightened polarization of public debate leading to economic or political disruption. Some threats, such as climate change (which is caused by activities outside the region and thus represents a threat *to* it, while regional and local climate dynamics *in* the Arctic, such as extreme weather, threaten local residents), will straddle these categories.

I suggest that a more deliberate and nuanced approach to conceptualizing Arctic security threats, across domains and levels of analysis, can help to determine appropriate scales for preparedness and response by specific stakeholders. This, in turn, can support comprehensive approaches that do not "militarize" all Arctic threats. It can also encourage investments to empower a broader range of actors to meet existing and emerging challenges across the defence-security-safety continuum.

Canada's 2017 defence policy, *Strong, Secure, Engaged*, confirms that the Arctic remains an area of particular interest and focus, highlighting

its cultural and economic importance as well as the rapid environmental, economic, and social changes that present opportunities and generate or amplify security challenges. To meet those challenges and "succeed in an unpredictable and complex security environment," the Government of Canada commits to an ambitious program of naval construction, capacity enhancements, and technological upgrades to improve situational awareness, communications, and the ability of the Canadian Armed Forces (CAF) to operate across the Canadian Arctic. The justifications for these investments include a range of drivers and dynamics that are often compressed into a single narrative, with the Arctic region highlighted as "an important international crossroads where issues of climate change, international trade, and global security meet."[1]

Ongoing North American defence modernization discussions are likely to amplify the debate about the nature of Arctic security. In early 2020, the North American Aerospace Defence Command (NORAD) Commander, General Terrence O'Shaughnessy, argued that the "geographic barriers that kept our homeland beyond the reach of most conventional threats" no longer guarantee North America as a "sanctuary," and "the Arctic is no longer a fortress wall … [but an avenue] of approach for advanced conventional weapons and the platforms that carry them."[2] He insisted that "Russia has left us with no choice but to improve our homeland defense capability and capacity. In the meantime, China has taken a number of incremental steps toward expanding its own Arctic presence."[3] With climate change "opening new access" to the region, Canada's defence policy states that "Arctic and non-Arctic states alike are looking to benefit from the potential economic opportunities associated with new resource development and transportation routes." What does this mean for a country with Arctic policies predicated on the idea of the region as a *place* (and particularly an Indigenous homeland) rather than a threat vector? How do measures to address strategic threats to North America passing *through* the Canadian Arctic relate to threats *to* the region or *in* the region?

Security Threats Through the Canadian Arctic: Situating the Arctic in a Global Context

For nearly a century, Canada has invested in building and sustaining an international system that reflects its values and interests. A shifting balance of power and the re-emergence of major power competition now threaten to undermine or strain the established international order and rules-based

system. China, as an emerging economic superpower, aspires to a global role proportionate to its economic weight, population, and self-perception as the Middle Kingdom. Russian President Vladimir Putin's recent declaration that liberalism is "obsolete"[4] affirms that his country has deviated from its early post-Cold War path, and its revisionist behaviour in Georgia, Ukraine, and Syria exemplify Russia's willingness to test the international security environment. Consequently, Canada's role is less obvious in the emerging multipolar world, which challenges the Western-designed security system, than it was in the bipolar Cold War order or the unipolar moment that followed. This creates more space for emerging state and non-state actors to exercise influence, including in the Arctic.

Within this broader context, *Strong, Secure, Engaged* highlights three key security trends that will continue to shape events: the evolving balance of power, the changing nature of conflict, and the rapid evolution of technology. All of these trends have direct and indirect applications when contemplating and imagining future Arctic security environments, vulnerabilities, and requirements. Furthermore, Canada's Arctic and Northern Policy Framework (ANPF) emphasizes that:

> The international order is not static; it evolves over time to address new opportunities and challenges. The Arctic and the North is in a period of rapid change that is the product of both climate change and changing geopolitical trends. As such, international rules and institutions will need to evolve to address the new challenges and opportunities facing the region. As it has done in the past, Canada will bolster its international leadership at this critical time, in partnership with Northerners and Indigenous peoples, to ensure that the evolving international order is shaped in a manner that protects and promotes Canadian interests and values.[5]

In a complex security environment characterized by trans-regional, multi-domain, and multi-functional threats, Canada must continue to work with its allies to understand the broader effects of the return of major power competition to the international system and to regions like the Arctic, and what this means for Canadian defence relationships and partnerships. Emerging threats to North America, across all domains, must be situated in the context of continental defence and the longstanding Canada-U.S. defence partnership that is exemplified by the North American Aerospace Defence Command (NORAD). Resurgent major power competition and advances in weapons technology pose new threats to continental security, however,

which require NORAD to modernize and evolve to meet current and future threats.

Both *Strong, Secure, Engaged* and the Arctic and Northern Policy Framework underscore the importance of NORAD modernization efforts, the integration of layered sensor and defeat systems, and improving the Canadian Armed Forces' reach and mobility in the Arctic within this alliance construct. New commitments, however, will require creative thinking about infrastructure, surveillance and detection, interception capabilities, and command and control relationships. U.S. Northern Command and NORAD highlight the importance of advanced sensors that can detect, track, and discriminate between advanced cruise missiles, ballistic missiles, hypersonic vehicles, and small unmanned aerial systems (UAS) at full ranges (as well as the platforms that carry these weapons), and further illustrate the need for new mechanisms to defeat advanced threat systems (including advanced cruise missiles capable of striking North America "from launch boxes in the Arctic").[6] Accordingly, talk of the need to "harden the shield" to project a credible deterrent against conventional military attacks on North America and attacks below-the-threshold of armed conflict anticipates new Canada-U.S. solutions that will incorporate Arctic sensors and systems into a layered "ecosystem" of sensors, data fusion, and defeat mechanisms.[7]

Furthermore, Canada is working with its North Atlantic Treaty Organization (NATO) allies to re-examine conventional deterrence and how to counter adversarial activities "below the threshold" of armed conflict in the Arctic. The statement in *Strong, Secure, Engaged* that "NATO has also increased its attention to Russia's ability to project force from its Arctic territory into the North Atlantic, and its potential to challenge NATO's collective defence posture," marks a measured shift in Canada's official position. Despite Canada's reticence to have the alliance adopt an explicit Arctic role over the past decade, the inclusion of this reference – as well as the commitment to "support the strengthening of situational awareness and information sharing in the Arctic, including with NATO" – indicates a newfound openness to multilateral engagement on "hard security" in the Arctic with its European allies. NATO is the cornerstone of both the Danish and Norwegian defence and security policies, which also opens opportunities for enhanced bilateral relationships. How this newfound interest in NATO's Arctic posture interacts with Canada's longstanding preference to partner bilaterally with the U.S. on North American continental defence remains to be clarified in the next decade.

Security Threats to and in the Canadian Arctic: Towards a Whole-of-Society Approach

The growing realization of the disproportionate impact of anthropogenic climate change on the circumpolar region, and the concomitant social, economic, and environmental consequences for the rest of the world, also commands global attention. Canada's Arctic and Northern Policy Framework highlights that "the Canadian North is warming at about 3 times the global average rate, which is affecting the land, biodiversity, cultures and traditions." This rapid change is "having far-reaching effects on the lives and well-being of northerners, threatening food security and the transportation of essential goods and endangering the stability and functioning of delicate ecosystems and critical infrastructure." There is extensive Canadian interest in how these changes affect Northern peoples and the environment that sustains them. There is also national interest in the growing international attention to the region. Although non-Arctic observers have traditionally confined their polar interest to scientific research and environmental issues, significant international interest and attention has, over the past decade, turned to oil, gas and minerals, fisheries, shipping, and Arctic governance. In turn, this has generated debates amongst Arctic states about non-Arctic states' intentions and the receptiveness to welcoming Asian countries in particular "into the Arctic cold."[8]

Thus, while most Canadian analysts now downplay the probability of military and security threats to or in the Canadian Arctic over resources or sovereignty in a direct sense, globalization and growing interest in the large-scale development of natural resources mean more activity in the Arctic. This increasing activity means a growing need to understand, monitor, and react to activities affecting security.[9] Accordingly, Canadians must look to more comprehensive approaches that accept and incorporate complexity and uncertainty. The ANPF observes that "the qualities that make the Canadian Arctic and North such a special place, its size, climate, and small but vibrant and resilient populations, also pose unique security challenges, making it difficult to maintain situational awareness and respond to emergencies or military threats when and where they occur." Climate change compounds these challenges, reshaping the regional environment and, in some contexts and seasons, facilitating greater access for an increasingly "broad range of actors and interests" (both Canadian and international). Accordingly, the policy framework emphasizes that:

> to protect the safety and security of people in the region and safeguard the ability to defend the Canadian Arctic and North, and North America now and into the future, a multi-faceted and holistic approach is required. The complexity of the regional security environment places a premium on collaboration amongst all levels of government, Indigenous peoples and local communities, as well as with trusted international partners.

Alternative understandings of security that emphasize the economic, social, cultural, and environmental concerns of people, rather than states, are often grouped together in the general framework of human security issues.[10] Many analysts and government stakeholders now include health, housing, economic sustainability, community vitality, food and water systems, ecosystem resilience, linguistic practice, and cultural identity as unconventional security issues.[11] This reflects a widespread acknowledgment that long-standing issues related to pollution, chronic health issues, and personal and community wellbeing, exacerbated by traumatic processes of colonial assimilation and economic globalization across the region, have not improved or have grown more severe, particularly for Indigenous peoples.[12] Terry Audla, former president of Inuit Tapiriit Kanatami, observed that "the insecurities that Inuit face as a result of our living, over three or four generations, in what has been a firestorm of cultural change" mean that "while some insecurities have abated, new ones have arisen and some old ones have taken on new forms."[13]

Environmental changes have amplified these chronic challenges to Arctic life, reshaping natural and social systems and threatening to "exceed the rate at which some of their components can successfully adapt."[14] Changes to the physical landscape directly affect the subsistence practices of Indigenous peoples on their traditional territories, undermining the multi-generational knowledge of weather and climate patterns, animal movements, and methods of hunting and gathering, as well as associated cultural practices.[15] Accidents associated with unpredictable ice conditions and weather patterns directly threaten Indigenous people's lives.[16] Interrelationships between suicide, colonialism, rapid cultural change, and environmental transformation illustrate the complex nature of human insecurity in the Arctic. Human security issues highlight the connections between material and non-material threats, offering a broader framework to interrogate "security" than more traditional, state-centric definitions.[17]

Accordingly, Canada's defence and security policies and practices must continue to align with its broader national strategy for the Canadian Arctic and the Circumpolar North, which promotes "a shared vision of the future where northern and Arctic people are thriving, strong and safe."[18] This requires both a "broadening" and a "deepening" of how we think about security.[19] The perspectives of Arctic residents who experience the most acute or chronic threats to their survival and wellbeing must be heard across the full defence-security-safety continuum, and particularly in terms of threats to and in their Arctic homeland.[20] This requires a more proactive approach to information and resource sharing on the part of the federal government, which should work with Northerner partners to conceive of and support truly Whole-of-Society approaches that leverage expertise and capabilities from diverse civilian and military sources.

Canadian Arctic Security Futures

The Arctic is inextricably tied to the rest of Canada, to North America, and to the international system as a whole. This interconnectedness brings opportunities for communities, governance, and economic development, and also poses complex, multifaceted challenges. Accordingly, strategic forecasters must situate the Canadian Arctic in global, regional, and domestic contexts to anticipate new challenges, promote effective adaptations to changing circumstances.

Changing power dynamics in the Canadian Arctic are unlikely to derive from regional disputes over boundaries, resources, or regional governance in the next fifteen years, and will continue to reflect broader international forces and dynamics. Commentators such as Rob Huebert emphasize how resurgent strategic competition globally may have "spill over" effects on circumpolar security (which reflects a significant shift from his earlier "sovereignty on thinning ice" arguments), and insist that traditional security approaches remain essential to understanding the re-emergence of state-based military actions across the region. "This is not about conflict *over* the Arctic," he explains, "but [it] is about the Arctic being a central element of the defence interests of the Arctic states, and increasingly of non-Arctic states such as China."[21] As has been the case since the 1950s, adversaries may send strategic delivery systems *through* the Arctic to strike at targets outside of the region. While the systems are more sophisticated, commentators should be careful not to misconstrue the basis or sources of these threats as *Arctic* sovereignty or resource issues, and instead should focus on the international drivers that feed global competition and conflict more generally.

In the case of the Canadian Arctic, observations or drivers associated with geostrategic competition at the *international* systemic level should not be misapplied to assessments of the *regional* Arctic security environment.[22] Although the evolving international balance of power may undermine global peace and security, this is not necessarily a zero-sum game in terms of *Arctic* regional stability. Canada's 2017 defence policy emphasizes that "[a]ll Arctic states have an enduring interest in continuing this productive collaboration."[23] Accordingly, the drivers of Arctic change noted in Canada's defence policy emphasize the rise of security and safety challenges *in* the Arctic rather than conventional defence threats *to* the Arctic, thus confirming the line of reasoning that has become well entrenched in defence planning over the last decade.[24]

Strong, Secure, Engaged appropriately balances investments in defensive capabilities to deter would-be adversaries with an ongoing commitment to support unconventional security and safety missions in the Arctic.[25] Important questions and debates related to Russia's intentions and investments in reinvigorating its Arctic forces, the role of the North Atlantic Treaty Organization (NATO) in the circumpolar world, and Canada's long-standing continental defence relationship with the United States have propelled "hard" defence and security issues back onto the political agenda, but they have not relegated "soft" security and safety considerations to the margins. Retaining a practical focus on "Whole of Government" and "Whole of Society" cooperation to address the full spectrum of defence, security, and safety challenges in the Canadian Arctic remains prudent and will continue to be so in the years ahead.[26]

Anticipating and addressing twenty-first century security challenges requires clear, coordinated action in order to leverage the broad and deep expertise of the modern state and civil society. In the defence and security realm, Canada's Arctic and Northern Policy Framework emphasizes that meeting these "enormous collective challenges requires coordinated action across the whole-of-government – military capabilities working hand in hand with diplomacy and development." Taken together, the opportunities, challenges, increased competition, and risks associated with a more accessible (and unpredictable) Arctic require improved situational awareness and a broader array of security practitioners who are attuned to different threats through, to, and in Arctic regions.

Notes

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7

CONTAMINANTS

POPS IN THE ARCTIC: TURNING SCIENCE INTO POLICY

Terry Fenge

Northern Perspectives 25, no. 2 (Winter 1998)

During the last 30 years, northern Canada has changed fundamentally as a result of land-claims settlements, political and constitutional development, mineral and oil and gas exploration and development, the introduction of television, and investment in schools, hospitals, houses, roads, and other infrastructure. Yet in other ways, it has changed very little. Inuit, Dene, Métis, and First Nations continue to hunt, fish, trap, and gather. They eat what the land provides.

Resilient but adaptable, northern peoples move forward, adjusting to economic and social processes from outside the North. But certain important issues can no longer be dealt with solely by residents of this region or even by Arctic states either singly or collectively. Global processes such as climate change and increased UV-B [short-wave ultraviolet] radiation—which have marked effects in the North—require global solutions. In particular, northerners suffer the public health and environmental consequences of transboundary contaminants brought to the Arctic by winds and currents from tropical and temperate countries. What are these contaminants and what are their effects? How serious is the problem? Must "country food" diets change to avoid ingestion of contaminants? How can we get rid of them? What are the territorial and federal governments doing? How best can the concerns of Arctic residents be brought to bear in international decision making? The

answers to these questions will largely determine the face of the North well into the next century and will fully test the resilience and adaptability of northern peoples….

As the recent Kyoto conference on climate change illustrates, negotiating with developing countries is not easy, for there is a wide—and perhaps growing—gap between the views and objectives of developed nations in the North and developing nations in the South in relation to environmental issues. While Arctic concerns will not assume centre stage during global negotiations, Aboriginal peoples in northern Canada and the circumpolar Arctic may be able to engage residents, interest groups, and even governments in key developing countries to promote the case for a global POPs [persistent organic pollutants] treaty and in so doing bring a more positive hue to north-south relations. The Aboriginal peoples' coalition appreciates this opportunity and is discussing with the Sami of Scandinavia and the Kola Peninsula and the Russian Association of Aboriginal Peoples the formation of a circumpolar Arctic peoples coalition to participate in the global negotiations. In any event, the Canadian team for the global negotiations should be more broadly based than its LRTAP [Convention on Long-range Transboundary Air Pollution] predecessor and co-ordinated by federal representatives with real knowledge of the Aboriginal peoples and other northerners whose rights and interests they are defending.

Canadian media have yet to grasp the transboundary contaminants story. *The Globe and Mail* refused opinion editorials submitted by ICC [the Inuit Circumpolar Council] with the comment that the story was unimportant compared with the collapse of cod and salmon stocks off the east and west coasts. Contaminants are insidious and invisible. There are no quick solutions and the issue is not easily captured in sound bites; yet the public must be informed if only so that politicians will be pressed to devote badly needed financial and intellectual resources to the issue. This suggests the need for briefings and informational sessions with selected media on the nature of the issue and how it must be addressed. Government agencies and Aboriginal peoples surely have complementary roles to play here.

Environmental issues attract environmental groups. Some are highly professional and are used extensively by the media to raise the profile of public-interest issues domestically and internationally. Nevertheless, the Canadian environmental "movement" has not discovered the POPs issue. Nor has the community of foundations that funds many environmental organizations. Very few groups responded to the publication of the CACAR

[Canadian Arctic Contaminants and Assessment Report] and the AMAP [Arctic Monitoring and Assessment Programme] report. There are likely many reasons for this lapse: lack of money and qualified people, pressing issues elsewhere, and a perception that this is a "northern" issue affecting relatively few people. But would silence shroud this issue if the levels of POPs in Inuit women were being found in mothers resident in southern Ontario and southern Quebec?

All of this points to the need for outreach and alliance and coalition building among organized interests to raise the issue's profile. In particular, it suggests that non-governmental groups with northern interests and knowledge and Aboriginal peoples organizations must seek out strategic alliances with other interests to persuade the federal government to deal with transboundary emission of POPs as a priority.

DEALING WITH ENVIRONMENTAL CONTAMINANTS IN LABRADOR

The Labrador Eco-Research Steering Committee

Northern Perspectives 25, no. 2 (Winter 1998)

We are Sikumiut—"the people of the sea ice." The Labrador Inuit, occupants of northern Labrador for thousands of years, now live in five small communities along the northern coast of Labrador and in the upper Lake Melville area. Our way of life has always been defined by our relationship to the environment. Harvesting wildlife from the land and waters has been our primary source of food and income and the foundation of our cultural and social life.

Our relationship to the land and its resources, especially through our harvesting activities, continues to be our most important source of psychological well-being and health. This relationship is changing, however. The loss of the ground fishery and the fur markets has had devastating effects on our communities. It has reduced our income and therefore our ability to invest in equipment and supplies that enable us to continue harvesting wildlife and gain access to our traditional foods.

The threat of the Voisey's Bay project, in the heart of Labrador Inuit territory, is simply the most recent of a long line of changes we have experienced. By themselves, these changes pose significant threats to our way of life as

Inuit; contaminants in our environment, our food, and our water make the challenges even greater.

We live in a region that once was clean, healthy, and untouched. But we have learned that this is no longer the case. During the past 15 years our Elders have noticed and discussed changes in the environment that are similar to those reported in other regions of the North. We are part of a much larger Inuit culture spanning Arctic Canada, Alaska, and Greenland, and we hear of contamination in the people and environments of other northern regions. We wonder to what extent our environment and people are affected. We have seen more sick animals, significant changes in their behaviour and health, and fewer numbers of some species. In 1987, provincial officials told us not to eat the livers or kidneys of our caribou because they were contaminated with cadmium. In 1989 we were told of PCBs [polychlorinated biphenyls] on a radar site in a region of northern Labrador extensively fished and hunted by Inuit. In 1997 we are still trying to determine the extent of this contamination and the most effective way to clean it up. Mining is also of great concern to residents in our region. People are concerned about the effect on health from past uranium mining activities and looming nickel mining operations.

During the past three years we have begun to investigate some of these questions through our involvement in the Tri-Council Eco-Research programme. A local research office and a steering committee to oversee and direct projects here in Labrador have made a significant contribution, even though funding is scarce and we face many other issues daily. We have started to gather information and we have begun to educate our community health and environmental workers on these issues through two workshops held in co-operation with the people at the Centre for Indigenous Peoples' Nutrition and Environment.

Despite these activities, relatively little attention has been given to the situation in Labrador. In many national programmes and projects we are not considered part of the "northern" regions although we face the same issues and circumstances. We feel that we can contribute a great deal and would benefit from inclusion in such initiatives at all stages of information collection, decision making, and communication. As well, we believe strongly that many of these issues must be dealt with from a regional perspective. For others—such as environmental contamination—that go far beyond the reaches of our communities yet are central to our lives, national and international efforts must be marshalled. No matter what the scope, however, we

need to include and listen to those affected daily by these contaminants to find solutions to the existing problems. Only then can we begin to deal with these issues threatening all people of the North.

BACKGROUND AND CONTEXT

The original contaminant on people's minds in the Arctic was radioactive fallout. Beginning in the 1950s, the Soviets conducted more than 100 nuclear weapons tests on the Arctic island of Novaya Zemlya alone before ceasing testing there in 1990. The 1986 accident at a nuclear plant in Chernobyl, Ukraine, also caused nuclear pollution that extended over the European Arctic and beyond. In the 1960s and 1970s, mercury in fish became a heightened concern. The sources of the elevated mercury levels were the creation of reservoirs and industrial emissions from Canada and further afield. There were also some concerns about local sources of pollution, such as mines.

What galvanized action on Northern contaminants, however, was not these existing issues but rather new evidence that chemicals were collecting in elevated levels in Northern people and wildlife. In 1984, the federal government sent out teams to investigate contamination from DEW (Distant Early Warning) Line sites in the Arctic. They found elevated levels of PCBs (polychlorinated biphenyls) around the sites and also in fish caught nearby. As fish and other animals were sampled further away from the DEW Line sites, it became clear that not only were the sites not the source of widespread contamination, but also that the contaminants being found included several other substances linked to effects on people's health.

In 1987, a team of researchers checked some breast milk samples from the small Nunavik community of Puvirnituq as part of a larger study on contaminants in Quebec communities. The researchers expected to find low levels of contaminants to serve as a baseline against which to compare rates elsewhere. Instead, they found that levels of a family of chemicals known as organochlorines were higher in these samples than in samples from industrial areas of the province. The following year, a team of researchers studying people in Broughton Island (officially renamed Qikiqtarjuaq), Nunavut, released the results of a study that showed that local people had high PCB blood levels from eating marine mammals such as whales and seals.

These findings, and others that followed in their wake, led to both national and international action. The Canadian government established the Northern Contaminants Program (NCP) in 1991 "to work towards reducing and, where possible, eliminating contaminants in traditional/country foods, while providing information that assists individuals and communities in making informed decisions about their food use." In June 1997, the NCP produced the *Canadian Arctic Contaminants Assessment Report* (CACAR), which focused on the levels, geographic extent, and source of contaminants in the North. Later assessments have focused on mercury, persistent organic pollutants, and human health impacts. Work pursuant to the NCP continues, with scientists still monitoring contaminant issues in the North and helping communicate those issues to local people. It has produced more than 4,100 publications to date.

Research revealed that many of the contaminants showing up in the Canadian Arctic had international sources, so international action was needed to address the problem. In 1991, the eight Arctic states created the International Arctic Environmental Protection Strategy and the Arctic Monitoring and Assessment Programme (AMAP). The strategy led to the formation of the Arctic Council in 1996, and AMAP continues as a working group of the Arctic Council. Just as the NCP produces national assessment

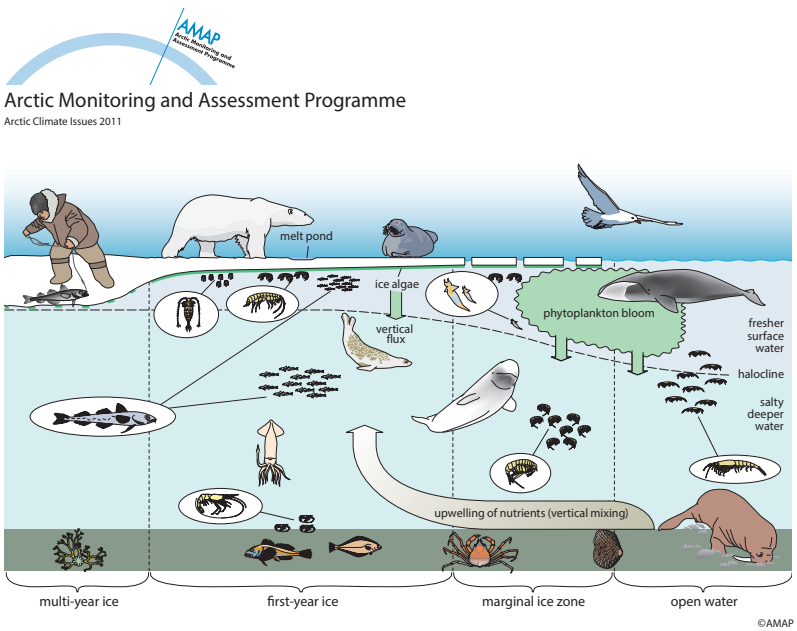

Figure 7-1: The Arctic Marine Food Web (Arctic Monitoring and Assessment Programme, 2012).

Key messages from the AMAP Assessment 2018: Biological Effects of Contaminants on Arctic Wildlife & Fish Summary for Policy-Makers

1. Legacy chemicals and mercury continue to pose a significant concern for Arctic biota.

2. The suite of environmental contaminants found in many Arctic apex predators is expanding and may require new investigations of their potential biological effects.

3. Improved predictions of contaminant-related risks to Arctic biota will require methods that account for the combined toxicity of real-world, complex, multi-chemical exposures.

4. The impact of contaminant exposure in Arctic biota needs to be considered in combination with other natural and anthropogenic stressors.

5. The high contaminant levels observed in some Arctic wildlife could pose a concern for the health of indigenous communities reliant on subsistence harvests as part of a traditional diet.

Source: Arctic Monitoring and Assessment Programme (AMAP), *Assessment 2018: Biological Effects of Contaminants on Arctic Wildlife and Fish. Summary for Policy-Makers* (Oslo, Norway: AMAP, 2019).

reports, AMAP produces international assessment reports, though its mandate is broader and includes climate change.

All of the evidence gathered in Canada and internationally combined to generate pressure to take action to limit the production and use of contaminants. The Convention on Long-Range Transboundary Air Pollution (LRTAP), signed in 1979, brings together countries of North America, Europe, and the former Soviet Union under the umbrella of the United Nations Economic Commission for Europe. Under this convention, the 1998 Aarhus Protocol became the first international agreement on banning and limiting some persistent organic pollutants (POPs). While this was a good start, the Protocol does not include some major source countries for chemicals that end up in the Arctic, particularly countries in Asia.

The United Nations Environment Program (UNEP) led a parallel effort to ban and limit the production and use of POPs. In 1985, UNEP's governing council asked for an international assessment of twelve POPs and for recommendations on action. In 2001, this resulted in the conclusion of the

Stockholm Convention on Persistent Organic Pollutants. The original "dirty dozen" contaminants formed the basis of the Convention. It came into effect in 2004. Other substances continue to be added as they are identified and agreed upon by the countries that ratified the Convention. So far, eleven more POPs have been added.

Indigenous peoples from Northern Canada were active in both the LRTAP and UNEP negotiations. The Inuit Circumpolar Conference (now named the Inuit Circumpolar Council), the Inuit Tapirisat of Canada (now named Inuit Tapiriit Kanatami), the Dene Nation, Métis Nation-NWT, and the Council of Yukon First Nations (CYFN) formed a coalition in March 1997 with the intention of influencing negotiations. The Indigenous peoples became the faces of the issue internationally, reminding negotiators that this was not an abstract problem but a real issue affecting real people. The Canadian Arctic Resources Committee provided technical support to the Indigenous peoples' representatives during and between negotiations, helping to ensure that their perspectives were heard.

Concurrent to the action on POPs, people remained attentive to the threats posed by mercury. A 1998 protocol to the LRTAP convention bound parties to reduce emissions of mercury, lead, and cadmium to below the 1990 levels. While this proved helpful in reducing emissions, once again it lacked global coverage. In 2009, the governing council of UNEP decided that there should be a global agreement on limiting mercury emissions. The Minamata Convention on mercury was completed in 2013 and entered into force in 2017.

FUTURE CHALLENGES OF CONTAMINANTS IN THE CANADIAN ARCTIC

Derek C.G. Muir

The presence of chemical contaminants in Northern Canada has been an ongoing concern for human health and the environment over the past fifty years or more. There are many facets to the topic. Substances of concern from far away come by air, river, and ocean. There are local sources related to mining, oil and gas development, old military bases, and municipal waste. Contaminants have shown up in the bodies of people and wildlife. First, it may be helpful to define chemical contaminants. A good definition, developed for the European Marine Strategy Framework Directive, is "substances (i.e., chemical elements and compounds) or groups of substances that are toxic, persistent or liable to bioaccumulate, and other substances or groups of substances that give rise to an equivalent level of concern."[1] Another characteristic of the contaminants discussed here is that they are generally present at parts per million (ppm, μg/g) or billion (ppb, μg/kg) concentrations and are thus invisible, although they may cause visible biological effects such as the beak abnormalities in fish-eating birds in the Great Lakes region that were observed in the 1970s.

The focus of this chapter is mainly on invisible contaminants that enter the Arctic via long-range transport and bioaccumulate through food webs to top predators and animals that are important foods for Indigenous peoples. This is not to diminish the importance of visible pollution issues that may be important for local communities in the North, such as the open burning of municipal waste, water pollution from inadequate waste-water treatment, fuel or oil spills, and leaking landfill sites. However, these local issues are generally well known and can be addressed with investments in infrastructure. On the other hand, reducing contaminants that undergo long-range transport has required global action and continued vigilance for additional emerging issues.

The future challenges posed by three major groups of contaminants will be considered here: radionuclides, mercury, and persistent organic pollutants (POPs). Apart from fundamental differences in their chemical properties and environmental behaviours, each group has different sources, histories of monitoring, and global regulations. These contaminant groups also differ in the extent to which future global change, which describes the effects of

human activity at the planetary level including climate change, may influence their presence in Northern Canada.

The long-lived radionuclides ^{90}Sr (strontium 90) and ^{137}Cs (caesium 137) were probably the first group of contaminants to raise concerns about human exposure in the Canadian Arctic via the consumption of local foods. The long-range atmospheric transport and deposition of radionuclides in the Arctic was found following above-ground nuclear weapons testing in the 1950s and early 1960s. This led to extensive measurements of ^{137}Cs in caribou meat, as well as in people, through Health Canada's use, in the mid-1960s, of whole body counters in communities in Yukon, the Northwest Territories (NWT), and what is now Nunavut.[2] These studies demonstrated that elevated exposure to ^{137}Cs had occurred, with whole body averages exceeding the acceptable annual dose limit of five millisieverts in Yukon and NWT communities. International action led to the 1963 nuclear test ban treaty banning above-ground testing, and the ban was shown to have an immediate effect in terms of reduced fallout of radionuclides. Studies showed that the radionuclide levels dropped rapidly during the late 1960s as ^{137}Cs was washed out of the terrestrial environment.[3]

The issue of radionuclides in the lichen-caribou-human food web has continued to be a concern, with additional studies being conducted following the Chernobyl accident in 1986[4] and the Fukushima accident in 2011.[5] These accidents did not result in elevated exposure in Canadian Arctic animals to radionuclides compared with measurements in the 1960s. However, the results for ^{137}Cs illustrate that the lichen-caribou-human food chain will always be vulnerable to the long-range transport and deposition of contaminants capable of being bioaccumulated in the muscle and liver of caribou. The number of nuclear reactors in the Russian Arctic is growing, including the first floating power plant for the community of Pevek (Chukotka peninsula), and new icebreakers are being constructed to replace an aging nuclear fleet.[6] A report on radioactivity in the Arctic by the Arctic Monitoring and Assessment Programme (AMAP) noted the potential for an accidental release of radioactivity from existing sources, as well as from new sources planned for the coming decade.[7]

Heavy metals such as mercury and cadmium, like ^{137}Cs, also accumulate in tissues such as muscle, the kidney, and the liver, and are a concern due to their toxicity. Mercury and cadmium are also relatively high in caribou herds in the NWT and Nunavut, with the average concentrations in their kidneys generally being in the range of 0.5-1.5 μg/g and 3-5 μg/g,

respectively.[8] However, the concentrations of mercury in caribou kidneys have not changed significantly over the twenty-five-year period from 1991 to 2016, while cadmium has increased in three herds and declined in two over the same period.[9]

Cadmium levels in Arctic wildlife are generally considered to be of natural origin. Woodland caribou in Yukon have elevated kidney cadmium, compared to the barren-ground herds in the NWT. This is thought to be due to the underlying geology coupled with the greater browsing of the Yukon animals on plants such as willows, which are hyperaccumulators of some metals. Cadmium also varies geographically in ringed seals, with higher levels in the Eastern Canadian Arctic populations.[10] Studies of the marine food web indicate that higher cadmium is related to seals feeding more on invertebrates than fish, and is not due to local environmental pollution sources or to long-range transport. Indeed, the consensus on human exposure to cadmium is that smoking is a much greater source for the Inuit than diet.[11]

Mercury is the major contaminant of concern across Northern Canada. Locally harvested foods including ringed seal liver, beluga muktuk (skin and fat), and caribou meat are significant sources for Inuit,[12] while predatory freshwater fish and caribou are important sources for inland Indigenous communities.[13] Information about the historical deposition of mercury can be found in cores from lake sediments and glacial ice. These show a two- to three-fold increase in mercury deposition to Northern lakes and a four- to sixteen-fold increase in ice caps since the pre-industrial era.[14]

Atmospheric concentrations of mercury have been declining in southern Canada as a result of various controls on sources including the closing of smelters and coal-fired power plants.[15] However, the gaseous mercury measured at Alert, a long-term monitoring station on the northern tip of Ellesmere Island, has decreased at a slower rate than at lower latitudes. The slower decline is likely due to the importance of the long-range transport of mercury from mid-latitude urban/industrial sources and from wildfires. East Asian sources have been shown to be the largest source region for gaseous mercury to the Canadian Arctic, followed by contributions from North America, Russia, and Europe.[16] The increased frequency and severity of wildfires in the mid-latitude boreal and montane forests under a warmer climate[17] can mobilize mercury in soils and forest canopies, and may lead to increased mercury deposition in the Arctic due to the direction of the prevailing winds.[18] In summary, the future trends of mercury in Northern Canada are, to some extent, linked to decisions on the use of fossil fuels for power

generation and transport in Asia, as well as to climate warming. It is noteworthy that one of the co-benefits of reducing dependence on the burning of fossil fuels is the reduction of atmospheric mercury emissions.

There is emerging evidence that climate warming in Northern Canada is resulting in increasing emissions of mercury to rivers and lakes, and in increasing levels of mercury in fish. As permafrost thaws, the mercury stored in frozen soils moves into the water. High concentrations of mercury in water have been found in the streams draining the thaw slumps in the Peel Plateau in the Western Canadian Arctic.[19] A circumpolar study of mercury in Arctic soils concluded that twice as much mercury was in these frozen soils as in all "other global soils, the oceans, and the atmosphere combined, and this mercury is vulnerable to release as permafrost thaws over the next century."[20]

Whether the increased mobilization of mercury is leading to increased levels of mercury in fish in the Canadian Arctic is still an open question. Long-term fish monitoring studies in the Mackenzie River Basin (MRB) region have shown increases in mercury. Figure 7-2 provides a general overview of the trends. Concentrations of mercury have increased about two-fold in lake trout (*Salvelinus namaycush*) and burbot (*Lota lota*) in Great Slave Lake since the early 1990s,[21] and a similar increase was seen in burbot at Fort Good Hope on the Mackenzie River from the mid-1980s to 2016.[22] Nevertheless, mercury concentrations in fish muscle remain below the Health Canada guideline of 0.5 parts per million for commercial fish. This region has seen the greatest increase in average annual air temperatures in Northern Canada, with a rise of at least 1.5 ^{0}C from 1990 to 2015. Although mercury levels and temperatures are rising in the MRB, these studies did not find that the average mercury in the fish was directly related to the air temperature.

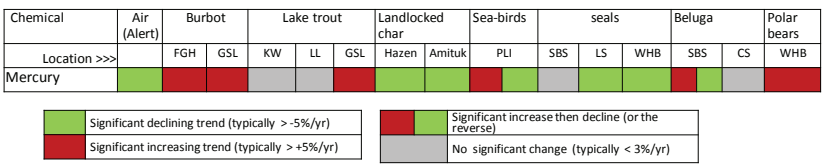

Figure 7-2: General time trends of mercury in air, freshwater fish, seabirds, and marine mammals from the early 1990s to 2016 based on recent assessment reports and recent NCP Synopsis reports (available at http://www.aina.ucalgary.ca/ncp/). FGH = Ft Good Hope, GSL = Great Slave Lake, KW = Kusawa Lake, LL = Lake Laberge, Hazen = Lake Hazen (Ellesmere Is), Amituk = Amituk Lake (Cornwallis Is), PLI = Prince Leopold Island, SBS = Southeastern Beaufort Sea, LS = Lancaster Sound, WHB = Western Hudson Bay, CS = Cumberland Sound (Baffin Island)

Factors that could be influencing the increased mercury in fish include the increased primary productivity in lakes due to warmer waters, the longer ice-free conditions, and the shifts in atmospheric circulation that may have brought more mid-latitude air northward. Other long-term studies of mercury in fish in Northern Canada have not shown the same increasing concentrations. For example, mercury concentrations in lake trout from Kusawa Lake in southwestern Yukon have declined at the rate of 1.5% per year over the period from 1993 to 2016.[23] Declining mercury concentrations have also been observed in landlocked Arctic char (*Salvelinus alpinus*) in lakes on Cornwallis Island[24] (Figure 7-2). Shorter sea-ice duration in Resolute Bay, near three of the lakes, was positively correlated with the decline of char mercury. Shorter lake ice duration, which is being widely observed in Arctic lakes,[25] may influence mercury bioaccumulation by permitting mercury to move from the lakes to the atmosphere and increasing the potential for sunlight degradation. The evidence that climate change is influencing mercury bioaccumulation in fishes of the Canadian Arctic is thus conflicting at present. However, under the Northern Contaminants Program (NCP),[26] the long-term studies on mercury in fish are continuing. The growing statistical power of those studies allows for the testing of hypotheses about mercury and climate interactions.

Evidence for recent increases in mercury in marine wildlife is also an open question. There is good evidence from the analysis of museum collections of seal and polar bear hair and teeth, as well as seabird feathers, that mercury increased about ten-fold in Arctic marine animals during the twentieth century.[27] However, long-term trends in the mercury in marine mammals and seabirds sampled over the past thirty to forty years show periods of decreasing as well as increasing concentrations (Figure 1). Mercury concentrations in the eggs of northern fulmars (*Fulmarus glacialis*), black-legged kittiwakes (*Rissa tridactyla*), and thick-billed murres (*Uria lomvia*) collected at Prince Leopold Island in Lancaster Sound increased from the mid-1970s to about 2008,[28] but showed no change from 2008 to 2012.

A study of the trends in mercury in ringed seals (*Pusa hispida*) from five regions across Inuit Nunangat found very limited changes in the mercury concentrations in their livers from 1972-2017.[29] Small declines (0.8-1.7% per year) in muscle mercury were found in Hudson Bay and coastal Nunatsiavut animals. Sea ice coverage was a statistically significant factor in explaining the year-to-year variation of mercury in seal livers and muscle, particularly

in Hudson Bay animals, and thus, as ice cover declines, a decline in the mercury in seals would be predicted. This could reflect changes in diet, such as feeding to a greater extent on amphipods or on capelin (*Mallotus villosus*) rather than Arctic cod (*Boreogadus saida*).

Beluga whales in the eastern Beaufort Sea/Mackenzie Delta region have been monitored for mercury for the past thirty years. Increasing mercury in beluga livers and muscle occurred from the 1990s to 2002.[30] That increase was followed by a levelling off or decline in the concentrations from 2002 to 2012. Recent studies of the Beaufort Sea beluga show they are eating fewer Arctic cod and more capelin.[31]

The increasing importance of capelin in marine mammal and seabird diets is also being seen in Hudson Bay. Capelin, a sub-Arctic species, has been expanding its range northward with the warming waters. It has lower concentrations of mercury than Arctic cod, and thus one explanation for the declining concentrations in marine mammals and seabirds in the Beaufort Sea and Hudson Bay is this dietary shift.

Persistent organic pollutants (POPs) are a diverse group of organic chemicals, some of which are present at elevated concentrations in top predators and humans in the Arctic. They are of concern because of their environmental persistence and bioaccumulation, as well as their wide range of adverse biological effects. The presence of POPs was first documented in polar bears, ringed seals, and seabirds during the 1970s-1980s, but as levels were generally lower than in similar species living closer to urban areas (the Great Lakes, St. Lawrence River, Baltic Sea), their presence was regarded as a background issue.

The discovery of elevated concentrations of polychlorinated biphenyls (PCBs) in the breast milk of Inuit mothers in Nunavik in 1988[32] prompted a great expansion of the measurement of PCBs and other POPs in traditional foods across the North, and led to the creation of the Northern Contaminants Program (NCP) in 1991. The monitoring of and research on POPs continue under the NCP, and annual reports on individual projects are available via the Arctic Institute of North America library website.[33] The discovery of elevated levels in breast milk in Northern communities in Canada and in Greenlandic Inuit illustrated how remote regions with few local sources could be affected due to long-range atmospheric or oceanic transport, coupled with biomagnification in marine food webs. Knowledge of the potential impacts on Indigenous peoples in remote environments was a major factor in the development of the Stockholm Convention on POPs, which came into force in 2004.[34]

PCBs in the breast milk and blood of Inuit mothers in Nunavik declined by about 84% between 1992 and 2017.[35] Mercury also declined in the same study by 65%. As of 2017, the PCB and mercury concentrations were still four-fold and seven-fold higher, respectively, than those of pregnant women from the general Canadian population. Thus, the PCB and mercury exposure, especially of newborn children, remains a concern, although the average levels are now below human health guidelines.[36] The decline in humans is mainly due to a shift away from marine food consumption,[37] although levels of POPs in fish and wildlife have declined as well, as discussed below. The change in diets in Nunavik communities has been confirmed by dietary surveys and also by analyzing the blood plasma of individual participants for the unsaturated fatty acids that are characteristic of marine mammal fats. Concerns remain that people relying on nutritious local harvested foods are vulnerable to other chemicals with similar properties to known POPs. The most recent example is the discovery that fluorinated chemicals, used to make fluoropolymers (a kind of plastic, such as Teflon) and present in widely used stain repellents, are also elevated in the blood of Nunavik mothers compared to southern Canadians.[38]

Unlike mercury, concentrations of PCBs and other POPs are generally declining in Canadian Arctic fish and wildlife; however, the picture is complex, as the rates of decline vary with the chemicals, species, and location. This variation is summarized in Figure 2A, which reflects the general trends of the results from the long-term monitoring of POPs under the NCP. The average concentrations of PCBs in ringed seal blubber have declined about two-fold from the mid-1980s to 2016 in the eastern Beaufort Sea, Lancaster Sound, and Western Hudson Bay populations.[39] PCBs in the fat of polar bears from southern Hudson Bay declined about 50% from the mid-1980s to 2013-14.[40] PCBs have also declined about 50% in the blubber of Southeastern Beaufort beluga whales from 1995 to 2015, although with large year-to-year variations.[41] As noted for mercury in marine mammals, dietary shifts and changes in ice coverage explain some of the year-to-year variation. Ice coverage was also found to be negatively correlated with POPs in seal blubber, with lower levels of contamination during years of higher first-year ice coverage.[42]

POPs such as PCBs and chlorinated pesticides (DDT, chlordane, hexachlorocyclohexanes, toxaphene) are generally declining (Figure 7-3A) thanks to bans or phase-outs in North America, Japan, and Europe in the 1970s and 1980s, and globally under the Stockholm Convention in the early 2000s.

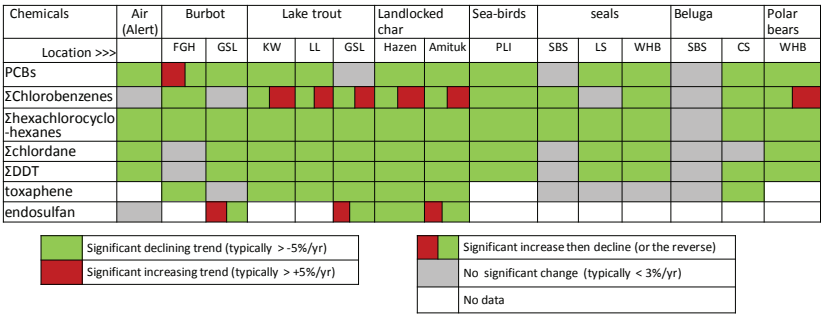

Figure 7-3A: General time trends of legacy POPs in air, freshwater fish, seabirds, and marine mammals from the early 1990s to 2016 based on assessment reports and recent NCP Synopsis reports (available at http://www.aina.ucalgary.ca/ncp/). Abbreviations of locations are given in Figure 1.

However, other chemicals such as flame retardants (polybromodiphenyl ethers (PBDEs), hexabromocyclododecane (HBCDD), and fluorinated substances (perfluorooctane sulfonic acid [PFOS] and perfluorocarboxylic acids) were also detected at relatively elevated levels in Arctic marine mammals and seabirds in the late 1990s and early 2000s (Figure 7-3B). Several of these groups of substances are also now banned and phased out.

Following the bans in North America and Europe, both PBDEs and PFOS declined significantly in seabirds and seals,[43] demonstrating the effectiveness of regulatory controls on levels in remote environments. Nevertheless, many other chemicals being used have properties similar to POPs and could, potentially, be present in the Arctic air and living things, but simply

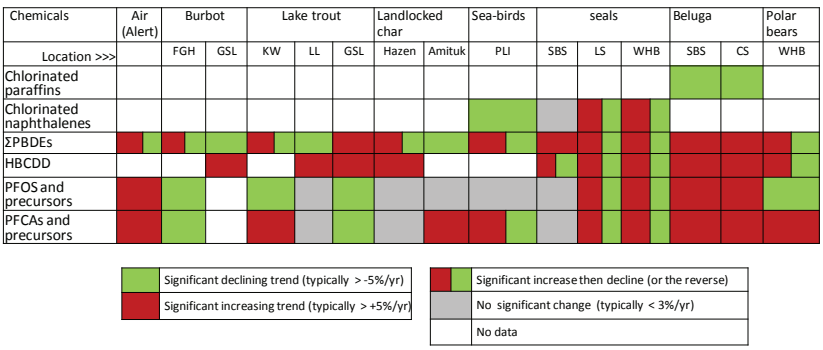

Figure 7-3B: General time trends of legacy POPs in air, freshwater fish, seabirds, and marine mammals from the early 1990s to 2016 based on recent assessment reports and recent NCP Synopsis reports (available at http://www.aina.ucalgary.ca/ncp/). Abbreviations of locations are given in Figure 1. PBDEs = polybrominated diphenyl ethers, HBCDD = hexabromocyclododecane, PFOS = perfluorooctane sulfonic acid, PFCA = perfluoro carboxylic acids

are not yet measured.[44] PFOS is an example of a chemical that is not anticipated to be present in the Arctic because it is not easily carried in the air. However, it is water soluble and does not easily break down there, so it has been distributed globally by ocean currents. PFOS is also created when other chemicals that are more easily transported in the air break down in the Arctic.[45] The lessons learned from PFOS are that multiple pathways to the Arctic are possible, and that a much wider range of organic chemicals are transported globally than was originally understood from the monitoring of PCBs and chlorinated pesticides.

A new contamination issue, that of plastics litter and microplastics, has received a lot of attention globally[46] and has also emerged recently as an Arctic contamination issue.[47] High concentrations (hundreds of thousands of pieces of floating plastic debris per square kilometre) have been found in the Greenland and Barents Seas, although other regions of the Arctic Ocean that were sampled had very low frequencies.[48] Parts of the Arctic Ocean have been described as a dead end for floating debris from the North Atlantic. Although local sources such as municipal waste sites and fisheries are important, the debris can move long distances via ocean currents and in sea ice.

There are linkages between POPs and plastics. Some chemicals used in plastics as plasticizers or flame retardants have properties similar to known POPs. Plastics also absorb POPs from water and thus potentially make them enter the food web when the debris is eaten. Microplastics (MPs), which are fragments less than 5 millimetres in size, are of particular concern because they are consumed by small organisms. MPs have been detected in the digestive tracts of the southeastern Beaufort Sea beluga whales.[49] Kittiwakes and fulmars, which are both sea surface feeders, had a higher frequency of plastics in their digestive tracts than other species of seabirds in the Canadian Arctic due to their ingestion of floating debris.[50]

In conclusion, this review has summarized the current knowledge of the sources and trends of three major groups of global contaminants in Northern Canada. With this background, some future trends and challenges can be discussed with some degree of certainty. Radionuclides remain a concern for the contamination of important traditional harvested foods in Canada, given possible accidental releases from aging nuclear reactors in ships and on land in the Russian Arctic. It must be noted, however, that the issue is well known, and there is ongoing monitoring in circumpolar countries for these kinds of events.[51] There are many unknowns with regard to mercury and POPs. Atmospheric mercury in the Arctic is declining slowly, and this decline is

likely to continue as a result of the global implementation of the Minamata Convention,[52] which came into force in 2017. The Convention was designed to reduce global anthropogenic releases of mercury, including in products and for small-scale gold mining (the largest current source). However, an open question is whether climate warming will result in the release to the atmosphere or waters of a large amount of mercury stored in permafrost soils. Climate warming is also resulting in changes to marine and freshwater ecosystems in terms of both primary productivity and the northward movements of some species like capelin. There is evidence that these food web changes are already affecting the levels of mercury and POPs in top predators. Whether this will result in increases or decreases in mercury and POPs in living things, and especially in traditional foods harvested by Northerners, is still unclear.

In the case of POPs, the broader issue is that there are so many chemicals in use (over 300,000 produced at one tonne/year or more[53]), and we know little about most of them. A side effect of climate warming is the greater economic development in the Arctic, bringing with it increased shipping and aircraft activity, more commercial fishing, larger communities, and more waste disposal challenges. Thus, there will be a possible growing route for chemicals with POP characteristics as they are used in commercial products brought into the Arctic and emitted into the environment either during use or once they are left in municipal waste dumps. This also applies to plastics litter and microplastic contamination, which are likely to increase with expanded development. Plastics pollution is a new emerging issue; many questions about the effects of long-term exposure to plastics remain to be answered.

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8

MINING

MINING IN THE NORTH

Robert F. Keith, Anne Kerr, and Ray Vles

Northern Perspectives 9, no. 2 (1981)

Characteristic of the industry's view of the mining situation in the North is the brief of the British Columbia and Yukon Chamber of Mines to the annual conference [of] Canada's provincial ministers of mines, held last October in Halifax. Published recently under the title, "Canada's North; A development Nightmare", the brief charges that government policies on land management have seriously hindered mineral development in the territories. At the heart of the matter are, "proposed land alienations for single or limited use purposes". National Parks, IBP [International Biological Program, a now-defunct international research program on ecosystems] ecological sites, wildlife reserves, and native land claims are, it is claimed[,] impeding efficient expansion and management of the industry. The federal government is seen as the culprit, given its northern policy, made public in 1972, that, "placed a much stronger emphasis on a narrow perception of the needs of people and the maintenance of ecological balance than on resource development.["]

Beliefs and sentiments such as these are just as parochial as those attributed by the mining industry to the federal government and to environmentalists, native peoples, and ecological scientists. It should be remembered that exploration and production are now operating at unprecedented levels in the north, and that mineral development alone has not and will not redress the economic and social imbalances which exist within the North and the rest of Canada. Significant environmental degradation has followed

in the wake of mining, and there are many land use needs in the North, some of which require single or restricted use. Such uses provide long-term benefits to society, including the sustainability of the environment upon which human life is dependent.

There is of course a very significant role for mineral development in the North's future. But the mining industry should not be considered alone; there are many other land values and uses that must also be recognized. In particular, native claims must receive immediate and thorough attention. More than an economic frontier, the North is a socio-political frontier involving the juxtaposition and interaction of many legitimate interests.

THE NORTHERN AGENDA: A MEMORANDUM

Ronald Doering

Northern Perspectives 12, no. 2 (November 1984)

A bonanza mentality permeates the federal government's attitude towards economic development in the North. From the "Yukon gold rush" to the "Beaufort billions", a dominating assumption has underlain many past government policies for economic development in Canada's North; development, to be significant, must be large, southern-directed and based on non-renewable resources.

This assumption, supported by the existing colonial regime, exacerbates the boom-and-bust economic cycle. Government policy follows this cycle like a pendulum, swinging from concern about lack of jobs, poverty and dependence to concern about inadequate environmental safeguards from, and socio-economic impacts of, development. This approach may guarantee that the Department of Indian Affairs and Northern Development always will have something to worry about, but it does little to create a healthy and stable local economy in the North. An urgent priority for the new Conservative government should be to devise a new economic development policy that devotes far more attention to small-scale local development controlled by northerners and based on renewable resources, and far less attention to megaprojects.

Small-scale enterprises do not have the instant appeal of gold mines and hydrocarbon megaprojects but they do have the potential to be long-term, locally controlled, and compatible with local culture. They can provide jobs for Northerners without the serious environmental and cultural impacts that normally accompany larger projects

BACKGROUND AND CONTEXT

Non-renewable resource development has been a defining issue for Northern Canada in modern times. On one side, there has been the promise of wealth and development – on the other, lingering social and environmental impacts.

While the Dene and Inuit made limited use of native copper for tools, interest in Northern minerals really began with the first European explorers and traders. Beginning in 1576, when Sir Martin Frobisher stumbled on fool's gold during his search for a northwest passage, several expeditions were undertaken to search for copper and other minerals in the North. The first commercial mining in the North by Europeans took place in Yukon, when the Klondike Gold Rush sparked the creation of a new northern territory and special mining regulations to encourage settlers to locate to and live on their mineral claims as means of exercising Canadian sovereignty. Treaty 8 was also negotiated with the Dene of the southern Mackenzie Valley to ensure peaceful relations.

Despite the discovery of some gold in the Mackenzie Valley during the Klondike Gold Rush, commercial development would have to wait until the advent of prospecting assisted by aviation. The first commercial mining in the current Northwest Territories (NWT) began with a radium mine at Port Radium in the early 1930s. A few smaller mines operated around the east side of Great Bear Lake, and exploration spilled over into the Yellowknife area with the discovery of gold. Several small mines produced gold in the Yellowknife region beginning in the mid-1930s.

Major government subsidies later brought the Pine Point lead-zinc mine into production in 1964, with a special concession arrangement put in place for the mineral rights and publicly supported transportation corridors. Similar subsidies were provided for the Cantung mine on the Yukon-NWT boundary, which opened in 1962.

Various smaller gold and uranium mines operated in the 1950s and 1960s. A new boom in NWT mining began with the discovery of diamonds at Lac de Gras in 1991. Just as gold mining was winding down, and shortly before the division of the NWT with the creation of Nunavut, commercial diamond mining began in 1998. Two diamond mines have already closed (Jericho

and Snap Lake), with one further scheduled to close in 2025 (Diavik) and another in 2030 (Gahcho Kué). The remaining Ekati Mine (estimated closure in 2034) has recently changed ownership after creditor protection. Although there are further valuable diamonds, depressed market conditions and a lack of financing have created considerable uncertainty.

Several advanced exploration projects are at various stages of approval, including the Prairie Creek lead-zinc deposit, rare earths at Thor Lake, and the NICO cobalt-gold-bismuth-copper project. All of these possible mines entail significant environmental and financial risks, with a resulting bleak forecast for the NWT economy (Moody's downgraded the economic outlook for the NWT to "negative" from "stable" in October 2020).

Management of Mining in the NWT

The free entry system for mineral exploration and development is based on European concepts of land where mining was considered to be the highest and best use.[1] Free entry has been at the foundation of colonial expansion across North America, where settlers were encouraged to use and occupy the land. Free entry continues as the mechanism for mineral rights administration throughout the NWT. It has been modified to some extent, as a result of constitutionally protected land and governance rights agreements negotiated with Indigenous peoples where an integrated land and resource management system is now in place. However, mining continues to have a privileged place within and outside of this system.

Individuals and companies pay for a prospecting licence with minimal conditions, which then entitles them to explore for minerals and acquire the right to develop even if there is a pre-existing surface rightsholder or interest. Although some areas are off limits as a result of land withdrawals for public purposes (e.g., conservation areas, or potential interest for land rights agreements), a surface rightsholder or interest is only to be compensated for any damages, as mining has precedence over any other use (see the *Surface Rights Board Act*). Mining has never been governed by specific legislation, as regulations are used under the *Territorial Lands Act* for setting out mineral rights acquisition, the calculation of royalties, and other administrative matters. The *Mineral Resources Act* was passed by the NWT Legislative Assembly in August 2019, but it will take years to be brought into force and implemented.

Until the 1960s, mining was virtually unregulated in the NWT except for some basic public health and worker safety legislation.[2] Requirements for land use permits and water licences for mineral exploration and development

activities exceeding certain thresholds were introduced in the early 1970s as part of the worldwide environmental awakening. The *Territorial Land Use Regulations* were introduced in 1971 and the *Northern Inland Waters Act* the following year. Environmental assessment began as a federal Cabinet order in the 1970s before it was finally legislated in 1992. The federal Department of Indian Affairs and Northern Development maintained control over the lands and waters of the NWT until 2014.

Negotiations on Indigenous land and governance rights began in the 1970s, and a series of constitutionally protected agreements have been concluded throughout the 1980s to the present, with more still in various stages of negotiation. Significant amounts of land and water have been transferred to Indigenous governments as a result of these agreements. This reduces the amount of land open to mining, as Indigenous governments can and have set up their own regimes for mineral rights and benefits.[3] As part of the land rights agreements, co-management regimes have been set up covering various parts of the NWT where land use planning, environmental assessment, land and water regulation, auditing, and state-of-the-environment reporting take place as a result of federal legislation.

There was a fundamental shift or delegation of authority that took place on 1 April 2014 when the Government of the NWT took over the management and administration of most Crown lands and waters. The Devolution Agreement sets out the delegated authority of the NWT government to manage lands, financial support for the management of resources, offshore resource management, waste sites, assets and human resources, coordination with federal formula funding, and resource revenue sharing with Indigenous governments that sign on.

Taken together, the Devolution Agreement and the land claims agreements in the NWT allow for many significant decisions about non-renewable resource development to occur within the Northwest Territories.

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NWT MINING REVENUES: FAIR RETURN FOR NATURAL CAPITAL OR RESOURCE GIVE-AWAY?

Kevin O'Reilly

It is not an exaggeration to say that I have been patiently waiting for a meaningful public examination and debate of mining revenues in the Northwest Territories (NWT) for about thirty years. There is no doubt that the NWT is heavily dependent on non-renewable resource extraction and that it has brought widespread economic benefits.

These economic benefits need to be carefully weighed against the social and environmental effects of this resource development. The role of government is to carefully balance the benefits with the impacts. Government needs to maximize revenues from one-time natural capital and ensure there is adequate distribution of the benefits across the NWT and future generations. The private sector requires a reasonable level of profitability and predictability.

Public ownership or equity in resource extraction is an option that has not been pursued to any great extent in the NWT but that has proven successful in other places – for instance, Norway's state-owned oil company Equinor, and Botswana's diamond mining joint venture with De Beers.

This chapter will examine some of these complex considerations in the context of sustainability, especially now that the NWT shares jurisdiction over mining and public revenues with the federal government through the Devolution Agreement of 2014. Indigenous governments also share the revenues as a result of constitutionally entrenched land and governance rights agreements and the Devolution Agreement itself.

The areas covered in this chapter are as follows:

- the significance of mining for the NWT economy;
- the management of mining in the NWT;
- the collection and use of government revenues from mining in the NWT; and
- assessing the fairness and sustainability of NWT mining revenues.

I conclude with some recommendations on how a public review of the fiscal regime for mining in the NWT might best move forward.[1]

Socio-Economic Impacts of Mining

Without a doubt, mining in the NWT has brought significant economic benefits for residents and shareholders alike. 2020 is obviously not a typical year for mining around the world or in the NWT. In 2019, mining contributed 27% of the Gross Domestic Product (GDP) for the NWT. Diamond mining alone has varied from a low of about 7% of the GDP in 2000 to a high of 42% of the GDP in 2017.

Employment in the resource extraction sector (which includes forestry, fishing, mining, and the oil and gas industry) since 2001 has varied from a low of 6.1% in 2011 and 2019 to a high of 10.7% in 2007. Between 1996 and 2019, Northern and Indigenous employment at the four diamond mines has averaged about 51% of the total, with the other employees coming from outside the NWT. Currently, Northern and Indigenous employment at the three diamond mines is only 46%. This may be due to a variety of reasons, including that the Northern labour force is either maxed out and/or without the necessary qualifications for the work, or that potential workers do not want shift work or camp life.

Between 1996 and 2019, about 70% of the value of NWT mine procurement was with Northern and NWT Indigenous businesses – totalling more than $23.2 billion. NWT mines contribute to other sectors of the economy as well. Local procurement by the mining industry spends locally and stimulates additional construction ($282.9 million to the GDP in 2019), transportation ($252.5 million to the GDP in 2019), and indirectly to retail ($163.5 million in 2019) and real estate ($402.3 million in 2019). These direct and indirect contributions totalled an additional $1.10 billion to the NWT's GDP in 2019. Only 25% of the professional and management positions at the diamond mines were held by Northern or Indigenous employees.

One of the major mechanisms employed by the Government of the NWT to capture and retain benefits from major mining projects is a socio-economic agreement. There are currently six in place:

- Ekati Diamond Mine (1996);
- Diavik Diamond Mine (1999);
- Snap Lake Diamond Mine (2004, mine closed in 2015);
- Prairie Creek Mine (2011, property has never opened);
- Gahcho Kué Mine (2014); and
- NICO Project (2019, property has never opened).

These agreements set non-binding targets for Northern and Indigenous hiring, contracting and procurement, and training for the construction, operation, and closure phases. Monitoring and public reporting are also part of the arrangements. However, there are few, if any, consequences if targets are not reached. The earlier agreements were particularly weak, as there were no commitments to establish Northern offices or any type of legacy investments, unlike similar arrangements in many other jurisdictions.[2] Government of the Northwest Territories (GNWT) figures show that all four diamond mines have fallen short of their socio-economic agreement employment commitments. In 2019, none of the active mines met their Northern employment targets. Diavik last met its targets in 2008, Ekati in 2004, and Gahcho Kué has yet to do so. Snap Lake last met its employment targets in 2005 and closed in 2015. The diamond mines appear to be generally meeting their training and apprenticeship commitments. Women filled about 14% of the jobs with the diamond mines, which is comparable to the national mining industry.

In terms of community wellness, several key indicators are tracked and reported on annually under the socio-economic agreements. A community wellness index has also been developed by Indigenous Services Canada and was used by the GNWT to analyze the socio-economic impacts of diamond mining. In the period since diamond mining began, all communities in the NWT have generally increased their community wellness scores, although many factors could influence the increases, with mining activity being one of them. However, these scores have also generally decreased annually from 2011 to 2016, the last date for which data has been reported. There is a large disparity in the scores, with Yellowknife in the lead, followed by regional centres and finally, small communities, where scores are about 20% less than Yellowknife's. This gap has not significantly closed as a result of mining or other factors. Much of the wealth created from diamond mining has been centred on Yellowknife, with some spillover into adjacent communities, but regional economic disparities continue.

The Regulation of Mining in the NWT

Indigenous governments own some pockets of subsurface lands. As privately owned lands, what happens is often not publicly available, but negotiated access and exploration rights appear to be an option. While the federal government does retain some land holdings in the NWT, these are largely for conservation and other public purposes where mining would not be

permitted. The GNWT is now the main land manager for the vast majority of public lands. In 2019, the territorial government passed stand-alone legislation for mineral rights administration in the NWT. The *Mineral Resources Act* is now law, but it will take years to fully implement.[3] The Act proposes to manage mineral interests in the NWT within the existing co-management regime for land and water.

The *Mineral Resources Act* is not about promoting mining. It is about setting up a system for mineral rights management. A lot was promised, and not all of it has been delivered. Some of the positive aspects of the *Mineral Resources Act*, and improvements made during a public review, include:

- a co-drafting process was used with most Indigenous governments to develop the legislation, consistent with Indigenous land rights agreements and Charter rights;
- a public component to the registry;
- a public annual report on activities conducted under the legislation;
- the role and composition of the Mineral Rights Board was clarified;
- benefit agreements with Indigenous governments may be required, and there is the potential for benefit arrangements for the public during the mining cycle; and
- notice is to be provided to Indigenous governments when mineral claims are to be registered, and notice of work may also be required.

The legislation has many problems and failures. The foremost is the absolute and total discretion of the Minister and Cabinet to implement virtually all of the provisions through regulations, without any defined process for public or even Indigenous government involvement.[4] Other problems include:

- a failure to recognize the legitimate interests of community governments in protecting their lands, water, and infrastructure or even to receive notification of impending mineral exploration or the ability to request restricted areas;
- no clear triggers or expectations of what the public benefits will look like and how far back they can reach in the mining cycle; and
- zones can be set up by the Minister or at the request of Indigenous governments to provide incentives for mineral development. This has the potential to create a "race to the bottom," where different regions are incentivized to lower and create more favourable standards to try to attract exploration to their regions.

The establishment policy for the Department of Industry, Tourism and Investment sets out a number of tasks for the responsible Minister, including:

> Developing, recommending and enforcing legislation, policies and agreements that support the responsible management and development of mineral and petroleum resources and the protection of the environment and human health and safety in relation to the development of mineral and petroleum resources for the benefit of all Northwest Territories residents.[5]

As is plainly visible in any of the Department's publications, for example the annual "Unlocking Our Potential" magazine, the efforts to promote mining are the primary message. This creates an obvious, inherent conflict of interest, where the Department both promotes and attempts to regulate mining at the same time.

Lastly, any review of the management of mining in the NWT needs to discuss the public subsidies or investments that have taken place and that continue to be pushed as an economic model moving forward. Mineral development in the NWT has often enjoyed public subsidies through the construction of infrastructure such as roads, railways, airports, or other facilities. Pine Point and Cantung had significant investments in roads to facilitate the development of those mines. The Tlicho All-Season Road is another example, where $450 million will be expended over thirty years through a public-private partnership (P3) arrangement to provide access near the community of Whatì and to also facilitate the development of the nearby NICO deposit owned by Fortune Minerals. The territorial government also has a Cabinet-approved mandate to pursue the expansion of the Taltson Hydro capacity and an all-weather road into the Slave Geological Province (with possible links to a similar development in Nunavut that would link up with a port on the Arctic Coast). No comprehensive economic analysis has ever been performed on the latter two projects to consider the opportunity costs or comparable benefits from similar investment in other sectors of the economy.

Another public subsidy that has often accompanied previous mineral development in the NWT is the externalized cost of closure and reclamation. Perhaps the worst example is the Giant Mine, where government revenues are likely to be overshadowed by the remediation costs.[6]

The Collection and Use of Government Revenues from Mining in the NWT

Government revenues from mining have evolved over time and include:

Royalties

Royalties are collected from natural resource extraction and are calculated based on production value and projected profits. Royalties are calculated as a rate on the dollar value output of a mine, ranging from 0-14% for all production worth over $45 million (see Schedule 3 of the *Mining Regulations*). The calculation of royalties is a complicated matter and can involve deductions for a whole variety of matters including sorting and selling the minerals, transporting minerals to markets, and production and reclamation costs.[7]

NWT royalty information and data have been treated as highly confidential by both the federal and territorial governments. The only public reporting that takes place is through the Public Accounts (for both the federal and territorial governments) which contain consolidated figures for both the petroleum and mineral royalties paid for the entire NWT (and Nunavut before 2014). The royalties paid have fluctuated wildly from a low of $317,000 in 2000 to over $144 million in 2004.[8]

There has been a global movement towards the more open and transparent reporting of the revenues collected by government from the extractive sector, as well as the disclosure of the use of such funds, in an attempt to prevent bribery and corruption. The Extractive Industries Transparency Initiative (EITI), started in 2004, is a partnership among governments, companies, and civil society. A global standard to promote the open and accountable management of oil and gas and mineral resources has been developed and adopted by fifty-four countries. The standard requires the disclosure of information along the extractive industry value chain from the point of extraction to how revenues make their way through the government and how they benefit the public. The Initiative and its standard seek to strengthen public and corporate governance, promote understanding of natural resource management, and provide the data to inform reforms for greater transparency and accountability in the extractive sector. Canada is a supporting country, along with others such as the US, the UK, the Scandinavian countries, and European states. Although Canada is not an implementing country, the federal government's *Extractive Sector Transparency Measures Act* (ESTMA) provides a similar level of reporting to the EITI standard.

The federal government passed the ESTMA in 2014 "…to implement Canada's international commitments to participate in the fight against corruption through the implementation of measures applicable to the extractive sector, including measures that enhance transparency and measures that impose reporting obligations with respect to payments made by entities. Those measures are designed to deter and detect corruption...."[9]

Any company that has at least $20 million in assets, has generated at least $40 million in revenue, or employs an average of at least 250 employees is supposed to publicly report its payments to governments (including Indigenous governments since 2017).

The diamond mines of the NWT are part of this reporting system under ESTMA. There are some issues with the self-reporting system. In particular, there does not appear to be much consistency in how revenues are actually reported, as distinguished between taxes and royalties. According to the reports on the ESTMA reporting webpages, the NWT diamond mines often did not pay royalties over the last four years (2016-19). For example:

- Dominion Diamond Mines reported no royalties paid to the GNWT in 2019 for Ekati;
- Dominion Diamond Mines reported no royalties paid to the GNWT in 2017 for its 40% share in Diavik. $426,924 paid in 2019 apparently went to the BC government;
- Anglo American reported no royalties paid to the GNWT from 2016 to 2019 for Snap Lake (the mine closed in December 2015 but royalties are not based upon production but rather sales, so could continue after a mine's closure); and
- Anglo American reported no royalties paid to the GNWT from 2016 to 2018 for Gahcho Kué (the mine opened in September 2016). Royalties of $382,000 were paid to the GNWT in 2019 for this mine.

Although the reports are not necessarily an accurate accounting of royalties paid to governments, they raise questions around the quality of the data and the stability of revenues.

There has never been a serious public review of the NWT royalty regime by the federal or territorial government. There is some evidence of what has been called "regulatory capture," when decision-makers serve the commercial interests of a specific group rather than the broader public interest. Federal officials met and exchanged proposals to change mining royalties in advance of any consultation with Indigenous governments or the public, in

breach of at least three constitutionally-entrenched Indigenous land claims agreements.[10] As a further and more recent illustration of the power and influence of the mining industry, one can review the meeting registry kept by the NWT Cabinet, which is a log of meetings with external parties.[11] Of the 1,158 meetings logged between January 2017 and November 2020, approximately 15% were with mining industry representatives, individual mining companies, or diamond manufacturers. This translates into about one meeting each week with at least one member of the NWT Cabinet.[12]

The NWT government is just embarking on a review of the current royalty regime inherited from the federal government. There is more on this review below.

Corporate Taxes

Corporate tax is money paid to the NWT as a percentage of the profits earned by companies doing business in the jurisdiction. The current rate is 11.5% of a company's taxable income. Corporate taxes paid are lumped together by the GNWT and are not reported on an individual mine or mine owner basis, although some data is available through the ESTMA reports, with the caveats noted above.

The corporate taxes paid to the territorial government have fluctuated wildly over the years. During the period from 2007 to 2018, annual corporate taxes have been as low as $22 million and as high as $108 million.

To put corporate taxes into context for diamond mining, in 1998, Minister of Finance John Todd said that he would bring in a tax that would "choke a mule" if the diamond mines did not agree to sell some of their diamonds locally. The theory was that a large portion of the economic benefits from diamonds was to be found in the grading, cutting, polishing, and sales. The GNWT was ultimately able to secure a portion of the local diamonds for sales in the NWT, but efforts at a secondary industry have met with little success. A conscious choice was made between benefits through taxation versus a secondary diamond industry. This approach has clearly not succeeded.

Property Taxes

In the NWT, mines are charged taxes on the properties and improvements or buildings they hold. According to the territorial government, NWT property tax rates are high in Canada and some jurisdictions do not charge property taxes for mines outside of municipal boundaries.

Fuel Taxes

Power generation facilities, haul trucks, and processing equipment operated by mines continuously consume large amounts of fuel. The NWT levies taxes on all fuels used for purposes other than heating.

Payroll Taxes

Everyone working in the NWT is charged a 2% tax on their employment income. To ease the burden on NWT residents, they are given an annual 'Cost of Living' tax credit. As noted earlier in this chapter, about half of the workers at the diamond mines are from outside the NWT, so a payroll tax is an effective way to capture some revenue from those workers. However, too high a payroll tax may be subject to a Charter challenge regarding mobility rights. Payroll taxes collected in the NWT have generally been in the neighbourhood of $40 million annually.

Other Considerations

An important consideration in the capture of revenues from mining in the NWT is the overall fiscal arrangement with the federal government through the Territorial Formula Financing (TFF) Agreement. The GNWT gets about 80% of its annual expenditures from the federal government. The remaining 20% is considered own-source revenues. At one time, for every dollar of own-source revenue collected by the GNWT, $1.15 was clawed back through former TFF Agreements. Now it is a much more complicated arrangement that is based on complex formulae where tax effort is compared to other Canadian jurisdictions and there is a rebalancing of the overall expenditures to account for inflation and growth. In short, the GNWT does get to keep new revenues or taxes, but the rebalancing tends to flatten out those revenues over time.

The Devolution Agreement also creates a net fiscal benefit through the sharing of resource revenues. The GNWT gets to keep up to 50% of the resource revenues, up to a cap of 5% of the previous year's budget or gross expenditure base. The idea is that the budget should grow and allow the GNWT to keep more of the resource revenues too. Indigenous governments receive a 25% share of the resource revenues retained by the GNWT as part of the Devolution Agreement. The revenues transferred to Indigenous governments have been reported as ranging from about $3-8 million per year.

To get some perspective on the GNWT's revenues from mining, a number of points can be made. Royalties and corporate taxes tend to fluctuate wildly,

while fuel taxes and payroll taxes tend to remain steady and have shown some growth.

Perhaps the only detailed study of government revenues from NWT mining examined the case of gold mining in the Yellowknife region from 1948 to 2002.[13] This study concluded that "personal income taxes [paid by the workers] contributed substantially more to government revenues than did corporate taxes" and similarly that royalties made up a very small amount of the total government revenues.

Over the past ten years, the GNWT has collected an average of nearly $100 million annually in revenue from diamond mines. Over $30 billion worth of diamonds has been exported from the NWT,[14] and it would seem reasonable to estimate that total GNWT revenues over that period of time would be no more than $1 billion, about 3% of the value of the diamonds.

Assessing the Fairness and Sustainability of NWT Mining Revenues

While it is good that the present generation benefits from mining, it is important to consider how the one-time natural capital or wealth is shared with future generations. Countries around the world have begun to grapple with the issue of intergenerational equity in a number of ways.[15] The NWT government brought the *NWT Heritage Fund Act* into force in 2012, in anticipation of devolution. Its purpose is "to ensure that future generations of people of the Northwest Territories benefit from on-going economic development, including the development of non-renewable resources." There is no public governance of the fund and no defined revenue stream set out in the Act, regulations, or even policy. By convention, 25% of GNWT-retained revenues go into the Heritage Fund. The investment criteria of the Fund were so conservative that it was actually losing money against inflation. The criteria were loosened in 2019, and the management of the Fund has now been contracted out to the private sector. The last publicly reported total for the Heritage Fund was about $30 million since its inception. At the current rate of growth, it will take a long time for the fund to grow into an amount that could significantly stabilize or diversify the economy for future generations.

Others have assessed whether the territorial government is receiving a fair share of the value of mineral resources comparable to other jurisdictions. The Natural Resource Charter Benchmarking Framework[16] is a tool for benchmarking a country's management of oil, gas, and minerals against global best practices. It was created in response to government and civil society demand for a practical way to measure resource governance. The

Framework is the product of five years of expert input and testing in more than fifteen countries. The Framework was applied to the NWT in a study by Andrew Bauer[17] that gave the GNWT a failing grade when it comes to the fiscal regime for revenue generation from natural resources. This means that the "existing practice does not meet international standards or significant gains could be made by adopting alternative policies." Bauer further characterized the NWT revenue generation system as "one of the world's most charitable fiscal regimes for the mining sector, one that captures between 20-30% of economic rents from mining projects, net of costs. This is compared to between 30-35% in South Africa, 45-60% in Peru, and 50-80% in Western Australia."

The scope of issues to be considered during the development of the *Mineral Resources Act* (MRA) by the territorial government originally included the royalty regime. Based on what the GNWT apparently heard, "the royalties structure should be status quo until a broader review can be done with our devolution partners. The MRA should be structured to allow for the future modification of the royalty system and the implementation of an alternative system."[18] Attempts were made during the public review of the Act to insert greater transparency into the reporting of royalties, and recommendations were made around an independent public review of the royalty regime and that public reporting of government revenues from mining should be consistent with the Extractive Industries Transparency Initiative standard.[19]

The Department of Industry, Tourism and Investment launched its review of the fiscal regime for mining in the NWT in October 2020 with the release of another benchmarking study.[20] The study is a theoretical review of royalties and taxation for an imaginary diamond and base metal mine, assessed under twenty-one different regimes, including the NWT. There are many limitations and problems with this study. Factors such as political stability and regulatory certainty were not considered as part of competitiveness. The fiscal arrangement with Ottawa was also not considered in terms of whether the NWT actually gets to keep a fair share of the resource revenues.

The study concludes that the Northwest Territories is competitive against all these other regimes. Although no recommendations were supposed to be offered in this report, it also states that the best way to increase mining revenues is to promote more mining through public investment in big infrastructure to subsidize the industry. This study is apparently going to serve as the foundation for the review of the royalty and taxation regime for Northwest Territories mining.

Summary and Conclusions

Through this far-ranging discussion of mining in the NWT and the revenues it generates for governments, a few points can be summarized as follows:

- mining in the NWT has brought significant economic benefits for residents and shareholders alike;
- Northern and Indigenous employment at the diamond mines has only reached about 50% of the workforce, indicating that the NWT labour force is either maxed out and/or without the necessary qualifications for the work, or that workers prefer to work elsewhere;
- most of the management and professional positions at the diamond mines are filled by Southerners;
- the current approach to socio-economic agreements – best efforts without consequences – does not appear to be effective in terms of benefits retention or capacity building;
- community wellness has generally improved but it is not clear if this is linked to diamond mining;
- regional economic disparities continue, as much of the wealth created from diamond mining has been centred on Yellowknife, with some spillover into adjacent communities;
- the mining industry holds considerable influence and power with the Government of the NWT;
- mining continues to enjoy privileged access to land and water in the NWT, but this access has been tempered over the last few decades with the adoption of an integrated resource management system and Indigenous land rights agreements;
- early efforts by the GNWT to review and regulate the mining industry have been met with mixed success, with the Department of Industry, Tourism and Investment leading these efforts in a direct conflict of interest, having a mandate to both promote mining and regulate it;
- the original approach by the GNWT to capturing benefits from diamond mining through local sales and a secondary diamond industry has been a dismal failure;
- royalties and corporate taxes do not currently offer a predictable and efficient manner of revenue collection from NWT mining;
- the secrecy enshrined in current mining regulations in the NWT does not meet basic international or corporate best practices or standards,

and prevents a meaningful, public review of mining revenues to governments;
- there has never been a serious public review of the fiscal regime for mining in the NWT;
- public revenue generation from NWT mining appears lower than many other jurisdictions and does not meet international standards or best practices; and
- the NWT Heritage Fund is not an effective tool for ensuring intergenerational equity from the one-time natural capital resulting from diamond extraction.

As the Government of the Northwest Territories finally begins to consider the fiscal regime for mining, here are some closing thoughts:

- criteria or standards for determining fairness and contributions to sustainability should be developed to guide the review, and they should be based on international and corporate best practices and standards;
- as a first step in any public review of the fiscal regime for mining, the territorial government must allow for the disclosure of public revenues from mining, consistent with international standards;
- to ensure a fair and balanced review, the territorial government should engage an external third party or expert panel to conduct the work, with opportunities for public involvement; and
- the scope of any review of the mining fiscal regime must include the fiscal arrangement with the federal government that is built on the Territorial Formula Financing Agreement and the Devolution Agreement.

The territorial government also needs to reconsider its unconditional support for further public subsidies to the mining industry through large infrastructure projects. There should be an objective economic analysis of the opportunity cost of such investment versus the economic benefits of similar investments in other sectors of the economy, particularly in education, housing, and renewable resources.

Notes

1. This chapter was written in December 2020 and does not reflect more recent developments such as *Bill 29* (https://www.ntassembly.ca/sites/assembly/files/bill_29_0.pdf) and an independent review of a GNWT benchmarking study on competitiveness of the NWT mining industry (https://www.ntassembly.ca/sites/assembly/files/ede_68_web.pdf).

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8. Kevin O'Reilly, "NWT Resource Production 1999 to 2019," tabled in the NWT Legislative Assembly on 20 October 2020, https://www.ntassembly.ca/sites/assembly/files/td_191-192.pdf.

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10. Kevin O'Reilly and Erin Eacott, *Aboriginal Peoples and Impact and Benefit Agreements: Report of a National Workshop, Yellowknife, N.W.T. May 29-31, 1998*, Northern Minerals Program Working Paper No. 7 (Canadian Arctic Resources Committee, 1999), https://carc.org/wp-content/uploads/2017/10/NMPWorkingPaper7OReilly.pdf.

11. "Meeting Disclosure," Ministerial Travel and Meeting Registry, GNWT, https://engage.eia.gov.nt.ca/en/meeting-registry/meeting-disclosure/.

12. Recent secret meetings between the mining industry and GNWT reveal government assistance in attempts to reduce environmental monitoring and land withdrawals. See https://www.ntassembly.ca/sites/assembly/files/td_426-192.pdf.

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9

MARINE CONSERVATION

Editors' Note: **In 1974, Norlands Petroleum Limited was given approval-in-principle to drill an exploratory well in Lancaster Sound. The Sound, between the north of Baffin Island and Devon Island, was known to both Inuit and outsiders as a place of stunning productivity and great importance to the local people and wildlife. The Canadian Arctic Resources Committee (CARC) presented to the Environmental Assessment and Review panel in Pond Inlet in 1978, then devoted a whole issue of *Northern Perspectives* to the subject. The excerpt below is from the CARC submission.**

Northern Perspectives 6, no. 6 (1978)

What we must understand is that the Norlands proposal if approved will be a first step in the establishment of a major hydrocarbon province in the eastern Arctic. This is not just one exploratory well. It is the thin edge of the wedge which when driven home may well see a great many exploration and production wells for both oil and gas. We can anticipate offshore structures, seabed flow lines, onshore storage facilities and processing plants. More people will flood into the area. Existing towns will grow and new towns will be built. Airports and communication facilities will be expanded. An[d] to get the products out, marine ports will be built and pipelines will be laid. Icebreakers and tankers will frequent the area.

This is not an unreasonable scenario. It is the logical outcome of what Norlands and the other operators in the North Baffin area hope to see happen. The Norlands EIS [Environmental Impact Statement] says: "In the event that commercial production is found, which is Norlands' objective, oil tankers could navigate through the region and supply eastern Canadian oil markets throughout much of the year. As an alternative, [an] oil pipeline could be built to a terminal on the southern tip of Baffin Island which tends to be ice free for a longer period of time."

Furthermore, we can already anticipate other developments that will proceed or follow Norlands[’] in Lancaster Sound. Petro-Canada, Shell and others have interests in the area and can be expected to develop their acreage. The proposed Polar Gas pipeline is west of the Sound, but it will have an impact on the wildlife that use the Sound. Alberta Gas Trunk Lines and Petro-Canada have a joint venture to bring 90 billion cubic feet of liquefied natural gas (LNG) through Lancaster Sound by tanker by 1983. They expect to file their application by November or December of this year[.] Transportation of oil by tanker through the Sound is under active consideration in both Canada and the United States. Cominco’s Arvik mine on Little Cornwallis Island is waiting for the year-round shipping capability that the oil and gas industry is developing. Arvik can be expected to come into production and generate its own traffic through Lancaster Sound in the 1980s. In addition, the Mary River Iron Mine on north Baffin Island, among many others, will blossom once year-round transportation is assured.

“Whiteman has said that the North should be developed in such a way that the Inuit will retain their culture. Unfortunately, whiteman’s idea of our culture is that we should keep our language so long as we also learn English; keep on carving so that they can own a genuine Eskimo carving; and retain drum dancing to amuse the tourists … if whiteman is really genuinely concerned about our northern culture then he should tread more lightly upon our land. We need the freedom to wander, to hunt for food, we need the pleasure of seeing and hearing the thousands of birds that grace our land … yet whiteman will risk the lives of those birds to see what is at the bottom of Lancaster Sound before their knowledge is great enough to drill with absolute safety. It makes me sad, this impatience of the whiteman. Because of his impatience there is pollution all over the world. Only one well? If they make the discovery are they just going to plug up the hole and head for home? I suggest that a positive find will mean that more wells will be drilled to determine the extent of their find, and the more wells drilled, the greater the chance of a spill. The decision you make could save us or destroy us. It is in your hands gentlemen.”

Titus Allooloo, Mayor,
Pond Inlet

BACKGROUND AND CONTEXT

The history of marine conservation in the Canadian Arctic is a story of reaction to the industrial exploitation of the Arctic, and of the determination of the original peoples of the Arctic to maintain their rights, their livelihoods, and their cultures.

The first recorded attempt to establish industry in Arctic Canada came when British captain Martin Frobisher thought he had found gold on Baffin Island. In 1576, Frobisher dug up some rock on Baffin Island while searching for a northwest passage across North America. After assayers back in England confirmed that it contained gold, Frobisher undertook two more expeditions to the region, returning with about 1,200 tons of ore. The ore turned out to be worthless and was used for some of the most expensive building material in history.

Apart from more voyages of exploration from Europe, the Canadian Arctic waters were then mostly ignored by all but the local Inuit for more than another 200 years. That situation changed when the Arctic experienced

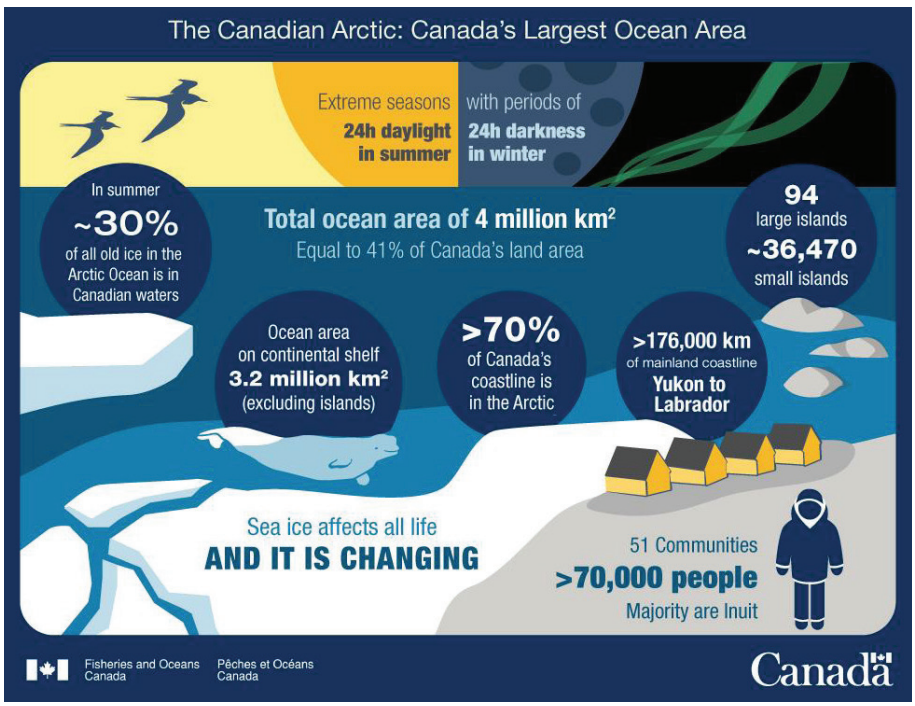

Figure 9-1: The Canadian Arctic: *Source:* Fisheries and Oceans Canada

its first oil rush. The rush was not for hydrocarbons, but for whale oil. The oil was used in many industrial applications and for lighting, including in streetlights. The baleen strips from filter-feeding whales were also profitable, providing a durable and flexible material for everything from corsets to fishing rods.

Whales in much of the rest of the world had already been decimated by the time two whaling ships found a way to cross Davis Strait and Baffin Bay from the Greenland coast in 1817. What followed was a frantic rush to exploit the bowhead whale population in the Canadian Eastern Arctic waters. In some years between 1820 and 1840, the many whaling ships killed more than 1,000 whales. In the 1850s, crews began to overwinter on and around Baffin Island, working with Inuit to catch whales in the spring, so that when whaling ships arrived, they could be loaded with whale products that had already been processed and packed. This increased contact proved deadly for local people. In 1853, cholera wiped out a third of the Inuit working with a whaling crew in Cumberland Sound. Measles, typhus, and scarlet fever also took their toll on Inuit.

While whaling was taking place in the Eastern Arctic, Western Arctic waters were still largely unused by anyone but local people until the late 1800s. Whalers coming from the west stayed in the region for about twenty-five years, until the whales were too few to bother. The whalers also established land bases where they worked with local Inuvialuit, particularly on Herschel Island in the Beaufort Sea, just north of mainland Yukon.

By the time that the First World War started in 1914, most of the whaling in the Canadian Arctic had ceased due to the whales' scarcity and the development of industrial replacements for whale oil and baleen. In 1931, the Geneva Convention for the Regulation of Whaling was the first of several international agreements concluded that mostly banned commercial whaling.

The most noteworthy development in Canadian Arctic waters in the early part of the twentieth century was the first recorded successful traverse of the Northwest Passage, the route above mainland North America linking the Atlantic and Pacific Oceans. Roald Amundsen and his crew completed the three-year trip in 1906, taking a boat from east to west. The Passage was not successfully navigated again until 1942, when the *St. Roch*, a Royal Canadian Mounted Police (RCMP) schooner, crossed the Passage in the other direction, from west to east, then back again from east to west in 1944.

Life in the seas around the Canadian Arctic were then once again mostly quiet until the start of the Arctic oil boom in the 1960s. The immense reserves of oil discovered in Alaska's Prudhoe Bay in 1968 signalled the start of the boom. From there, interest quickly moved to the Canadian Arctic. The interest was not just in finding oil in the Canadian Arctic, but also in shipping American oil through the Canadian Arctic.

In the summer of 1969, the SS *Manhattan*, Humble Oil's icebreaking supertanker, sailed through the Northwest Passage, carrying Alaskan oil to the refineries on the eastern seaboard of the U.S. It did so without asking permission, as the United States considered the Passage to be international waters. The next year, the Canadian government passed the *Arctic Waters Pollution Prevention Act* which imposed anti-pollution and marine safety standards for waters up to 100 nautical miles offshore. This extension of Canadian jurisdiction over Arctic waters was explained in the Act as being necessary for ecological reasons and the welfare of Inuit. A later amendment to the Act extended that jurisdiction to 200 nautical miles (except where that extends beyond the international boundary between Canada and Greenland).

The *Arctic Waters Pollution Prevention Act* did not stop oil and gas companies from exploring across Canadian Arctic waters. Much of the interest centred on the Beaufort Sea. Through the 1970s and 1980s, oil companies built on earlier geological work. They drilled dozens of exploratory wells, using both artificial islands and drill ships where the water was deeper. Several oil and gas fields were discovered. The largest discovery was that of the Amauligak field in 1984, about seventy-five kilometres northwest of Tuktoyaktuk in under thirty metres of water. The field is thought to contain 235 million barrels of oil and 1.3 trillion cubic feet of natural gas.

The development of the Amauligak field and others in the region was, and is, dependent on having some way to get the oil and gas to refineries and a market. There were two concerted attempts to get a pipeline built along the Mackenzie Valley to carry Beaufort oil and gas. The first was stymied by the desire of Indigenous peoples to settle their land and governance rights in advance of development (as supported by the findings of the Berger Inquiry). The second was obstructed by a change in the project economics that led the companies leading the pipeline push to withdraw (see chapter six on oil and gas development).

It is perhaps difficult now to understand the atmosphere surrounding Arctic marine oil and gas exploration in the latter part of the twentieth

century. Plans abounded, and industry and government publications and plans took for granted that some of the development plans were bound to stick. For instance, in 1980, the Department of Fisheries and Oceans set up an Arctic Offshore Development Committee to coordinate departmental advice on northern marine environmental issues. A Committee report from 1982 speaking of likely Beaufort Sea production says that "[p]roduction forecasts range between 150,000 to 1.5 million barrels of oil per day by the year 2000. In addition, there are proven gas reserves of six trillion cubic feet. Industry's plans suggest that oil may be produced as early as 1986-87."[1]

The potential of oil development is partly what provided the urgency for the Inuvialuit of the Western Arctic and the Inuit of the Eastern Arctic to conclude land claims. The Committee for Original People's Entitlement (COPE) was formed in the Western Arctic in 1970 and signed an agreement with the federal government in 1984. In discussing the background to that agreement, the website of the Inuvialuit Regional Corporation, the organization formed to administer the claim, says, "COPE feared that unless action was taken they would have no input in resource development. They were also concerned that most of the benefits from any development would flow south, with Indigenous people benefitting little."[2] Claims agreements gave local people a formalized role in the management of marine resources. In 1991, the Inuvialuit Game Council ratified the Beaufort Sea Beluga Management Plan. In 2010, the Inuvialuit were also involved in the establishment of the first Marine Protected Area in the Canadian Arctic. The 1,800-square-kilometre Tarium Niryutait Marine Protected Area is actually three separate areas where the Mackenzie Delta flows into the Beaufort Sea, and is a prime habitat for beluga whales and fish.

The Eastern Arctic also saw a flurry of interest in offshore hydrocarbons beginning in the 1970s. In 1974, the federal government issued an approval in principle for Norlands Petroleum Limited to start an exploratory drilling program in Lancaster Sound. That proposal eventually wound up in a 1978 public review by an environmental assessment review panel that in turn led to a collaboration between the federal and Northwest Territories governments on the 1981 Lancaster Sound Regional Study. The environmental assessment hearings, and the following public meetings related to the regional study, reinforced the opinion of many local Inuit that the Sound was too important to be exposed to the risks of offshore drilling. After decades of planning and negotiations, the Tallurutiup Imanga (Lancaster Sound) National Marine Conservation Area was created in 2019.

There were plenty of other proposed offshore developments in the Eastern Arctic during the 1970s and 1980s. The Sverdrup Basin, to the west of the High Arctic islands, is estimated to hold fourteen trillion cubic feet of natural gas and 300 million barrels of oil. However, the costs of development and transport, and the technical challenges of operating in extreme conditions, have meant that none of the offshore proposals led to producing wells.

The single oil well that has produced in Nunavut was actually on one of the smaller High Arctic islands. The Bent Horn field on Cameron Island was discovered in 1974 and produced 2.8 million barrels of oil between 1986 and 1996. The oil was shipped by tanker to Montreal, making the trip two or three times in a season.

The *Nunavut Land Claims Agreement* was signed in 1993. Like the COPE claim, this gave local people more of a formalized role in the management of marine areas. Each claim is structured a little differently. The Nunavut Agreement set up a body to explicitly oversee marine issues. According to the Nunavut Marine Council:

> The Nunavut Marine Council (NMC) was established by Section 15.4.1 of the Nunavut Agreement (NA), which allows the Nunavut Impact Review Board, the Nunavut Water Board, the Nunavut Planning Commission and the Nunavut Wildlife Management Board to, together as the NMC, or individually advise and make recommendations to other government agencies regarding the marine areas of the Nunavut Settlement Area. Government must consider such advice and recommendations in making decisions which affect marine areas.
>
> The objective of the NMC is to ensure the ongoing protection and wise use of the marine areas for the long-term benefit of Inuit and the rest of the public of Nunavut and Canada, in a manner consistent with the principles of Inuit Qaujimajatuqangit and of the Nunavut Agreement.[3]

While industry and Indigenous peoples were shaping the current state of the Arctic marine conservation environment, the government slowly entered the fray. In 1973, Canada unveiled its first Oceans Policy for Canada, partly spurred by the international efforts to regulate the seas. The Third United Nations Conference on the Law of the Sea took place that year and ultimately led to the United Nations Convention on the Law of the Sea in 1982. In 1987, Canada put forward another Oceans Policy. Neither policy was entirely satisfactory for many stakeholders because it was not backed up by a central

piece of legislation and there was no central organization on government policy. As the National Advisory Board on Science and Technology observed in its 1994 report, "As a result of the issues that have driven Canadian ocean policy development, and the current organization at the federal level, the ocean and marine-related policy environment is fragmented. Legislation, programs and initiatives are scattered among different departments. There has been no champion to pursue the opportunities that the ocean frontier represents, nor to respond to challenges of sustainable resource management."[4]

The current framework for oceans policy in Canada was set when the *Oceans Act* came into force on 31 January 1997. It provided for the development of a new national strategy to be developed collaboratively with other governments, Indigenous peoples' organizations, and coastal communities. The *Act* divides the work into three parts: marine protected areas, marine environmental quality, and integrated management plans.

In 2000, an integrated management initiative was established in the Beaufort Sea. The initiative included governments, the Inuvialuit, and industry representatives. A fact sheet created for the Beaufort Sea Integrated Management Planning Initiative describes integrated management as "… a way of making decisions and developing management plans that consider economic, ecological and social/cultural needs."[5] In 2009, the Beaufort Sea Partnership published an *Integrated Ocean Management Plan (IOMP) for the Beaufort Sea* that remains the foundation for continued work by the parties to the plan to realize its vision.

There is no integrated ocean management plan for the Eastern Arctic, although the federal government did fund the Nunavut Impact Review Board to conduct a strategic environmental assessment of Baffin Bay and Davis Strait. The review, published in 2019, was "to better understand the possible types of oil and gas related activities that could be proposed in Baffin Bay and Davis Strait and the potential risks, benefits, and management strategies related to these activities."[6] The report recommends that a "holistic and focused" marine plan be developed for the region.

Marine conservation efforts in the Canadian Arctic essentially began with the push to open up the region to oil and gas exploitation. Conservation efforts are now also being driven by the consequences of burning oil and gas in the rest of the world. Climate change has become a critical concern in the effort to conserve Arctic species and ecosystems, as well as the livelihoods and cultures of Inuit. One marine conservation response in the Canadian Arctic has been the push to protect areas that may become future climate

refugia. The World Wildlife Fund's (WWF's) "Last Ice Area" project advocated for the conservation of the areas in the Canadian Arctic where summer sea ice is projected to last the longest given the current and projected pace of climate change. In 2019, the federal government announced the creation of the Tuvaijuittuq ("the place where the ice never melts") Marine Protected Area to the north and west of Ellesmere Island. The area, comprising just under 320,000 square kilometres, is under interim protection for five years while talks between the federal government, the Qikiqtani Inuit Association, and the Government of Nunavut continue to explore longer term protection. In 2019, the standards for Marine Protected Areas also became more stringent, prohibiting oil and gas extraction, mining, dumping, and bottom trawling.

Notes

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MARINE CONSERVATION – MANAGING THROUGH A PHASE CHANGE

Clive Tesar

The previous part of this chapter showed how far Canada has come in Arctic marine conservation over the past fifty years. We have settled land claims with the Inuvialuit and Inuit, the peoples who have used the area for thousands of years and who continue to make up the majority of the residents along the Arctic shorelines. Those claims have led to a degree of co-management of the marine Arctic. We have set up Marine Protected Areas in the Arctic, in partnership with Arctic peoples, that now cover more than 323,000 square kilometres. Add the Tallurutiup Imanga National Marine Conservation Area to that, and the total is almost 432,000 square kilometres. There is now the *Oceans Act* to focus government attention and resources on the marine realm, and a start has been made on integrated ocean management planning.

The Arctic oil boom that drove some of these developments is now mostly a bust. In December 2016, the federal government made the Canadian Arctic off limits to future oil and gas licensing. This designation is indefinite, but is to be reviewed every five years. There are still holders of existing exploration licences, but no work has been done in the Canadian Arctic in the past few years. And as is argued in the chapter on oil and gas, economics and a global shift away from fossil fuels may well mean that Canadian Arctic offshore hydrocarbons will stay in the ground.

This does not mean that this will be a short chapter and that the Arctic marine environment requires no further conservation efforts. For a start, while oil and gas development are in a lull, other forms of resource exploitation are not. A longer shipping season in the Arctic is emerging as the months of sea ice cover shrink. A Canadian government report notes that "summer sea ice area (particularly multi-year ice area) declined across the Canadian Arctic at a rate of 5% per decade to 20% per decade since 1968 (depending on region)."[1] The report anticipates that this trend will continue, further expanding the ice-free season in the coming decades.

This makes the Canadian Arctic more attractive to miners, particularly those mining base metals that need to be shipped from the region in large quantities to be refined. There is already a major mine operating in the Canadian Arctic. The Mary River Mine has been taking iron ore from a mine

near the north coast of Baffin Island. For 2020, that meant 100 ship voyages to and from the mine. A proposal to double the mine's output would mean 176 voyages for ore carriers between July and November each year – this does not include other project-related shipping, such as fuel for the project. Shipping passes by the community of Pond Inlet. Some people there are worried that an increase in shipping will have an impact on marine mammals, particularly narwhals. A review of the project's expansion by the Nunavut Impact Review Board is in process at the time of publication.

Another long-planned coastal mining project is in the Central Arctic. The Grays Bay Road and Port project is the latest iteration of various plans over the past thirty years to put a port in the Coronation Gulf (some previous plans said Bathurst Inlet) to connect to known metal deposits inland and ship them out. The latest plan has some momentum. In 2019, the federal government committed $21.5 million for preparatory work leading to the first phase of construction.

Shipping unconnected to resource development has also been increasing in Canada's Arctic waters. Some of this is connected to tourism. This was exemplified in 2016 when a luxury cruise ship with more than 1,500 people on board went through the Northwest Passage. The number of people cruising the Northwest Passage has been increasing from 124 passengers in 2008 to 1,199 in 2017.[2]

There is speculation that the Northwest Passage will also be used increasingly as a transit route for shipping goods. However, several writers on the subject of Arctic shipping have noted that the multi-year ice that flows through the Northwest Passage is still a formidable barrier to most commercial shipping and is expected to remain so for several decades. To give an idea of the current use of the Passage as a shipping route, four complete transits were made in 2019 by ice-strengthened cargo ships.

The development potentiated by climate change is part of the challenge facing Arctic marine conservation in the coming years, but a larger challenge will be the changing climate itself. There are several Canadian and international reports outlining the climate-driven changes being observed, the further changes that are anticipated, and the potential ecosystemic impacts of those changes. The list that follows is not intended to be a comprehensive listing of the changes and their impacts, but gives some of the main points:

- The Canadian Arctic is mostly changing from a system dominated by sea ice for much of the year to a system that will contain sea ice for a much shorter period. For instance, the Natural Resources Canada

(NRCan) report on *Canada's Changing Climate* referred to in the endnotes for this chapter estimates that under a high emissions scenario, Hudson Bay will be ice-free for four months of the year by 2050, rather than the current two months.

- The change from a system dominated by sea ice to increasing amounts of open water will bring changes to the life that inhabits Arctic waters. These impacts touch every corner of Arctic food webs. The timing and location of plankton blooms and the types of plankton present are projected to change. Changing food and changing water temperatures are altering what types of fish will use Arctic waters. These changes in fish may affect the feeding and breeding of fish-eaters, whether marine mammals or the millions of migratory seabirds. Marine mammals that rely on sea ice for breeding or feeding will likely be directly affected by the increased ice-free seasons. These animals include some seal species, walrus, and polar bears.[3]
- The arrival of new species and changes to the numbers and residency periods of visiting species are also likely to have effects on resident species. For instance, there is evidence that killer whales are spending longer in the Arctic, and penetrating deeper. These top predators eat seals, belugas, narwhals, and bowhead whales.
- The increased amounts of carbon dioxide in the atmosphere are changing the chemistry of the Arctic Ocean. As Arctic waters become more acidic, there are concerns that some species such as marine snails will have trouble building the shells they need.

The same reports that note the existing changes and the changes to come agree in another important respect: that no matter what the rate of response from the world's states and peoples, a certain increase in the changes to Arctic ecosystems is already locked in. The global climate system is like a big freighter – turning it or slowing it takes a long time. As the *Arctic Climate Change Update 2019* from the Arctic Council's Arctic Monitoring and Assessment Programme puts it, "Efforts to reduce greenhouse gas emissions over the coming years can limit the extent of Arctic climate change, especially after mid-century, but the Arctic of the future will certainly be very different regardless of the emissions scenario."[4] What this means is that marine conservation policy responses cannot be idle, hoping for a time when the Arctic returns to the place it has been for most of the human experience. The policy responses must anticipate a new Arctic and be able to respond to what the new Arctic brings.

The first suggested anticipatory policy response is to identify and protect resilient features that are important to life in the Canadian Arctic. Happily, this has already begun in the Canadian Arctic. The most obvious place to start is to look at sea ice, which is the aspect of the marine environment most under threat from climate change. Several observers have noted that the sea ice above the Canadian Arctic Archipelago is the thickest and most robust ice in the Arctic from year to year, containing the highest concentration of multi-year ice. This is what has been dubbed the "Last Ice Area" by the World Wildlife Fund (WWF), a term that has been picked up and used by government agencies and other authors. As the ice recedes in other parts of the Canadian Arctic for more of the year, it is reasonable to assume that the Arctic life that is best adapted to ice may well follow the ice and that pockets of the most resilient ice may well become climate refugia for some species.[5] This assumption is not proven. Modelling the response of individual species to change of the projected magnitude is extremely difficult. To date, studies suggest that narwhals and polar bears are likely to be the hardest hit of the marine mammals associated with sea ice, but those studies cannot say if the Last Ice Area or other pockets of sea ice will be able to sustain populations of these animals for a longer period. It is even more difficult to model what will happen to entire ecosystems and whether they are sustainable in sea ice refugia.

Another area-based conservation approach involves taking a less species-specific lens. Rather than the goal of conservation being to conserve existing species and ecosystems, it could instead be focused more on conserving likely locations of future productivity.[6] It may mean conserving habitat for salmon rather than char, Atlantic cod rather than Arctic cod, harbour seals rather than ringed seals, and so on. This approach would mean reducing human impacts on areas that currently support the abundance and biodiversity of species and that are likely to continue doing so, even if the species that are supported change in whole or in part. For instance, both seamounts and river deltas are currently known to be ecological hotspots and are likely to continue to be so in the future due to the persistence and permanence of the physical features that have encouraged life. Where life is encouraged by features that are or may be transient, such as the sea ice edge and particular currents, it is harder to project their location in the future.

The other anticipatory policy area to help Canadian Arctic ecosystems and peoples adapt is simple and radical: create room and leave room for local people to take the lead. In the Canadian Arctic marine realm, this means the

involvement of Inuit. Inuit have been and continue to be primarily coastal and marine people in Canada. Of the fifty-three Inuit communities recognized by the government in Canada, fifty-two are on the coast. Inuit cultural traditions are rooted in the marine realm of the Arctic, whether in ice or in open water. Many Inuit continue to rely on the ocean for their livelihoods, whether it is subsistence or paid work, such as the growing Arctic fisheries. Simply put, Inuit have the biggest stake in the continuing health and productivity of the Canadian Arctic marine realm.

Inuit do have some say in managing the marine realm. Modern agreements with the Canadian government recognize Inuit land and governance rights. The rights articulated in these agreements typically provide Inuit with an avenue for input in decision-making, but do not give them control. For instance, Article 15 of the *Nunavut Agreement* says that the co-management boards established under the agreement may "…advise and make recommendations to other government agencies regarding the marine areas, and Government shall consider such advice and recommendations in making

> Our rights as an indigenous people include the following rights recognized in the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP), all of which are relevant to sovereignty and sovereign rights in the Arctic: the right to self-determination, to freely determine our political status and to freely pursue our economic, social and cultural, including linguistic, development (Art. 3); the right to internal autonomy or self-government (Art. 4); the right to recognition, observance and enforcement of treaties, agreements and other constructive arrangements concluded with states (Art. 37); the right to maintain and strengthen our distinct political, legal, economic, social and cultural institutions, while retaining the right to participate fully in the political, economic, social and cultural life of states (Art. 5); the right to participate in decision-making in matters which would affect our rights and to maintain and develop our own indigenous decision-making institutions (Art. 18); the right to own, use, develop and control our lands, territories and resources and the right to ensure that no project affecting our lands, territories or resources will proceed without our free and informed consent (Art. 25-32); the right to peace and security (Art. 7); and the right to conservation and protection of our environment (Art. 29).
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> ***Inuit Circumpolar Council, "A Circumpolar Inuit Declaration on Sovereignty in the Arctic" (2009)***

decisions which affect marine areas."[7] Inuit may also exercise management authority in Marine Protected Areas. For instance, the governance of the Tarium Niryutait Marine Protected Area in the Inuvialuit region involves several Inuvialuit organizations. On a national basis, the Canadian government has introduced legislation (C-15) to implement the United Nations Declaration on the Rights of Indigenous Peoples.

There is evidence that the local management and control of resources is a desirable feature of climate adaptation. In the Arctic Council's *Adaptation Actions for a Changing Arctic: Perspectives from the Baffin Bay/Davis Strait Region*, the questions of adaptation and resilience are considered. As it concludes, "There is a need for deeper involvement of regional and local leadership in adaptation decision-making."[8] This is echoed by a recent document on marine governance produced by the Inuit Circumpolar Council. "With all the changes occurring in the Arctic, there is an urgent need for management practices that are adaptable and holistic. Participants commented that management practices and regulations must be revised and adapted to remain current and relevant within the changing climate and empower Inuit to use rules/practices that have worked for thousands of years."[9] Increasing the Inuit management of marine resources to better enable the adaptation and resilience of both human and ecological systems should happen at three levels: the local, the regional, and the international.

At a local level, food security is an important driver for people to engage in marine management issues. Food insecurity levels in Inuit Arctic communities are appallingly high. According to a 2017 study by Statistics Canada, 52% of Inuit in Arctic communities aged twenty-five and over lived in a household that had experienced food insecurity in the previous year.[10] For people who get much of their food from the sea, the implications are clear. A winner of the Arctic Inspiration Prize in 2021 is a project (Niqihaqut – "our food" in English) originating in the community of Taloyoak. A news release celebrating the project notes that country (locally harvested) food is "…increasingly inaccessible due to poverty, climate change and cultural loss."[11] Besides enabling local food harvest and distribution, the project is also intended to form a management plan for a proposed Inuit Protected and Conserved Area in the region. As noted earlier, Inuit are increasingly able to assert more management and governance control over Marine Protected Areas. The emerging model of Indigenous Protected Areas may allow for increasing those levels of control, and may give communities the ability to better protect and manage food sources through the coming climate-driven changes.

While exercising increased control at a local level is one part of the picture, it does not fill the need for an increased local voice in marine conservation. As Inuit are acutely aware, the abundance and diversity of local marine resources are linked to much larger systems and, consequently, to much larger decision-making fora. To help protect these larger systems, Inuit have begun efforts to become part of the larger decision-making fora. This can take a regional shape, such as the push for Inuit management of the Pikialasorsuaq ("the great upwelling" in English). The Pikialasorsuaq is the largest polynya (area of water that remains open in the winter) in the Northern Hemisphere, and a source of great biodiversity and abundance. It is situated between Canada and Greenland, and so jurisdiction is shared. Inuit in Canada and Greenland formed a commission to look at the future of the Pikialasorsuaq, and in a report recommended the creation of an Inuit-managed protected area. The Canadian government's Department of Fisheries and Oceans says it has "…begun engaging with key Canadian Inuit partners in support of the report's recommendations, and has initiated discussions with the Government of Greenland and the Kingdom of Denmark, as Greenland is part of the Kingdom of Denmark."

The need for Inuit to engage in larger decision-making processes to advance marine conservation goes beyond the regional scale to the fully international scale. Shipping is the industry likely to have the largest impact on the Arctic marine realm as sea ice recedes. The International Maritime Organization (IMO) is the United Nations (UN) agency that sets rules for shipping, including a "polar code" for shipping in the Arctic and Antarctic. The Inuit Circumpolar Council (ICC) has sent representatives to various IMO meetings over the past few years in an attempt to ensure that the body gives more weight to marine conservation issues. At the time of writing this in 2021, the ICC is currently trying to gain consultative status at the shipping organization so it can be better assured of a hearing. Under IMO rules, only states can be full members. The ICC is also involved in the current UN-sponsored discussions on biodiversity beyond national jurisdiction. About 2.8 million square kilometres of the Arctic Ocean are currently beyond the control of Arctic states. As climate change continues to alter the composition of ecosystems and the locations of species, the areas beyond national jurisdiction may become increasingly important to local marine conservation efforts. The discussions taking place at meetings of the Convention on Biological Diversity may well end up helping to set important conservation tools, such as high seas Marine Protected Areas. However, as in all United

Nations Conventions, Inuit can observe and speak, but since they are not a "state party," they cannot play a direct role in the negotiations unless they are invited by states to be part of their national delegations.

In summary, the future of Canadian Arctic marine conservation will depend on two things:

1. the ability and willingness of governments and local people to identify and protect locations where existing species and systems may best persist, and where biodiversity and abundance are likely to persist; and
2. the willingness of governments to make space for Inuit to take an increasing role in the management and governance of marine conservation, from the local to the global scale.

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NORTHERN RESEARCH AND INDIGENOUS KNOWLEDGE

Terry Fenge

Northern Perspectives 25, no.1 (Summer 1997)

The November 1996 issue of the respected journal *Policy Options* included an article by Albert Howard and Frances Widdowson that rebuked attempts to incorporate traditional ecological knowledge (TEK) in environmental assessment of resource development projects. In a "take no prisoners" approach, the authors suggest that TEK is spiritually based and that its incorporation in the Broken Hill Proprietary (BHP) assessment processes was resulting in the "imposition of religion on Canadian citizens." They opine:

> The integration of traditional knowledge hinders rather than enhances the ability of governments to more fully understand ecological processes since there is no mechanism, or will, by which spiritually based knowledge claims can be challenged or verified. In fact, pressure from aboriginal groups and their consultants has made TK [(traditional knowledge)] a sacred cow for which only uncritical support is appropriate. Traditional knowledge is thus granted a sanctity which could lead to the acceptance of incorrect conclusions.

Because traditional knowledge can be "anything that [its] holders say it is," the authors suggest it will be used to justify over-exploitation of natural resources. Citing, as an example, Inuit harvesting of Bowhead whales, they warn against Aboriginal groups regulating use of renewable resources. They accuse the federal government of "appeasing" and "buying off" Aboriginal groups by attempting to integrate TEK in decision making and, finally, they

express "astonishment" that Aboriginal leaders would suggest that traditional knowledge is "intellectual property" for which holders should be paid. Uncompromising stuff.

The Canadian Arctic Resources Committee has always supported the inclusion of TEK in land- and resource-use planning and environmental assessment. CARC believes that incorporating TEK in decision making will help to implement principles of sustainable development adopted by the federal and two territorial governments and enshrined in various international agreements to which Canada is party. Moreover, representation of Aboriginal peoples [in] institutions to manage natural resources provides an excellent vehicle to integrate scientific and traditional ecological information -- a means of seeking and defining the public good rather than the alleged appeasement.

Interest in TEK has mushroomed in the last ten years. Academics now teach courses on it; the Government of the Northwest Territories has a policy on how it should be considered and used; and the recently proclaimed *Canada Oceans Act* mandates federal agencies to consider TEK in promised strategic ocean-use planning and management. And it is not only in Canada that TEK is generating interest. The 1987 Report of the World Commission on Environment and Development, and Agenda 21, agreed to at the Rio de Janeiro Earth Summit in 1992, urge governments to recognize, use, and help preserve the knowledge that Aboriginal peoples have of their natural environment. The Convention on Biological Diversity, also agreed to in Rio, includes the convoluted but justly celebrated clause 8(j) committing contracting parties (including Canada) to:

> Subject to its national legislation, respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity and promote their wider application with the approval and involvement of the holders of such knowledge, innovations and practices and encourage the equitable sharing of the benefits arising from the utilization of such knowledge, innovations and practices....

Who better to respond to Howard and Widdowson than Aboriginal peoples themselves, willing to share their knowledge and understanding of their environment with their fellow Canadians? This issue of *Northern Perspectives* introduces *Voices from the Bay* -- a new book five years in the making -- co-published by CARC and the Environmental Committee of the

Municipality of Sanikiluaq, a small Hudson Bay Inuit community on the Belcher Islands. This book draws upon and records the TEK of Inuit and Cree resident in 28 communities on the shores of Hudson and James bays and Hudson Strait.

In the late 1980s and early 1990s residents of communities around Hudson and James bays nervously anticipated construction of the Great Whale hydro project. Having already completed development of La Grande River, Hydro-Quebec intended to develop first the hydro potential of the Great Whale and then of the Nottaway-Broadback rivers. Similar but smaller developments had been completed or were proposed in northern Ontario and Manitoba; for example, the Conawapa hydro project in northern Manitoba was under serious consideration.

Cree and Inuit residents downstream from these developments feared for their future and for the health of their environment. Following extensive political and legal action, primarily by the Grand Council of the Crees of Quebec, an environmental assessment of the Great Whale project was put in place. Notwithstanding its sole jurisdiction over Hudson and James bays, the federal government cited sensitive federal-provincial relations in justifying its decision not to insist on analysis of the project's offshore impacts. Moreover, neither the federal nor the provincial governments were thinking of an environmental assessment of the combined effects of existing and proposed development. All bowed to the intellectual merits of such an exercise, yet each jealously guarded the ability to act freely and singly.

It was in this potentially dispiriting milieu that CARC, Sanikiluaq, and, initially, the Rawson Academy of Aquatic Science proposed the Hudson Bay Programme. The programme sponsored a TEK study and proposed to show how science and TEK might be integrated in a combined effects assessment and how it might help to implement sustainable development policies and programmes to help define the bays' "carrying" and "assimilative" capacities -- their limits to withstand development.

Carried out between 1992 and 1995, the study was supported financially by a wide range of interests: the federal and territorial governments, Canadian and American foundations, electric utility companies, regional Aboriginal organizations, and members and supporters of CARC.

A very interesting picture of the Hudson Bay bioregion emerges through TEK. The pace of ecological change in the bioregion seems to be accelerating. Drawing upon close and continual observations of their environment while hunting, fishing, trapping, and gathering and from information passed

down from previous generations, and using a wide range of "indicators" often based on animal behaviour, Cree and Inuit are able to record, map, and articulate explanations for what they see going on. In this manner they provide both a picture of their immediate environment and a record of changes to it over time.

This is important because comprehensive scientific studies in the North are expensive and rare. Data are often limited to the last ten to twenty years, making it difficult to establish trends over long periods. Most TEK studies have been carried out by credentialled experts from universities or governments who have interviewed hunters or fishers. Their work tends to concentrate on individual species of wildlife such as the barren-ground caribou or beluga whale to map the distribution and abundance of these animals. This approach sees TEK as a supplement to ecological and biological data collected scientifically.

Voices from the Bay documents a study very different in scale, methodology, and outcome and which sets a new standard in TEK research. Rather than dwelling on individual species, this approach, developed by the Environmental Committee of Sanikiluaq, sees TEK as complementary to scientifically collected data and paints a picture of ecological change in a huge portion of Canada. Information was gathered, verified, and analyzed in workshops and meetings by Cree and Inuit themselves in their own languages. Indeed, one interesting outcome of the study was greater understanding between Cree and Inuit, who -- although they live in different parts of the bioregion and rarely meet -- readily shared and exchanged information. They hope all will listen to their voices and benefit from their knowledge -- a far cry from the proprietary attitude attributed to Aboriginal peoples by Howard and Widdowson.

BACKGROUND AND CONTEXT

"Canada's North has significant geo-political, environmental and cultural variations that make conducting research in the region both exciting and challenging," Polar Knowledge Canada's online portal notes. In particular, it highlights how "Indigenous Knowledge (IK) is a body of knowledge generated through lived experiences, and multiple generations of observations,

skills, cultural practices and analyses. IK is fundamentally important to the practical application of science and research in the North."[1] There are many definitions of what constitutes Indigenous knowledge, and also many terms that have been applied to the concept. The Assembly of First Nations in Canada explains that:

> Aboriginal Knowledge [(AK)] is not something that is easily defined or categorized. In a general sense, Aboriginal Knowledge is any and all knowledge that is Aboriginal in nature, content, origin, or character. The term Aboriginal Knowledge is understood to describe knowledge informed by aboriginal paradigms as applied to skills, understandings, expertise, facts, familiarities, beliefs, revelations and observations. Furthermore, AK is understood to include the customary ways in which aboriginal peoples have done or continue to do certain things, as well as the new ideas or ways of doing things that have been developed by Aboriginal peoples and which respect their traditions, cultures and practices. Many of these customary ways have been passed on from generation to generation and must be considered as sacred.

In turn, some Indigenous people worry that the very practice of integrating traditional knowledge into Western scientific methods represents yet "another form of colonization and exploitation, where knowledge is categorized into hierarchies and AK can be devalued, exposed, abused or used against Aboriginal empowerment to self-govern their resources."[2]

Northern research has changed significantly over the last half-century. As governments and developers turned North to seek out economic opportunities, CARC emphasized the environmental and social implications of proposed projects, vigorously promoting the importance of baseline data and ongoing monitoring to gauge effects and impacts. "Adequate ecological baseline data in northern regions do not exist because research is inadequately funded and because the region's relative remoteness and sometimes harsh weather conditions limit the research season and increase costs," John Sallenave wrote in *Northern Perspectives* in 1994. "Policy makers cannot control the weather conditions of the North; however, they can address inadequate funding by reallocating existing government research funds to reflect the growing need for and importance of research in the North and by including local aboriginal residents – hunters, fishermen, elders, etc. – as members of the impact assessment research teams."[3]

Initiating and sustaining partnerships with local organizations and community members has become a key expectation and priority for southern-based researchers and for Northerners. Research associated with the International Polar Year, the Northern Contaminants Program, and ArcticNet "encompass real success stories of partnership between scientists and Indigenous peoples, and have greatly advanced our understanding of Arctic ecosystems" and the societal needs in the region.[4] Myriad examples now transcend the traditional partnership ethos driven by southern research agendas, priorities, and project leads. The Tsá Túé International Biosphere Reserve, designated by the United Nations Educational, Scientific and Cultural Organization (UNESCO) and led by the Dene of Dél̨nę, for which the Dél̨nę Got'ı̨nę government developed its own research and monitoring plan that reflects community priorities for scientific collaboration, is a case in point.[5]

Inuit Tapiriit Kanatami and the Nunavut Research Institute insist that "Canadian researchers and policy-makers need to embrace a model of Arctic research that is grounded in partnerships between northern communities and scientists. Science and Indigenous knowledge can contribute to a better future for people living in the Arctic, but only if we improve how knowledge is developed, exchanged and used in policy creation and decision-making processes. Canada needs to prioritize collaborative research that is directed by community interests and gives northerners much more control over research projects and outcomes."[6] While there are many examples of university-led and partnership-based research programs, Northern advocacy organizations and the territorial governments emphasize the need for more locally led research that is accessible through regionally based institutions. They also highlight the importance of sharing the results and benefits of research in ways that are relevant to the communities where the research is conducted.[7]

The federal government has made strong pledges to support science, knowledge, and research that are meaningful for communities and for decision-making that is consistent with Northerners' insistence that there be "nothing about us without us." At the regional roundtables that informed the development of a new Arctic and Northern Policy Framework (ANPF) over the last five years, participants often highlighted the value of both Western science and Indigenous knowledge, the relationship between communities and researchers in creating knowledge, and the place of Indigenous peoples in research projects. These conversations reinforced a strong push

for enhanced local and Indigenous involvement in setting research priorities and conducting various forms of research. This entails expanding the research capacity of communities and strengthening local and regional research infrastructure and institutions, as Jamal Shirley elaborates upon in the following reflection. Towards these ends, the Government of Canada has committed to "work[ing] to fill knowledge gaps in the Arctic and the North in a way that is responsive to the needs of local governments and people, … enables and encourages their participation in all aspects of the research process, … and define[s] knowledge inclusively, embracing the contributions of Indigenous knowledge as well as western science."[8]

Surging international interest in Arctic resources, the socio-economic and cultural impacts of development, and the human and environmental impacts of climate change continues to amplify the importance of Northern research and Indigenous knowledge. The ANPF observes how:

> increasing numbers of domestic and international resource developers are being drawn to the region, resulting in a mix of optimism about economic prospects and concerns about potential environmental, social and security impacts. Higher levels of activity also increase the acute security risks associated with irregular movements of people and goods, the pursuit of foreign interests and human-induced disasters. As a whole, these changes highlight the importance of enhancing situational awareness across the region, and of promoting research and observation, including charting and mapping, that will provide the information necessary for sound decision-making.

Accordingly, the ANPF celebrates collaborative approaches to research that bring together Indigenous organizations, Northern communities, federal and provincial agencies, and the private sector to better determine how changes affect communities and biodiversity. In turn, these research relationships build capacity and support informed, data-driven policy and decisions that can help Arctic and Northern communities build resiliency in the face of climate change. Meeting these objectives would realize several of CARC's longstanding goals.

As government, academic, and Indigenous practitioners strive to adopt research methods that embrace and reflect Indigenous cultural values, "decolonize" research, and promote reconciliation, the diversity of Arctic research – in terms of worldviews, theories of knowledge, and practices of conducting research – will invite ongoing discussion and debate. What gaps in baseline knowledge, monitoring, and assessment must be addressed?

What types of research and what forms of knowledge are privileged? How can we achieve an appropriate balance between Western objectivist scientific approaches and those rooted in Indigenous knowledges and experiences, and are there situations where these ways of knowing produce results that are incompatible?[9] Whatever the answers, Northerners are demanding a say in what research is conducted in the region to fill the knowledge gaps that matter to them, and are actively changing the way that knowledge is gathered, created, and shared in the twenty-first century.

One final note on the *Voices From the Bay* project and book: it helped foster a groundswell of community capacity in Sanikiluaq that continues to this day. The Sanikiluaq-based Arctic Eider Society continues to set standards in community-driven and community-based research and is sharing its expertise more broadly in the region.[10] The community is also continuing its work on the creation of a new national conservation area, Qikiqtait, which recently was awarded $5.5 million from the Canadian Nature Challenge Fund.[11]

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A GLIMPSE INTO THE FUTURE FOR CANADIAN ARCTIC AND NORTHERN RESEARCH: A CASE FOR STRENGTHENING THE ROLE OF THE NORTHERN RESEARCH GATEKEEPER

Jamal Shirley

In 2020, the journal *Facets* featured an article written by a group of Yukon residents with diverse backgrounds in research, policy, and Indigenous knowledge, entitled "Towards reconciliation: 10 Calls to Action to natural scientists working in Canada." The authors were motivated to write these Calls to Action after witnessing continued examples of natural scientists treating Yukon Indigenous communities with "blatant disrespect or with profound ignorance of Indigenous rights without realizing how much research can benefit from an Indigenous perspective."[1] Although the authors focus on Yukon, their basic frustrations with research have been echoed in other Northern jurisdictions (particularly in Nunavut). The suite of actions that the authors direct researchers to undertake in pursuit of more respectful, beneficial, and responsible research are also applicable and relevant across the North.

What makes the Calls to Action from Yukon so salient is not just the fact that they are so practical, direct, attainable, and appropriate, but that they were clearly written from the perspective of a group of embedded Northern research gatekeepers. By gatekeepers, I am referring to the many Northern residents who serve on panels, committees, boards, advisory groups, and other bodies at the regional and community levels that meet multiple times each year, at the behest of research granting and permitting bodies. They painstakingly review requests from researchers seeking permissions (and/or funding) to undertake research on Indigenous lands or in/with Indigenous communities. Gatekeepers are expected to read and understand lengthy technical proposals to evaluate and rank researchers' plans to train, engage, communicate, and consult with community members. Reviewers are also asked to assess the local relevance of research and determine whether a proposed study appropriately incorporates Indigenous knowledge and respects Indigenous rights, and evaluate the degree to which ethical considerations (such as free, prior, informed consent) are sufficiently addressed. Assessing these criteria for individual projects is incredibly challenging given the range of research approaches and methodologies to be employed, dynamic and

Calls to Action to natural scientists working in Canada

Call 1: We call on natural scientists to understand the socio-political landscape around their research sites.

Call 2: We call on natural scientists to recognize that generating knowledge about the land is a goal shared with Indigenous peoples and to seek meaningful relationships and possible collaboration for better outcomes for all involved.

Call 3: We call on natural scientists to enable knowledge sharing and knowledge co-production.

Call 4: We call on natural scientists studying animals to seek out advice from Elders for respectful ways of handling animals

Call 5: We call upon natural scientists to provide meaningful opportunities for Indigenous community members, particularly youth, to experience and participate in science.

Call 6: To decolonize the landscape, we call on natural scientists to incorporate Indigenous place names as permitted.

Call 7: We call upon natural scientists and their students to take a course on Indigenous history and rights.

Call 8: We call on funding bodies to change approaches to funding.

Call 9: We call on editors of all scientific journals to recognize that publication of research on Indigenous Knowledge and cultural resources require[s] review and permission from the respective Indigenous communities.

Call 10: Finally, we call on all natural scientists and post-secondary research institutions to develop a new vision for conducting natural science: fundamentally mainstreaming reconciliation in all aspects of the scientific endeavor, from formulation to completion.

Excerpted from Carmen Wong, Kate Ballegooyen, Lawrence Ignace, Mary Jane (Gùdia) Johnson, and Heidi Swanson, "Towards reconciliation: 10 Calls to Action to natural scientists working in Canada," *Facets* 5/1 (January 2020).

variable local expectations, protocols, and capacity for research engagement, evolving community research priorities, competing interests, and the extent of research saturation and fatigue.

In the years ahead, Northerners are bracing for a potential post-COVID research rush that may see a significant increase in the number of researchers seeking permission to travel to Indigenous homelands in Canada's North to resume or initiate field studies that were cancelled or postponed during the pandemic. The average number of licences issued by the Nunavut Research Institute for physical and natural sciences research in Nunavut during 2020 and 2021 plummeted by about 50% compared to the annual average issued in years prior to the pandemic. This was due to restrictions on travel to Nunavut and the temporary closures of research logistics support facilities (such as the Polar Continental Shelf Program station in Resolute Bay/Qausuittuq) to prevent the spread of COVID-19. Interestingly, the number of Nunavut residents participating in field research activities increased significantly across all disciplines during the pandemic, as community members were actively engaged to plan and execute successful research field campaigns on behalf of non-resident scientists unable to travel to Nunavut.

Nunavut's experience of community leadership in research during COVID-19 is an emerging story, but it illustrates the central role that Indigenous Northerners must play in co-designing, coordinating, and leading future Arctic observing activities in order for those activities to remain resilient and sustainable in a future where a new pandemic may again suddenly curtail the free movement of researchers across international or national borders. Indigenous leadership in future sustained Arctic observing will be fostered through new social media platforms and observing tools such as the award-winning SIKU mobile app and web platform, which allows Inuit communities to collect, share, and manage diverse observational datasets in an ethical space that protects Inuit intellectual property.[2] Also of importance will be novel social enterprise capacity models such as SmartICE (Sea-ice Monitoring and Real-Time Information for Coastal Environments) that empower Inuit to monitor and assess changes in important physical environmental conditions (e.g., sea ice thickness) in real time, according to Inuit knowledge and using innovative new technologies.[3] Community-based research groups in Nunavut and throughout the North are embracing the use of drones, AUVs (autonomous underwater vehicles), AISs (automatic identification systems), satellite remote sensing, digital atlases, and a suite of other technologies to collect, document, share, and manage many types of data and information.

As climate change becomes an increasingly urgent global issue, we can anticipate new investments in Arctic and Northern research, both within Canada and internationally. Some of the new funding will likely flow through innovative funding models such as the Canada-Inuit Nunangat-United Kingdom Arctic Research Programme,[4] which requires that funding recipients work in full partnership with Inuit in designing and undertaking research. However, the new funding may also spur an increase in the number of projects led by international scientific teams unfamiliar with the specific requirements for ethical research conducted in the Canadian North. Concurrently, the demand for new Northern-led "social-cultural" research ethics review processes will also grow as funding agencies strive to comply with new Indigenous research protocols and frameworks such as the Inuit Tapiriit Kanatami's *National Inuit Strategy on Research*.[5] As the writers of Yukon's Calls to Action make clear, Northern gatekeepers provide essential oversight and vetting on the ground to determine whether individual research plans are respectful, responsible, feasible, and appropriate.

The number of Northern community residents who review, coordinate, support, design, plan, and conduct research activities is actually quite small, and many individuals wear multiple hats in the research ecosystem. The large demands on community members' time for engagement creates the potential for research fatigue and burn-out, which is in turn a threat to building and sustaining community support for new research projects. The need to focus energies and time on reviewing research proposals and applications from external proponents is often exhausting and detracts from the time that community members would like to allocate to developing their own independent research projects and partnerships. Local research gatekeepers have also expressed frustration when they receive applications for research projects that seem identical (in terms of the research questions, objectives, and methods) to other research previously carried out in the community.

Concerted efforts to develop the next generation of Northern research practitioners and gatekeepers will require broad educational efforts (e.g., better STEM – science, technology, engineering, and mathematics – education from kindergarten to Grade 12 levels; continued investments in an Inuit Nunangat university; applied community-based "hands on" training in research ethics and study design, as well as in the use of new research and data acquisition technologies; and training in culturally appropriate methods for documenting, analyzing, and managing Indigenous knowledge). A key priority for training and educational efforts must be to narrow the glaring

gap that exists between Indigenous and non-Indigenous Canadian students in math and science numeracy and literacy.

Researchers working in the Canadian North across all disciplines, and notably in the physical/natural sciences, will be increasingly called upon to adopt approaches and practices that help advance the process of reconciliation between Indigenous and non-Indigenous Canadians, as envisioned by Canada's Truth and Reconciliation Commission. The progression of research relationships in Canada's North may proceed along any number of potential trajectories, but all signs point to a future where Northern and Indigenous leadership and oversight at the community level are of paramount importance in deciding what gets researched, how, when, and by whom. In most cases, this should mean that, increasingly, Northern research is planned, approved, and executed by Northerners, and where they wish to extend partnerships to those outside the region, that will be at their initiative.

Notes

1. Carmen Wong, Kate Ballegooyen, Lawrence Ignace, Mary Jane (Gùdia) Johnson, and Heidi Swanson, "Towards reconciliation: 10 Calls to Action to natural scientists working in Canada," *Facets* 5/1 (January 2020): 771.

2. SIKU – The Indigenous Knowledge Social Network, https://siku.org.

3. SmartICE Sea Ice Monitoring and Information Inc., https://smartice.org.

4. Polar Knowledge Canada, "United Kingdom-Canada Inuit Nunangat and Arctic Region Research Programme will support Inuit self-determination in research," Government of Canada, 7 May 2021, https://www.canada.ca/en/polar-knowledge/news/2021/05/united-kingdom-canada-inuit-nunangat-and-arctic-region-research-programmewill-support-inuit-self-determination-in-research.html.

5. Inuit Tapiriit Kanatami (ITK), *National Inuit Strategy on Research* (ITK, 2020), https://www.itk.ca/wp-content/uploads/2020/10/ITK-National-Inuit-Strategy-on-Research.pdf.

11

SOVEREIGNTY

ARCTIC SOVEREIGNTY: LOSS BY DERELICTION?

Donald McRae

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"Sovereignty" in the Arctic

"Arctic sovereignty" is a symbol of Canadian identity. The "North" is integral to Canada and to how Canadians perceive themselves. Canadian sovereignty over the lands and waters of the Canadian Arctic Archipelago[1] is of the essence of Canada as a nation. The defence of Arctic sovereignty is therefore crucial to Canada's defence policy.

The term "sovereignty" evokes many images and, while the claim to Arctic sovereignty partakes of many of those images, there is at the core a question of law and a question of fact. Is it possible for a state to claim sovereignty over such an area, and has Canada in fact established such a claim? In the context of this submission, there is a third question: If Canada has established its sovereignty over the land and waters of the Canadian Arctic Archipelago, is that sovereignty liable to be undermined by future events?

In law, the term "sovereignty" is more readily applied to the authority, or "jurisdiction," of a state over land territory. It signifies the full and complete authority of an independent "sovereign," or in more modern terms "state," over the lands within its territorial limits. The test in law for determining whether a state has obtained that authority, or sovereignty, over land is one of effective occupation and control manifested through continuing acts of authority. As essential is the acquiescence of other states to the claim of sovereignty or their formal recognition of the claimant state's authority.

In respect of the lands of the Canadian Arctic Archipelago, Canada's title and "sovereignty" are not in doubt. No state disputes Canada's claim over this territory, and thus no legal issues arise. Sovereignty over the waters between the islands of the archipelago, by contrast, is more complex, since historically the principle of freedom of the seas has meant that the jurisdiction of a state ends at its coast. The seas have been free and open to all.

The doctrine of the freedom of the seas runs contrary to any claim to Canadian sovereignty over Arctic waters. It would deny Canada the right to control access to those waters, to preserve the unique and fragile Arctic environment, or to protect the way of life of the indigenous inhabitants. For these and other reasons, successive Canadian governments have framed Canada's claim to the waters as a claim to sovereignty—a claim to full and complete authority and jurisdiction over the waters.

An enquiry into Canadian sovereignty over Arctic waters involves the questions of what jurisdiction a state may claim over waters off its coasts and whether Canada has done what is necessary to "perfect" a claim to these waters.

This submission will first outline the law relating to the authority of a state over waters off its coasts and then consider the Canadian claim over the waters of the Canadian Arctic Archipelago. It will then outline the areas in which the Canadian claim might be vulnerable in the future and suggest what should be done to preserve Canadian sovereignty over Arctic waters.

Can Canada really claim that it has sovereignty over Arctic waters if there are sub-surface transits of the Northwest Passage undertaken without Canada's consent? Sovereignty implies authority and control, both of which are lacking if Canada is not in a position to determine whether such voyages are taking place. Failure to take steps to ensure that there is knowledge of what is happening both on and under the surface of the waters of the Arctic could lead to the loss by Canada of its claim to sovereignty over Arctic waters.
...

Conclusions

Canada's claim to sovereignty over the waters of the Canadian Arctic Archipelago is well-founded in law. [It] rests on the fact that the unique geography and environment of the Arctic Archipelago justifies the drawing of straight baselines and enclosing the waters as the internal waters of Canada. The relatively small number of transits of the Northwest Passage

over history prevents it from being regarded as a strait "used for international navigation" to which the legal regime of international straits would apply.

Canada's sovereignty over Arctic waters cannot, however, be taken for granted. Sovereignty can be lost; it can be abandoned. And it can be abandoned by dereliction. Failure by Canada to exercise its sovereign authority over the waters will diminish the credibility of its claim of sovereignty, and continued and frequent transit of the Northwest Passage, whether by surface or subsurface vessels, could lead to the Passage becoming a strait "used for international navigation." In such circumstances, Canada could no longer claim sovereignty over the waters.

Canada has taken measures to [ensure] that surface transits are with its consent. In this regard the Arctic Cooperation Agreement diminishes the threat of unilateral transit by U.S. government icebreakers. And Canada has the capacity through overflight and surface vessels to monitor foreign surface passage or overflight. Subsurface passage, by contrast, remains a matter over which Canada is not in a position to assert its sovereign authority.

A precondition for exercising enforcement jurisdiction—for taking measures against unauthorized subsurface traffic—is knowledge of occurrence. To exercise the sovereign authority it claims and to preserve its claim to sovereignty over Arctic waters, Canada must at least be in a position to monitor subsurface use of the waters of the Arctic Archipelago.

BACKGROUND AND CONTEXT

Inuit trace their presence in and use of the Arctic region in what is now Canada over thousands of years through the Thule, Dorset, and Pre-Dorset peoples. When the Government of Canada demanded evidence of Inuit land and resource use prior to initiating land claim negotiations in the 1970s, the findings of the Inuit Land Use and Occupancy Project (released in 1977) revealed how the Inuit homeland spanned 3.8 million square kilometres of land and ocean in the Northwest Territories (including what is now Nunavut) and Yukon. Inuit use and occupancy also extended over Lancaster Sound and Barrow Strait, and thus over the eastern section of the Northwest

Passage. By 1985, Secretary of State for External Affairs Joe Clark explained how:

> Canada's sovereignty in the Arctic is indivisible. It embraces land, sea and ice. It extends without interruption to the seaward facing coasts of the Arctic islands. These islands are joined, and not divided, by the waters between them. They are bridged for most of the year by ice. From time immemorial Canada's Inuit people have used and occupied the ice as they have used and occupied the land.

This acknowledgement of how Canadian Arctic sovereignty and Indigenous use and occupancy are inextricably linked was made explicit in the 1993 *Nunavut Land Claims Agreement*, which states that "Canada's sovereignty over the waters of the arctic archipelago is supported by Inuit use and occupancy."[2] Historically, however, most discussions of Arctic sovereignty referred to the consolidation of political control over distant Northern regions by the southern capitals of circumpolar states and tended to focus on maritime boundary disputes, perceived foreign threats to territory, and state control over natural resources. The legal status of the Northwest Passage has figured prominently in discussions of Canadian Arctic sovereignty, for example. Elsewhere, Arctic sovereignty focuses on polar waters (for instance, Russia's Northern Sea Route), the control of unusual political areas (such as Norway's Svalbard archipelago), or the determination of extended marine territories under the United Nations Convention on the Law of the Sea (UNCLOS).[3] These sovereignty issues are overwhelmingly orderly and non-confrontational, despite the warnings and concerns of some analysts and journalists.

Some maritime boundaries in the Arctic remain uncertain. The evolution of the law of the sea, and specifically the rights and responsibilities codified through the United Nations Convention on the Law of the Sea (UNCLOS) (often referred to as the "constitution for the oceans"), gives the Arctic states the right to define their adjacent maritime zones into the Arctic Ocean. UNCLOS allows Arctic states to extend their territorial seas to a distance of twelve nautical miles and to create a 200-mile exclusive economic zone (EEZ). Five of the Arctic states are also currently involved in the process of delineating the outer limits of their continental shelves that extend beyond their EEZ, with attendant sovereign rights over the soil and subsoil of the shelf. Given the prevailing ice conditions, this has proven a difficult and expensive process, but all of the Arctic states have determined that it is worth their effort. The five coastal states affirmed at a landmark 2008 meeting in Ilulissat,

Greenland, that they would follow the rules determined by UNCLOS, and they also agreed that any overlaps would be resolved peacefully through the processes outlined by the Convention.[4] Given the prolonged time that the Commission on the Limits of the Continental Shelf (CLCS) typically takes to evaluate individual states' submissions, the final delimitation of continental shelves in the Arctic Ocean is unlikely to be complete soon – thus prolonging the speculation about whether the process will unfold in a law-abiding manner.

While Global Affairs Canada emphasizes that maritime boundary disputes in the North American Arctic are "longstanding and well-managed," a few remain unresolved. Canada and the United States disagree on the delimitation of the northern maritime boundary in the Beaufort Sea, which traces back to different interpretations of whether the land boundary articulated between Alaska and Yukon in an 1825 Russo-British treaty extends into the Arctic Ocean.[5]

Competing interpretations of the international legal status of the Northwest Passage continue to represent the most significant sovereignty dispute in Canada's Arctic.[6] Canada insists that the waters within its Arctic Archipelago constitute historic, internal waters over which it enjoys complete sovereignty.[7] This gives Canada the right to control and conceivably forbid the entry of international vessels into these waters. On the other hand, the United States contends that the Northwest Passage is a strait used for international navigation[8] and, under this regime, international shippers have the right to transit these waters without the permission of the coastal state.

For decades, commentators in *Northern Perspectives* have grappled with issues of Arctic sovereignty, and particularly the international legal, political, and strategic dimensions of the Northwest Passage debate. They have discussed the effects that a military presence and defence activities have on Canada's sovereignty, as well as the practical responsibilities that flow from Canada's internal waters position. The Canadian Arctic Resources Committee also took a strong position in the debate about the government's motivations behind the High Arctic relocations in the 1950s, building the case for a government apology to Inuit based on the idea that officials had used Inuit as "human flagpoles" to assert sovereignty.[9] While various experts have drawn different conclusions about what Canada should do to bolster or exercise its sovereignty, they have all agreed that the subject is one of intense interest and importance in a Canadian Arctic context.

Traditional narratives of Arctic sovereignty are also complemented and complicated by the growing recognition of the rights of Indigenous peoples to self-determination and the devolution of political powers to Northern and substate governments. In 1987, Peter Jull lamented how "a government and public wary of acknowledging the economic interests and historical rights of northern peoples are willing to rush boats, planes, flags, lawyers, and no end of rhetoric to the scene when loss of a yard of ice threatens sovereignty in theory." As he saw it, "the challenge of Northern Peoples" lays in convincing Canadians not to imagine the exercise of sovereignty as a simple assertion of legal concepts but through a more comprehensive assemblage of governance, rights, and responsibilities that transcended the international and domestic spheres:

> We would build fences around that which we care not to tend. But the exercise of sovereignty must surely involve a good deal more; in a liberal democracy, it requires the protection of economic interests, the extension of political equality, and the promotion of social opportunity. Instead, the Canadian North has been subject to assimilationist social and cultural policies, the withholding of political equality, and a flat denial of indigenous economic interests. The minimal concessions made in federal land claims negotiations to date, and in political negotiations at national and territorial constitutional levels, do not alter the picture, hopeful political promises notwithstanding.[10]

The Inuit Circumpolar Council's (ICC) 2010 "Circumpolar Inuit Declaration on Arctic Sovereignty" extended this logic to Inuit as a transnational people, emphasizing the unity of Inuit as one people across four countries, alongside their unique relationships with and within each respective state. Duane Smith, then ICC Vice Chair for Canada, noted at the time that the provisions in the Declaration "make it clear that it is in the interests of states, industry, and others to include us as partners in the new Arctic, and to respect our land claims and self-government agreements."[11] Inuit leader Mary Simon encapsulated a similar spirit in her memorable phrase "sovereignty begins at home."[12]

Rooting sovereignty in Indigenous peoples' rights and the daily activities of Arctic inhabitants also changes the tenor of the international debate. When U.S. Secretary of State Mike Pompeo denounced Canada's legal position on the status of the Northwest Passage as "illegitimate" during a speech at the Arctic Council Ministerial meeting in May 2019, Global Affairs Minister Chrystia Freeland responded that "Canada is very clear about the

NWP being Canadian" and insisted that "[t]here is both a very strong and geographic connection with Canada."[13] This diplomatic back-and-forth was predictable, with a senior Canadian official reiterating a well-established position in carefully calibrated language. The more forceful and compelling rebuttal came from Canadian Inuit, however, who explained to Pompeo and the U.S. government that the Northwest Passage is part of Inuit Nunangat, their Arctic homeland, and that Inuit enjoy a legally-protected right to self-determination.[14]

"Inuit utilized what is now referred to as the Northwest Passage for millennia to migrate across Inuit Nunangat. We see it as a feature of our homeland rather than as a shortcut for enhancing global trade," Inuit Tapiriit Kanatami President Natan Obed explained in 2018. "Furthermore, Inuit co-manage with the federal government and provinces and territories this vast space through comprehensive land claim agreements. We are positioned through existing governance structures to make decisions and advise governments on the potential impacts and opportunities associated with increased marine traffic in the Northwest Passage."[15] In the contemporary Arctic, sovereignty is not just about borders, bombers, and battleships, but also about how Indigenous peoples exercise their rights in their Arctic homelands through mutually respectful relationships with the State.

Notes

1. The term "waters of the Canadian Arctic Archipelago" refers to the water between the islands of the archipelago and not to the waters in the open seas of the Beaufort Sea and the Arctic Ocean to the west or to the waters of Davis Strait and Baffin Bay to the east.

2. See Terry Fenge, "Inuit and the Nunavut Land Claims Agreement: Supporting Canada's Arctic Sovereignty," *Policy Options* 29/1 (2007): 84-88.

3. "United Nations Convention on the Law of the Sea of 10 December 1982," Oceans and Law of the Sea - Division for Ocean Affairs and the Law of the Sea, https://www.un.org/depts/los/convention_agreements/texts/unclos/UNCLOS-TOC.htm.

4. One complication of the process has been caused by the inability of successive American governments to accede to the Convention. Even though all American administrations since the Reagan presidency have been in favour of the Convention, none have been able to successfully submit it for ratification through the U.S. Senate. Therefore, the United States acts as if it is party to the Convention, but it will ultimately not be able to submit its coordinates for its continental shelf until it officially accedes to the Convention. Raul Pedrozo, "Arctic Climate Change and US Accession to the United Nations Convention on the Law of the Sea," *International Law Studies* 89 (2013): 757-777.

5. James Baker and Michael Byers, "Crossed Lines: The Curious Case of the Beaufort Sea Maritime Boundary Dispute," *Ocean Development and International Law* 43/1 (2012).

6. Donat Pharand, "The Arctic Waters and the Northwest Passage: A Final Revisit," *Ocean Development and International Law* 38/1-2 (2007): 3-69; R. Douglas Brubaker, *The Russian Arctic Straits* (Leiden: Martinus Nijhoff, 2005), 141-164.

7. Russia has not been as explicit, but it has acted in a way to completely assert its authority over international shipping in these waters. The Russian position is to encourage international shippers to utilize these waters, but under Russian terms. This includes the payment of a fee, the requirement to prepare extensive documentation that includes a recognition of Russian control over these waters, and the agreement to transit in a convoy escorted by an icebreaker provided by Russia. Ministry of Transport of Russian Federation, "The Northern Sea Route," *The Rule of Navigation in the water area of the Northern Sea Route,* http://www.nsra.ru/en/pravila_plavaniya/.

8. United States Department of State Bureau of Oceans and International Environmental Scientific Affairs, *United States Responses to Excessive National Maritime Claims – Limits in the Seas*, no. 112 (9 March 1992), 70-73, http://www.state.gov/documents/organization/58381.pdf.

9. See "'Their Garden of Eden': Sovereignty and Suffering in Canada's High Arctic," *Northern Perspectives* 19/1 (Spring 1991); Shelagh Grant, *Errors Exposed: Inuit Relocations to the High Arctic, 1953–1960*, Documents on Canadian Arctic Sovereignty and Security (DCASS) no. 6 (Calgary: Arctic Institute of North America, 2016); and P. Whitney Lackenbauer, ed., *Human Flagpoles or Humanitarian Action? Discerning Government Motives behind the Inuit Relocations to the High Arctic, 1953–1960*, DCASS no. 16 (Calgary: Arctic Institute of North America, 2020), http://pubs.aina.ucalgary.ca/dcass/85283.pdf.

10. Peter Jull, "The Challenge of Northern Peoples," *Northern Perspectives* 15/2 (May-June 1987).

11. Inuit Circumpolar Council (ICC), "Circumpolar Inuit Launch Declaration on Arctic Sovereignty," ICC Press Release, 28 April 2009, https://www.inuitcircumpolar.com/press-releases/circumpolar-inuit-launch-declaration-on-arctic-sovereignty/#:~:text=The%20Circumpolar%20Inuit%20Declaration%20on%20Arctic%20Sovereignty%20emphasizes,unique%20relationships%20Inuit%20have%20within%20each%20re.

12. Mary Simon, "Inuit and the Canadian Arctic: Sovereignty Begins at Home," *Journal of Canadian Studies* 43/2 (2009): 250-260.

13. Hamdi Issawi, "Canada makes it 'very clear' the Northwest Passage is Canada's after Pompeo questions legitimacy," *The Star*, 7 May 2019, https://www.thestar.com/edmonton/2019/05/07/

freeland-makes-it-very-clear-the-northwest-passage-is-canadas-after-pompeo-questions-legitimacy.html.

14. Suzanne Lalonde, "The U.S.-Canada Northwest Passage Disagreement: Why Agreeing to Disagree is More Important than Ever," in *The Arctic and World Order*, eds. Kristina Spohr, Daniel Hamilton, and Jason Moyer (Washington: Brookings Institution Press, 2021), 284; Jane George, "Canadian Inuit challenge US stance on Northwest Passage," *Arctic Today*, 15 May 2019, https://www.arctictoday.com/canadian-inuit-challenge-u-s-stance-on-northwest-passage/. The report was also published the same day by *Nunatsiaq News*, available at https://nunatsiaq.com/stories/article/canadian-inuit-challenge-u-s-stance-on-northwest-passage/.

15. Inuit Tapiriit Kanatami (ITK), *Nilliajut 2: Inuit Perspectives on the Northwest Passage* (Ottawa: ITK, 2018), 4.

ARCTIC SOVEREIGNTY

P. Whitney Lackenbauer and Suzanne Lalonde

In the International chapter of the "Arctic and Northern Policy Framework" (ANPF) released in October 2019, the Government of Canada highlights that:

> The Arctic is a geopolitically important region. Global interest in this region is surging as climate change and natural hazards profoundly affect the Arctic. Climate-driven changes are making Arctic waters more accessible, leading to growing international interest in the prospects for Arctic shipping, fisheries and natural resources development. At the same time, there is growing international interest in protecting the fragile Arctic ecosystem from the impacts of climate change.

Lest the reader worry that these changes place Canada in a vulnerable position, the policy statement emphasizes that:

> The Government of Canada is firmly asserting its presence in the North. Canada's Arctic sovereignty is longstanding and well established. Every day, through a wide range of activities, governments, Indigenous peoples, and local communities all express Canada's enduring sovereignty over its Arctic lands and waters. Canada will continue to exercise the full extent of its rights and sovereignty over its land territory and its Arctic waters, including the Northwest Passage.[1]

These are not new observations and pledges. The Harper Conservative government's 2009 *Northern Strategy* identified "exercising Canada's Arctic sovereignty" as the country's number one priority, committing the government to "seeking to resolve boundary disputes," to securing international recognition for the full extent of Canada's extended continental shelf, and to addressing Arctic governance issues. Despite media, academic, and political anxiety about melting sea ice, increased international interest, and uncertain Arctic boundaries, the *Northern Strategy* insisted that all of Canada's disagreements with foreign states about its Arctic lands and waters "are well-managed and pose no sovereignty or defence challenges for Canada. In fact, they have had no impact on Canada's ability to work collaboratively and cooperatively with the United States, Denmark or other Arctic neighbours on issues of real significance and importance." It also proclaimed that Canada's sovereignty over its lands and waters in the Arctic is "longstanding and well established."[2]

The 2019 ANPF pursues the same sound strategy and promotes a collaborative agenda, both internally and externally. Emphasizing that Canadian interests benefit from a robust legal regime, the ANPF identifies as a key priority (Goal 6) the strengthening of "the rules-based international order in the Arctic, which has already helped ensure the region remains peaceful and stable." It reiterates Canada's resolve to play a leadership role, in partnership with Northerners and Indigenous peoples, to ensure that evolving international norms promote Canadian interests and values. It also recognizes that international rules and institutions will play a critical role in helping Canada resolve its outstanding boundary disputes and continental shelf overlaps in the Arctic.[3]

Despite consistent messaging from the Government of Canada that our country's "Arctic sovereignty is longstanding and well established" and that our regional boundary disputes are well-managed and do not pose any security threats to Canada,[4] the issue remains a "zombie that never dies" in the Canadian public discourse.[5] Pessimistic commentators often allude to unclear maritime boundaries and competing legal opinions about the status of Arctic waters as examples of friction points that could lead to inter-state conflict. These narratives tap into deep-seated Canadian anxieties about borders and sovereignty that extend back to the Alaska boundary dispute, American defence projects in the Northwest during the Second World War, and fears of U.S. Cold War security needs leading our ally to subvert Canadian sovereignty.[6]

The popular confusion also reflects the ambiguity in the official Canadian messaging that often conflates "sovereignty" and "security" as concepts – the former clearly associated with a state's or a people's internationally-recognized ownership of and rights to a given territory. Alongside traditional hard security functions (such as defending territory from potential aggressors, power projection, deterrence, and containment), Canadian official statements often assign to its armed forces the opaque mission of "defending," "asserting," or "demonstrating" Arctic sovereignty.[7] Fortunately, "threats" to Canada's Arctic sovereignty are less acute than the popular media coverage would suggest, and longstanding disputes with our Arctic neighbours over Hans Island, maritime boundaries, and the status of waters are well-managed and extremely unlikely to precipitate armed conflict.

Prevalent misconceptions about the Northern polar region as a "last frontier" without any governing rules misrepresent how the Arctic Ocean is subject to a clear and widely accepted international legal regime. The

international community regards the United Nations Convention on the Law of the Sea (UNCLOS), 1982, as the constitution for the world's oceans. Although the United States is not a party, it considers much of the Convention to be customary international law binding on all states. When senior ministers of the Arctic coastal states met in Ilulissat, Greenland (Kalaallit Nunaat), in 2008, they committed to the law of the sea framework to ensure "the orderly settlement of any possible overlapping claims" and to dismiss ideas that the Arctic needed a new comprehensive international legal regime. Nevertheless, UNCLOS does not remove all conceivable stressors.

Canada maintains its longstanding legal position that the waters within its Arctic Archipelago that are enclosed by baselines (which includes much of the Northwest Passage [NWP]) are historic internal waters, thus falling within Canada's full sovereignty. The United States counterclaims that the Passage is subject to the right of transit passage conferred upon ships and aircraft in straits used for international navigation (Part III of UNCLOS). In 1988, the two countries signed an Arctic Co-operation Agreement in which the United States pledged that "all navigation by U.S. icebreakers within waters claimed by Canada to be internal will be undertaken with the consent of the Government of Canada," but added the caveat that nothing in the Agreement affected either state's position on the law of the sea in this area.[8]

This "agree to disagree" arrangement remains intact, although some commentators worry whether this bilateral approach will be sustainable as international interest grows in Arctic shipping routes and if the United States finds its legal position on international straits to be increasingly threatened regionally (by Russia) or globally. Statements by U.S. Secretary of State Michael Pompeo in 2019 declaring that Canada's position on the NWP is "illegitimate" and that the two countries had a "long-contested feud" were unsettling,[9] and commentators noted that an actual decision to mount a freedom of navigation operation (FONOP) through Canada's Arctic waters would provoke a dangerous political reaction in Canada.[10] Fortunately, key U.S. officials seem to recognize that by simply declaring a right to freedom of navigation in these waters, the established American legal position is effectively reiterated without driving a dangerous wedge in its relations with Canada, which an actual operation would certainly have produced. Although Canadians are uncomfortable when the U.S. reiterates its longstanding legal position on the status of these waters, these statements are compatible with practical cooperation and collaboration along the lines envisaged in the 1988 Agreement. The U.S. Coast Guard's explicit clarification that it planned

the summer 2021 voyage of its icebreaker *Healy* in partnership with Global Affairs Canada, and that the scientific mission is "definitely not a FONOP (Freedom of Navigation Operation),"[11] offers a clear example of how the Canada-U.S. partnership remains intact.

Growing international interest in Arctic waters also raises the possibility of non-Arctic states and other actors challenging Canada's legal position on the status of its Arctic waters. According to this logic, the Northwest Passage can no longer be viewed or managed as a bilateral Canada-U.S. issue. Instead, anxious commentators suggest that Canada must be prepared to address not only legal challenges related to freedom of shipping but also Canada's "vulnerability to naval vessels from Russia and other unfriendly nations passing through the Northwest Passage, or terrorists and smugglers seeking to enter North America from there."[12]

Although China promises to respect international law in its 2018 Arctic policy, it "maintains that the management of the Arctic shipping routes should be conducted in accordance with treaties including the UNCLOS and general international law and that the freedom of navigation enjoyed by all countries in accordance with the law and their rights to use the Arctic shipping routes should be ensured."[13] Through a Canadian lens, this may intimate Chinese sympathy with the U.S. position that the Northwest Passage constitutes an international strait. Given Canadian concerns (also shared by some other Arctic states) about China's "real" Arctic interests, that country's potential (and, at this stage, theoretical/hypothetical) desire to undermine Arctic state sovereignty to secure Arctic resources, shipping routes, and influence in regional governance has become a leading preoccupation of Canadian analysts.[14] Furthermore, China's use of its scientific icebreaker to both "normalize" its Arctic presence over the last decade and to undertake strategic research may portend more active engagement in the future.[15]

Other sovereignty issues, boundary disputes, and delimitation issues are less complicated. The question of the ownership of Hans Island – a 1.3-square-kilometre barren and uninhabited island situated in the Kennedy Channel between Ellesmere Island and Greenland – first arose in 1973 when Canada and the Kingdom of Denmark delimited the continental shelf between Canada and Greenland. The two sides could not agree on the status of this small piece of territory, which fell right on the maritime boundary line, so they chose to set aside the question of the island itself. The shelf surrounding the island was delimited, with the maritime boundary stopping at the low-water mark on the island's south side and starting again from the

low-water mark on the north side.[16] Accordingly, and despite popular misconceptions, the dispute has no significant impact on the status of the waters, seabed resources, or navigation rights around Hans Island itself. Nevertheless, the issue of ownership has been raised sporadically by both countries which, since the 1980s, have undertaken various public demonstrations to reinforce their claims.

Given that the island is uninhabited, possesses no strategic value, and boasts no natural resources, this territorial dispute should raise little practical concern – but it has been imbued with symbolic and nationalist significance since the Danes sent naval vessels to the island in 2002 and 2003. Canada responded in 2005 with an inukshuk-raising and flag-planting visit by Canadian Rangers and soldiers, followed by a highly publicized visit by its Minister of National Defence, Bill Graham. After much media fanfare over this spat, the two countries issued a joint statement in September 2005 declaring that "we will continue our efforts to reach a long-term solution to the Hans Island dispute."[17] They also agreed to keep each other informed of any activities related to the island and pledged that "all contact by either side with Hans Island will be carried out in a low key and restricted manner." Since that time, the two countries have pursued regular bilateral discussions in a bid to arrive at a mutually acceptable solution. Because the practical stakes in doing so are very low for both countries, the matter remains unresolved, but it is unlikely to provoke any serious friction between Canada and the Kingdom of Denmark/Greenland as Arctic neighbours.

A more substantial and longstanding dispute concerns the maritime boundary between Canada and the United States in the Beaufort Sea north of Yukon and Alaska, but neither country seems to be in a hurry to resolve it given the lengthy process of defining the outer limits of the extended continental shelves in the region. In brief, Canada claims an extension of the land boundary into the sea, while the U.S. bases its claim on an equidistant line drawn from the low-water line of each country's coast. Because the Canadian coastline out to 200 nautical miles stretches in a southeasterly direction, the equidistant line deviates away from the 141st meridian, creating a 6,250-square-nautical-mile disputed zone.

Canada holds the position that an unbroken succession of Canadian governments has treated the 141st meridian as the agreed-upon boundary in the Beaufort based on the 1825 Anglo-Russian Treaty, which states that the border follows the meridian "dans son prolongement jusqu'à la Mer Glaciale" – a phrase that can be interpreted to mean "to the main body of the Arctic

Ocean, as distinct from the Beaufort Sea."[18] Furthermore, Article 2 of the 1990 U.S.-USSR *Maritime Boundary Agreement* uses the western limit in the 1867 Russo-American Convention on the Cession of Alaska to constitute the maritime boundary between the United States and Russia in the Chukchi Sea.[19] The United States, however, has consistently rejected the notion that the 1825 or 1867 treaties established an ocean boundary in the Beaufort Sea, given that international law and treaties at that time did not contemplate ownership or exclusive marine rights or zones beyond a narrow band of territorial sea. The United States would argue that the law of the sea, both customary and treaty-based, as well as international case law mandate that an equidistance line should be used to determine the maritime boundary in the Beaufort Sea.

With the collapse of the offshore oil and gas industry in the North American Arctic since 2014, there is no acute pressure to resolve the Beaufort Sea dispute. Any future initiatives are likely to involve direct negotiations between the two parties rather than litigation, to ensure they retain control over the sensitive boundary delimitation process. For the time being, the dispute is well-managed, and both countries insist that the dispute will be resolved peacefully, in accordance with international law, when both parties are ready to do so. Although Canada reached out to the United States in 2010 to seek a negotiated settlement in the Beaufort,[20] the U.S. indicated that it wished to resolve the maritime boundary within 200 nautical miles as well as the extended continental shelf boundary at the same time. Accordingly, government experts from both countries have met since that time to evaluate the scientific data collected and discuss the technical aspects involved in establishing the outer limit of their respective continental margins, but no agreement seems likely in the near future.

Canada's *marge de manoeuvre* in negotiating a compromise solution for the Beaufort Sea is severely restricted in light of domestic constitutional imperatives. In 1984, the federal government used the 141st meridian to define the western edge of the Inuvialuit Settlement Region, in a constitutionally recognized land claims agreement. In addition to granting title over land areas traditionally used and occupied by the Inuvialuit, eminent international lawyer Donat Pharand noted that "the Canadian Government purported to grant certain rights in a considerable area of the Beaufort Sea extending along the 141st meridian up to the 80th parallel of latitude. These include the exclusive right to harvest certain species of wildlife such as the polar bear and the preferential right to harvest other species of wildlife as

well as marine mammals and fish."[21] Under international law, Canada is certainly at liberty to enter into a boundary treaty with the United States that would impinge upon the constitutionally protected rights of the Inuvialuit. However, any action at the international level could come into direct conflict with its duty under Canadian law to consult with the Inuvialuit, limit any infringement of Indigenous rights as much as possible, make any such limitations clear through an Act of Parliament, and provide compensation. The political ramifications of any unilateral Canadian action on its relationships with Inuit over what Rosemarie Kuptana has referred to as "the Inuit Sea"[22] are likely to outweigh the benefits derived from settling the boundary dispute with its American neighbour.

Under Article 76(1) of UNCLOS, coastal states are entitled to claim a continental shelf up to 200 nautical miles from their territorial sea baseline, which is also the maximum extent of the exclusive economic zone (EEZ). Under the legal regime governing the EEZ, coastal states have sovereign rights over the natural resources of the water column and the seabed, as well as jurisdictional authority over certain specific matters like marine scientific research and the protection and preservation of the marine environment. Whether a coastal state can claim a continental shelf beyond 200 nautical miles depends on whether the submarine areas beyond 200 nautical miles are a natural prolongation of its land territory, as determined in accordance with Article 76 of UNCLOS. Coastal states have sovereign rights over the natural resources of the seabed and subsoil of their continental shelf both within and beyond 200 nautical miles, as well as jurisdictional authority over certain activities (such as marine scientific research). Coastal states do not, however, have sovereign rights or jurisdiction in the water column beyond 200 nautical miles. This important consideration is often missing in media narratives that conflate the issues of continental shelves and waters beyond the EEZ by suggesting that claims to extended continental shelves pose a direct threat to freedom of navigation or represent a massive "grab" of living resources by the states involved.[23]

UNCLOS sets out a process for its state parties to determine the precise limits of their extended continental shelves (beyond 200 nautical miles). This process involves making a submission to an expert body called the Commission on the Limits of the Continental Shelf (CLCS), which reviews the submission, assesses the extent to which a state has defined its outer continental shelf in conformity with the technical scientific requirements laid out in Article 76 of the Convention, and finally makes recommendations to

the state.[24] UNCLOS provides that limits established by a coastal state on the basis of the CLCS's recommendations are final and binding.[25] The Commission, however, does not apportion shelf between states. Areas in dispute or claimed by more than one state are outside its remit. Consequently, any overlaps of continental shelf between coastal states must be resolved bilaterally through negotiation or third-party adjudication (such as arbitration or submitting the matter to the International Court of Justice or the International Tribunal for the Law of the Sea).[26]

Canada became a party to UNCLOS in 2003 and, according to its provisions, had a procedural obligation to file a submission (or, at the very least, a letter of intent) with the CLCS within a decade. Although popular commentaries suggested that the different Arctic coastal states were engaged in a "scramble" or a "race" to gobble up the continental shelf, Canada's sovereign rights over the natural resources of its extended continental shelf exist and have always existed by virtue of its sovereignty over its landmass extending under the sea, and those rights are in no way affected or jeopardized by the delimitation process. "What 'scramble' is taking place in the Arctic Ocean amongst the bordering States has been one of seeking to acquire scientific data respecting the geologic composition and other physical properties of the continental margin areas in the Arctic Ocean," legal scholar Ted McDorman observes.[27] Accordingly, Canada invested heavily in the scientific, technical, and legal activities and assessments necessary to prepare its submission to the CLCS, and cooperated with the U.S. and Denmark in surveys to collect essential information about the shape and composition of the seabed, obtained by collecting bathymetric and seismic data.[28]

To date, four of the five Arctic coastal states have filed submissions with the CLCS on the limits of their continental shelves beyond 200 nautical miles in the Arctic Ocean. Russia, which was invited to further develop its 2001 submission, filed revised information with the Commission on 3 August 2015 and recently, on 31 March 2021, submitted two further Addenda. On 27 November 2006, the Kingdom of Norway submitted information in regards to three separate areas including the Western Nansen Basin, and in 2009, it was the first country (and the only Arctic coastal state to date) to receive recommendations from the Commission. On 15 December 2014, the Kingdom of Denmark filed its submission in respect of the northern continental shelf of Greenland, and on 23 May 2019, Canada followed suit with a submission regarding its continental shelf in the Arctic Ocean covering an area of approximately 1.2 million square kilometres. As for the United States, the

only Arctic coastal state that is not a party to UNCLOS, Betsy Baker comments that it remains to be seen whether it will "present a submission to the CLCS as a non-Party, accede to the Convention or opt to publicize its ECS [(extended continental shelf)] information independently."[29] From the information provided in support of their submissions, it is clear that the outer limits of the continental shelves of/as established by the Arctic coastal states significantly overlap.

Rather than perceiving these overlapping claims as a source of increasing tension, Cornell Overfield insists that "Russia, Norway, Canada, Denmark and the U.S. are all cooperating to enable the CLCS to do its job."[30] In areas where shelf claims are overlapping, Annex I of the CLCS's rules of procedure allow it to make recommendations on a given submission only if none of the states concerned by the overlap object. Contrary to state practice in other parts of the globe, Canada, Russia, Denmark, Norway, and the United States have all formally indicated that they do not object to the CLCS examining their neighbours' submissions. This is the most efficient way forward, as the Commission's role is merely to examine the scientific data establishing the outer limit of a country's extended continental shelf. Overfield uses a common image to stress this critical point: "To revive the pie analogy, the CLCS confirms the pie's size but the claimants will still have to agree on how to slice it up."[31] Thus, the onus will be on the Arctic Five to delimit their overlapping claims either through negotiation or adjudication.

None of the Arctic coastal states appear to be in a rush to delimit their overlapping continental shelf areas in the Central Arctic Ocean. The UN Commission on the Limits of the Continental Shelf process for considering extended continental shelf submissions is lengthy, and there does not appear to be any tension with respect to continental shelf submissions, owing to good levels of communication, cooperation, and a common understanding of the rules and procedures. Following the completion of the CLCS procedures, the state-to-state process of diplomatically negotiating extended continental shelf boundaries where they overlap is expected to occur. This process could lead to friction but more likely will produce outcomes that affirm a message of mutual respect, stability, and rule of law in the Circumpolar Arctic.[32]

Indigenous Peoples, Sovereignty, and Security

Inuit and other Northern Indigenous groups have occupied what is now the Canadian North since "time immemorial." Their inter-connectedness with the land and waters imposes special obligations on the Canadian state to ensure that its practices are representative of their rights, interests, and wishes as recognized in both domestic and international law. Cumulatively, the ongoing vitality of Northern Indigenous peoples makes them an influential force in Canadian domestic politics and in international norm-making in the Arctic more generally.[33]

"The inextricable linkages between issues of sovereignty and sovereign rights in the Arctic and Inuit self-determination and other rights require states to accept the presence and role of Inuit as partners in the conduct of international relations in the Arctic," Inuit Tapiriit Kanatami (ITK) explained in its ANPF partner chapter. This right to participate must be fully recognized even with respect to issues that have traditionally been envisaged and dealt with on a state-to-state basis, such as the debate over the legal status of the Northwest Passage. "The Northwest Passage is a part of Inuit Nunangat, and future activity has implications for our communities and way of life," ITK President Natan Obed wrote in 2017. "Inuit utilized what is now referred to as the Northwest Passage for millennia to migrate across Inuit Nunangat. We see it as a feature of our homeland rather than as a shortcut for enhancing global trade. Furthermore, Inuit co-manage with the federal government and provinces and territories this vast space through comprehensive land claim agreements."[34]

Canada's Arctic and Northern Policy Framework emphasizes that "Canada's sovereignty over the region is long-standing, well-established and based on historic title, and founded in part on the presence of Inuit and First Nations since time immemorial." As ITK has stressed, "Canada's status as an Arctic nation is strengthened immeasurably by Inuit use and occupancy of arctic lands and waters for thousands of years,"[35] and is a core consideration of what is now widely accepted to constitute Canadian sovereignty. However, Indigenous peoples are not only stakeholders but also rightsholders, in accordance with Section 35 of the *Constitution Act, 1982*, which recognizes and affirms "the existing aboriginal and treaty rights of the aboriginal people in Canada." The Supreme Court of Canada continues to clarify the breadth and depth of these rights, which are also reflected in comprehensive land claim agreements. As a minimum, the Government of Canada has a recognized legal duty to consult and, where appropriate, accommodate Indigenous groups when their treaty and Aboriginal rights could be impacted.

Canada's official decision in 2016 to fully endorse the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) affirms its strong commitment to welcome "Indigenous peoples into the co-production of policy and joint priority-setting."[36] The ANPF commits Canada to "honour, uphold, and implement the rights of Arctic and northern Indigenous peoples, including those outlined in historic and modern treaties and in the United Nations Declaration on the Rights of Indigenous Peoples," and the Trudeau government introduced legislation in December 2020 to bring Canadian law into alignment with UNDRIP. This strengthened commitment is reflective of what Siegfried Wiessner has described as a "broader normative shift among states in their understanding of [I]ndigenous rights under international law."[37]

In 2009, Inuit articulated clear perspectives on sovereignty and re-affirmed their core rights in "A Circumpolar Inuit Declaration on Sovereignty in the Arctic," which emphasizes that Inuit are simultaneously Indigenous peoples and Indigenous citizens of Arctic states.[38] Other statements, such as the "Inuit Circumpolar Declaration on Resource Development Principles in Inuit Nunaat,"[39] also reiterate "the core rights of Inuit as recognized in the United Nations Declaration on the Rights of Indigenous Peoples, as provided for in a variety of other legal and political instruments and mechanisms, including land rights settlement legislation, land claims agreements (treaties), and self-government, intergovernmental and constitutional arrangements." Federal activities pursuant to the 2017 Inuit Nunangat Declaration on Inuit-Crown Partnership recognize Indigenous rights and co-decision-making authority over Arctic lands and waters as essential preconditions to reconciliation and prioritize the "full and fair implementation of the obligations and objectives of Inuit land claims agreements as foundational for creating prosperity among Inuit which benefits all Canadians."[40] For as Inuit Tapiriit Kanatami has emphasized, "[t]he foundation, projection and enjoyment of Arctic sovereignty and sovereign rights all require healthy and sustainable communities in the Arctic."[41]

The ITK partner chapter to the Arctic and Northern Policy Framework (2019) insists that "all governments must understand that Inuit use and occupy Inuit Nunangat – our homeland 12 months of the year, that Inuit are the stewards of the land, and given appropriate infrastructure, will continue as the principal players and first responders in Canada's Arctic sovereignty and security."[42] Accordingly, federal, territorial, and Indigenous government priorities encompass not only public safety but economic

development, community wellbeing, and local capacity building more broadly. Given Indigenous peoples' knowledge of the land and presence in potential high traffic areas, as well as the political commitment to improve Indigenous-Crown relations, we expect that the Government of Canada will increasingly partner with Indigenous organizations to fund and support community-based programs that improve situational awareness and bolster emergency response capabilities through co-management practices.[43] These relationships not only offer practical solutions to security and safety challenges; they also reflect and shape the emerging governance regime that embraces Indigenous rights and leadership.

Conclusions

The Canadian Arctic Archipelago is not only a multiform physical space, but also a highly complex political and jurisdictional environment with multiple rightsholders and authority wielders. Canada's recent Arctic and Northern Policy Framework emphasizes that it seeks to better align Canadian national and international policy objectives with the priorities of Indigenous peoples and Northerners. Recognizing that "made in Ottawa" policies have not been successful in the past, the Framework "puts the future into the hands of the people who live there to realize the promise of the Arctic and the North."[44] A crucial element of this new, cooperative form of policymaking is the inclusion in the Framework of chapters from Indigenous, territorial, and provincial partners, in which they "speak directly to Canadians and to the world, expressing their own visions, aspirations and priorities."[45]

Looking to the future, we recommend that the Government of Canada adopt a state-based definition of sovereignty to avoid confusion amongst international audiences, with complementary messaging explaining how Canada exercises its sovereignty in partnership with its Indigenous peoples as rightsholders. The official stance that Canada's boundary disputes with our Arctic neighbours "are well-managed and will be resolved peacefully in accordance with international law" remains appropriate, and these issues are best managed bilaterally wherever possible. Furthermore, efforts to foster dialogue with all of Canada's Arctic coastal neighbours will remain important, and Canada should also consider options for negotiated settlements while the CLCS process remains in progress. Precedents in other parts of the globe may cast some light on the merits of pursuing such a course of action.

With respect to maritime sovereignty, it is important to reaffirm that Canada welcomes navigation in its Arctic waters, provided ships respect Canadian conditions and controls related to safety, security, the protection of the environment, and Inuit interests. The country has exercised leadership in terms of promoting legal rules for safe navigation in the Arctic, rules that are now largely reflected at the international level, notably in the International Maritime Organization's Polar Code. Provided that Canada continues to act responsibly, in a transparent manner, to guarantee the safety of shipping and the preservation of fragile Arctic waters, we hope that international opposition to its legal position on the NWP will become more muted over time. Thus, the long-term goal of a stable and secure circumpolar world where each Arctic littoral state enjoys sovereignty and sovereign rights is compatible with Canada's ongoing management of land and maritime boundary disputes, its determination of the outer limits of its continental shelf, and enduring disagreements over the legal status of the Northwest Passage.

Canada and the United States remain *allies* in the quest for a practical and responsible navigational regime in the Arctic. Unfortunately, Washington is often cast as Canada's principal detractor, and there are some elements, if not fully explained and properly understood in their context, that lend support to that characterization. However, the two continental partners have a long history of collaboration in the Arctic and have found ways to set aside their legal differences to make things happen and to move forward.[46] Into the future, we expect that Canada and the United States will continue to find ways to set their legal differences aside and work collaboratively on many issues of common interest. At the same time, Canada will continue to vigorously defend its claim to exclusive jurisdiction over the NWP at the international level. In the face of a dramatically changing Arctic, it is legally prudent and politically wise for Canada to defend a robust and enforceable navigational regime.

Canada also has legal obligations that it must fulfill, principally to the Inuit and other Indigenous peoples who live in the Arctic and whose cultural identity is tied to the land, the sea, and the diminishing ice. Commitments to environmental stewardship and safe navigation in partnership with all Northern Canadians must continue to be solidified through inclusive and effective initiatives and programs. In the absence of decisive and sustained involvement, Canada cannot hope to convince an increasingly wide array of interested stakeholders that it remains the best possible steward and manager of its Arctic waters.

Notes

For an expanded discussion of several of these themes, see P. Whitney Lackenbauer, Suzanne Lalonde, and Elizabeth Riddell-Dixon, *Canada and the Maritime Arctic: Boundaries, Shelves, and Waters* (Peterborough: North American and Arctic Defence and Security Network, 2020), https://www.naadsn.ca/wp-content/uploads/2020/03/CanadaMaritimeArctic-PWL-SL-ERD-2020.pdf.

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33. See, for example, Natalia Loukacheva, *The Arctic Promise: Legal and Political Autonomy of Greenland and Nunavut* (Toronto: University of Toronto Press, 2007); Sonia Lawrence and Patrick Macklem, "From Consultation to Reconciliation: Aboriginal Rights and the Crown's Duty to Consult," *Canadian Bar Review* 29 (2000): 252; Canada, "Aboriginal Consultation and Accommodation - Updated Guidelines for Federal Officials to Fulfill the Duty to Consult" (March 2011), http://www.aadnc-aandc.gc.ca/eng/1100100014664/1100100014675; and Timo Koivurova and Leena Heinämäki, "The Participation of Indigenous Peoples in International Norm-Making in the Arctic," *Polar Record* 42/221 (2006): 101-110.

34. Natan Obed, "Foreword," in *Nilliajut 2: Inuit Perspectives on the Northwest Passage, Shipping and Marine Use* (Ottawa: Inuit Tapiriit Kanatami, 2017), 4.

35. Mary Simon, "More than the Climate is Changing – We too have changed," in *Nilliajut 2*, 27.

36. Ken Coates and Blaine Favel, "Ottawa endorses UNDRIP – and the sky does not fall," *iPolitics*, 17 May 2016, https://ipolitics.ca/2016/05/17/ottawa-endorses-undrip-and-the-sky-does-not-fall/; United Nations, "United Nations Declaration on the Rights of Indigenous Peoples" (2007), https://www.un.org/development/desa/indigenouspeoples/wp-content/uploads/sites/19/2018/11/UNDRIP_E_web.pdf.

37. Siegfried Wiessner, "The cultural rights of indigenous peoples: achievements and continuing challenges," *European Journal of International Law* 22/1 (2011): 121-140.

38. Inuit Circumpolar Council (ICC), "A Circumpolar Inuit Declaration on Sovereignty in the Arctic" (2009), https://www.itk.ca/wp-content/uploads/2016/07/Declaration_12x18_Vice-Chairs_Signed.pdf.

39. Inuit Circumpolar Council (ICC), "A Circumpolar Inuit Declaration on Resource Development Principles in Inuit Nunaat" (2012), https://iccalaska.org/wp-icc/wp-content/uploads/2016/01/Declaration-on-Resource-Development-A4-folder-FINAL.pdf.

40. Justin Trudeau, "Inuit Nunangat Declaration on Inuit-Crown Partnership," 9 February 2017, https://pm.gc.ca/en/news/statements/2017/02/09/inuit-nunangat-declaration-inuit-crown-partnership.

41. ICC, "Circumpolar Inuit Declaration on Sovereignty."

42. Inuit Circumpolar Council (ICC), "Inuit and Canada Share Northwest Passage Sovereignty – ICC Canada President," ICC, 8 May 2019, https://www.inuitcircumpolar.com/press-releases inuit-and-canada-share-northwest-passage-sovereignty-icc-canada-president/.

43. See, for example, Transport Canada, "Oceans Protection Plan," https://www.tc.gc.ca/en/initiatives/oceans-protection-plan.html; Peter Kikkert and P. Whitney Lackenbauer, "'A Great Investment in Our Communities': Strengthening Nunavut's Whole-of-Society Search and Rescue Capabilities," *Arctic* 74/3 (2021): 258-275; and Peter Kikkert and P. Whitney Lackenbauer, "Search and Rescue, Climate Change, and the Expansion of the Coast Guard Auxiliary in Inuit Nunangat/the Canadian Arctic," *Canadian Journal of Emergency Management* 1/2 (2021): 26-63.

44. CIRNAC, "Arctic and Northern Policy Framework."

45. CIRNAC, "Arctic and Northern Policy Framework."

46. Over the years, we have noted significant sympathy for the Canadian position within American academic circles and even in Government. However, the United States has little official room to manoeuvre. It has been a cornerstone of American foreign policy to insist on the concept of freedom of the seas to guarantee the mobility of U.S. naval assets around the world. Washington is concerned that "giving in" to Canada over the NW Passage would set a bad precedent. It might encourage coastal states bordering other important international straits around the world (e.g., the Torres Strait or the Straits of Malacca) to flex their muscle and adopt arbitrary rules that would severely harm American national interests.

12

THE ARCTIC COUNCIL AND CIRCUMPOLAR AFFAIRS

PONDERING AN ARCTIC COUNCIL

Northern Perspectives 19, no. 2 (Summer 1991)

Not so long ago the notion of an international council of arctic states was difficult even to conceive. The seemingly inexorable grip of militarism still held at bay genuine efforts to foster circumpolar co-operation, and many spoke of the coming era as one which would witness the emergence of the Arctic as a strategic theatre for global warfare.

That was then, this is now. So much has happened in so short a space of time that the confident, if alarming, predictions of two and three years ago read like a how-to primer for neo-McCarthyites. The arguments in favour of nuclear submarines, cruise missile testing, and low-level flights have suddenly lost their fizz, replaced by seemingly boundless enthusiasm for all manner of multilateral dealings.

History will likely record that the new order in arctic relations was, like so many recent events, a product of *glasnost* and *perestroika,* ideas still untarnished by the harsh glare of reality back in 1987. More precisely, it was ushered in with the Murmansk speech of Soviet President Mikhail Gorbachev in October of that year when he called upon the arctic states to set aside their differences and to join in "a genuine zone of peace and fruitful co-operation". Wary at first, the West was slow to acknowledge that a new age had dawned. Indeed, it was not until November 1989, during a visit to Leningrad, that Canadian Prime Minister Brian Mulroney followed up with the tentative question: "And why not a council of Arctic Countries

eventually coming into existence to co-ordinate and promote co-operation among them?"

Hindsight, it has often been observed, is 20/20. Now, as the countries of the arctic rim ponder the prospect of enhanced co-operation—indeed, the establishment of a formal multilateral council—it is all too easy to forget the difficulties which for so long prevented real progress in the areas of aboriginal rights, environmental protection, and economic development. While there is ample cause for cheering the consultations set to begin this fall, it is important that the perspective of history not be lost. Serious issues remain to be resolved. Substantive negotiations must begin once the novelty of co-operation has worn off.

The **Arctic Council Panel,** an independent group established in January 1990 to study the feasibility of an arctic council and to suggest possible structures and functions, delivered its report in May 1991. During the summer of 1990, members of the panel travelled in the Canadian Arctic to determine how best such an international body might meet the concerns and needs of northerners. A draft statement was prepared and informal discussions held with federal and territorial government officials in October and November 1990. Speaking in Ottawa on 28 November 1990, Secretary of State for External Affairs Joe Clark stated Canada's intention to propose an Arctic Council to its circumpolar neighbours at the ministerial meeting on an arctic environmental accord to be held at Rovaniemi in June.

At that meeting, Canada's Minister of Indian Affairs and Northern Development, Tom Siddon, reiterated the government's position in discussions with his arctic counterparts. Two days later, at a meeting of northern aboriginal leaders in Copenhagen, he declared:

> Achieving a permanent arctic council among a group of nations with widely differing geographic, economic, cultural, and strategic interests will not be a simple task. But we believe it is a goal worth pursuing.

To move the process along, Prime Minister Mulroney will be writing to the heads of government of the seven other nations inviting them to send representatives to Canada later this year. Together, they can begin exploring how such a permanent council might be constructed and what its mandate and responsibilities might be.

Designing a mandate and agenda for the council will not be easy. Security and defence issues are yet bugbears that will have to be resolved. As former Norwegian minister of defence John Skogan notes, those charged with "exploring" the matter must be cognizant of the reluctance of certain

participants to broach the difficult matter of military security. If sidetracked by acrimonious debate on arms reduction and verification—and their global implications—the promise of an arctic council may well be quashed at a very early stage. And, as Skogan points out, Canada's enthusiastic support for an arctic council should be tempered by the realization that "in the European countries of the region the Arctic does not rank high on the public policy agenda."

There remain as well questions regarding the eventual relationship between an Arctic Council and other multinational bodies, including the Northern Forum, an association of northern regions founded at Anchorage in the autumn of 1990. Whereas proposals for an arctic council have tended to emphasize shared environmental concerns among the arctic states and have, in fact, used the success of the "Rovaniemi process" as a basis for co-operative action, the Northern Forum has emphasized commercial aims, and the strengthening of economic ties. For example, at its first formal session in May 1991, a leading topic of discussion was the viability of an Arctic Ocean alternative to the Panama and Suez canals.

It is important also to remember that success in the field of arctic diplomacy depends to a large measure on the state of global politics. Arctic issues are popular when other issues—the Middle East, the Persian Gulf—are not. Even at home, official interest in the Arctic has been sporadic, often taking a back seat to more exotic climes, as witness[ed in] Canada's campaign to join the Organization of American States. On the other hand, it is often something of a shock to discover that Canadians' predisposition to things northern is a trait not shared by the other countries of the region.

In Washington, U.S. arctic interests have rarely been accorded national attention; Alaskans often remark that the *Exxon Valdez* at least reminded other Americans of the existence of the 50th state[.] The Nordic countries, while sharing to a degree the *nordicite* identified by Louis Hamelin[,] nevertheless tend to view "arctic" issues not as a distinct realm but as an aspect of national policy. The Soviet Union, now undergoing dramatic political and economic upheaval[,] is perhaps most similar to Canada as an arctic "power"; yet, again, the differences are important—[Indigenous] people constitute 45 per cent of the population in northern Canada; in the Soviet Union, just 2 per cent. Iceland, having neither regions nor an aboriginal population, might not be blamed for seeing a broadly structured arctic council as ill-suited to its national aims.

Nevertheless, the need for dialogue is long overdue. Some have suggested that the Arctic should be designated an international park, or a multinational jurisdiction with a treaty system similar to that employed with reasonable success in the Antarctic. Yet the presence of indigenous peoples and resource-based industries would seem to argue against such an approach.

Finally, there must be consideration of the formal structure and operation of an arctic council. In April of this year, a working group of the National Capital Branch of the Canadian Institute of International Affairs produced, in conjunction with CARC [(the Canadian Arctic Resources Committee)], *The Arctic Environment and Canada's International Relations.* Reproduced in this issue of *Northern Perspectives* is a draft arctic council treaty prepared for discussion by Donat Pharand, Professor Emeritus of International Law at the University of Ottawa.

BACKGROUND AND CONTEXT

In 1971, legal scholar Maxwell Cohen proposed the idea of an "Arctic Basin Council" to address environmental protection and foster new ties with the Soviet Union.[1] The Cold War was then in full swing, so the idea did not take hold. Canada focused instead on bilateral relationships (particularly with Russia).[2] The Inuit Circumpolar Conference (now the Inuit Circumpolar Council, or ICC), founded in 1977, promoted circumpolar cooperation, developed a pan-Arctic environmental strategy, advocated for demilitarization, and pushed for Northern autonomy.[3] Indigenous organizations and Canadian non-governmental organizations, including CARC, also sought to reorient the debate away from a fixation on national prestige and security to also include cultural survival, environmental protection, sustainable development, and political mobilization. Mikhail Gorbachev's 1987 Murmansk speech opened the door for Prime Minister Brian Mulroney to formally propose the idea of a regional forum for Arctic cooperation to Russian authorities two years later.

The collapse of the Soviet Union shifted attention towards new security concerns, particularly the protection of the Arctic environment. Canadian scientists uncovered extensive evidence of transboundary

pollutants, such as fertilizers and pesticides, deposited in the Arctic region, and evidence revealed extensive pollution and radioactive waste in the Soviet Arctic that affected the entire Arctic basin.[4] "Many Inuit have serious concerns about the long-term health of the Arctic environment and the course that future industrial development in the region, fuelled by Western investors, is likely to take," an observer at the 1992 ICC meeting noted. "The Arctic environment, often mistakenly seen as pristine, is already polluted with rising levels of heavy metals, radioactive isotopes and industrial and agricultural chemicals."[5]

At the end of the Cold War, when Canada played a leading role in political negotiations to institutionalize circumpolar relations, its particular understanding of the Arctic in environmental and human terms (rooted in Indigenous subsistence-based livelihoods) deeply influenced the region-building process.[6] In 1991, the eight Arctic countries signed the Arctic Environmental Protection Strategy (AEPS), originally a Finnish initiative but largely drafted by Canadian officials, which created a circumpolar forum to work on environmental regulation and management.[7] The key would be follow-up action. "That has to come now," insisted ICC President Mary Simon. "We can't keep signing these international agreements and have no action. The important part becomes the implementation and interpretation of the agreement and the work plan that has to follow."[8]

As historian John English explains in his book on the origins of the Council,[9] Canada spearheaded efforts to build the new circumpolar organization that eventually subsumed the AEPS and incorporated its scientific working groups into the structure. CARC and the Walter and Duncan Gordon Foundation convened an early panel that called for an Arctic regional forum with substantial Indigenous representation and a mandate "to make the circumpolar region into a domain of enhanced civility – an area in which aboriginal peoples enjoy their full rights, and where national governments that speak for southern majorities accord progressively greater respect to the natural environment, to one another, and, in particular, to aboriginal peoples."[10] This concept was more revolutionary at the time than it might seem in retrospect, particularly in its effort to elevate the role, stature, and decision-making power of Indigenous peoples at the international level.[11] Northern leaders saw in the Arctic Council the shape of a new North, working across national boundaries to solve problems of critical regional importance. Accordingly, Canada played a major role in pushing for a human dimension to the Council and in the creation of the Sustainable Development Working

ARCTIC COUNCIL QUICK FACTS

ESTABLISHED 19 SEPTEMBER 1996, OTTAWA, CANADA

SIGNATORY STATES:

CANADA, KINGDOM OF DENMARK, FINLAND, ICELAND, NORWAY, RUSSIAN FEDERATION, SWEDEN, UNITED STATES

INDIGENOUS PEOPLES' ORGANIZATIONS WITH PERMANENT PARTICIPANT STATUS:

INUIT CIRCUMPOLAR COUNCIL
ICC (1996)

RUSSIAN ASSOCIATION OF INDIGENOUS PEOPLES OF THE NORTH
RAIPON (1996)

SAAMI COUNCIL
(1996)

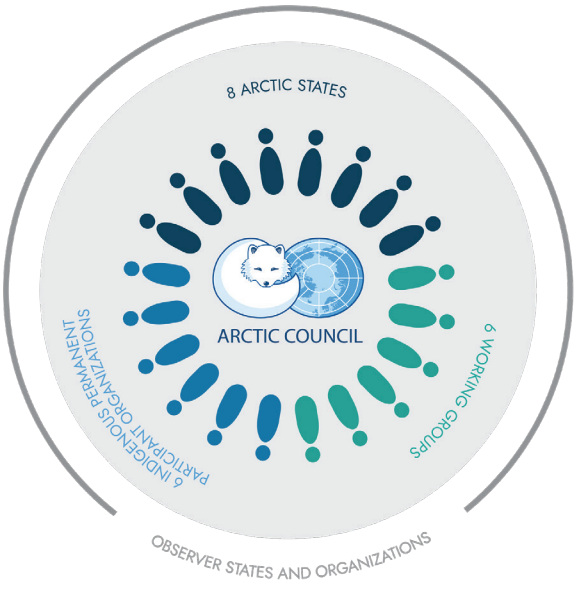
ALEUT INTERNATIONAL ASSOCIATION
AIA (1998)

ARCTIC ATHABASKAN COUNCIL
AAC (2000)

GWICH'IN COUNCIL INTERNATIONAL
GCI (2000)

OBSERVERS

Observer status in the Arctic Council is open to non-Arctic states, along with inter-governmental, inter-parliamentary, global, regional and non-governmental organizations that the Council determines can contribute to its work.



WORKING GROUPS

ARCTIC MONITORING AND ASSESSMENT PROGRAMME
AMAP (1991*)

CONSERVATION OF ARCTIC FLORA AND FAUNA
CAFF 1991*)

EMERGENCY PREVENTION, PREPAREDNESS AND RESPONSE
EPPR (1991*)

PROTECTION OF THE ARCTIC MARINE ENVIRONMENT
PAME (1991*)

SUSTAINABLE DEVELOPMENT WORKING GROUP
SDWG (1998)

ARCTIC CONTAMINANTS ACTION PROGRAM
ACAP (2006)

** AMAP, CAFF, EPPR and PAME were established as Working Groups under the Arctic Environmental Protection Strategy and later integrated into the Arctic Council.*

Group, acting on Northerners' wishes to have the Council's mandate extend beyond a narrow science focus.

The 1996 Ottawa Declaration formally created the Arctic Council as a high-level forum to promote cooperation, coordination, and interaction among the Arctic states, including the Arctic's Indigenous peoples under the unique status of Permanent Participants (PPs). While the Arctic Council retained the AEPS's focus on environmental protection, its mandate was expanded to address issues of sustainable development. Canada was also the first Arctic State to chair the Council, shepherding it through its two-year operationalization phase (1996-98).

The Arctic Council is organized around three levels of participation in its business. There are eight Arctic Council states: Canada, Denmark (Greenland/the Faroe Islands), Finland, Iceland, Norway, the Russian Federation, Sweden, and the United States of America. Every two years, a rotating Chair between these states allows each one a larger role in shaping the Council's agenda. Permanent Participants contribute to all aspects of the Council's work but are not formally included in its decision-making. The Council describes its decision-making process this way: "Decisions of the Arctic Council are taken by consensus among the eight Arctic Council states, with full consultation and involvement of the Permanent Participants."[12] The Council's commitment to the "full consultation and involvement of the Permanent Participants" in all of its meetings and activities represents an innovative development in intergovernmental relations, enabling Arctic Indigenous peoples to contribute Indigenous knowledge as well as policy and political perspectives to circumpolar debate. Lastly, Observer status is granted to non-Arctic states and organizations that have no decision-making authority but that can be invited to "observe" meetings and participate in the scientific research undertaken by the working groups. Observers sometimes play significant roles in the activities undertaken by the working groups and are sometimes permitted to speak to issues in full meetings of the Council.

The main engines of the Arctic Council are its working groups, which produce assessments and recommendations. Each working group has a specific mandate, is supported by its own secretariat, and typically includes representatives of governmental agencies of the Arctic Council states and PPs to organize the work. The working groups rarely undertake original research, and their assessments are effectively meta-analyses of specific Arctic issues drawing on published peer-reviewed work and on Indigenous knowledge. The Arctic Council also creates task forces or expert groups to undertake

ad hoc work on specific issues. An example of this is the Task Force on Arctic Marine Oil Pollution Preparedness and Response (2011-13), which led to the *Agreement on Cooperation on Marine Oil Pollution Preparedness and Response in the Arctic* by the eight Arctic states in 2013. Through its coordinated research and reports, the Council has played a vital role in conveying Arctic perspectives to other international and global organizations. It has influenced negotiations leading to international protocols on persistent organic pollutants (POPs), informed national climate change mitigation and adaptation strategies, and encouraged the conclusion of a binding Polar Code for ships through the International Maritime Organization.

The Arctic Council is an example of "soft" international law. The Arctic Council cannot enforce binding or "hard law" decisions on its member states. Nevertheless, as a high-level "discussional and catalytic" venue rather than a political decision-making body,[13] the Council has done "excellent technical work and informs and enables states to adopt progressive and environmentally and socially responsible policies."[14] Furthermore, binding international treaties, such as the 2011 *Agreement on Cooperation on Aeronautical and Maritime Search and Rescue in the Arctic*,[15] have been negotiated "under the auspices" of the Council.

The 1996 Ottawa Declaration, the founding document of the Arctic Council, expressly excludes military security from the Council's mandate. This caveat was included by the American delegation early in the negotiation phase leading up to the Ottawa Declaration. The U.S.'s insistence that security be left off the agenda was due to concerns that the Arctic Council would pursue regional interests contrary to American national security concerns. While some commentators continue to push for an expansion of the forum's mandate to include military issues, most consider the exclusion of "hard" security issues to be a key reason why the Council has continued to flourish despite growing international tensions between Russia and the West since 2014.

The Canadian Government's Arctic and Northern Policy Framework describes the Arctic Council as the "pre-eminent forum for Arctic cooperation." Canada continues to make valuable contributions in the Council's six working groups, and it considers the organization to be the leading regional, high-level intergovernmental forum through which it advances its Arctic foreign policy. This reflects Canada's strong contributions to the Council since 1996, including the significant government, Indigenous, and academic expertise, leadership, and resources (both human and financial) that it has provided to the various working groups and task forces.

WORKING GROUPS OF THE ARCTIC COUNCIL

Arctic Contaminants Action Program (ACAP): ACAP undertakes work aimed at encouraging national actions to reduce emissions and other releases of pollutants.

Arctic Monitoring and Assessment Programme (AMAP): AMAP's objective is to provide reliable information on the status of, and threats to, the Arctic environment, and to provide scientific advice on actions to be taken.

Conservation of Arctic Flora and Fauna (CAFF): CAFF's mandate is to address the conservation of Arctic biodiversity, helping to promote practices that ensure the sustainability of the Arctic's living resources.

Emergency Prevention, Preparedness and Response (EPPR): EPPR works with Arctic Council working groups and other organizations to ensure that emergency preparedness is appropriately addressed in the work of the Council.

Protection of the Arctic Marine Environment (PAME): PAME addresses non-emergency pollution prevention and control measures related to the protection of the Arctic marine environment.

Sustainable Development Working Group (SDWG): SDWG works to advance sustainable development in the Arctic.

Notes

1. Maxwell Cohen, "The Arctic and the National Interest," *International Journal* 26/1 (1971): 79-81.

2. See Walter Slipchenko, "Canada's Arctic Cooperation with the Soviet Union and Russia, 1965-2000," University of Saskatchewan Archives & Special Collections, Walter Slipchenko Fonds, MG 599.

3. Frances Abele and Thierry Rodon, "Inuit Diplomacy in the Global Era: The Strengths of Multilateral Internationalism," *Canadian Foreign Policy* 13/3 (2007): 55-57. The Inuit Circumpolar Conference (ICC) emerged in 1977 under the leadership of Eben Hopson, an Alaskan Inuk. It developed an international organization, as well as four national organizations (in Greenland, Alaska, Canada, and Russia). Originally, the Inuit from the Soviet Union, like the Sámi in Scandinavia, were excluded because of the Cold War; in the early meetings, the Conference organizers kept an empty chair on display, symbolizing the absence of Soviet representatives. Buoyed by changes occurring in the Soviet Union under Gorbachev, ICC President Aqqaluk Lynge successfully

lobbied Soviet authorities in 1985 to include Russian Inuit in the ICC. Other organizations such as the Arctic Athabaskan Council, Gwich'in Council International, Aleut International Association, and Russian Association of the Indigenous Peoples of the North called for international attention to their struggles.

4. Rob Huebert, "Canadian Arctic Security Issues: Transformation in the Post-Cold War Era," *International Journal* (Spring 1999): 207.

5. "Ailing Arctic Ocean focus of Inuit talks," *Globe and Mail*, 20 July 1992.

6. Eva Carina Helena Keskitalo, *Negotiating the Arctic: The construction of an international region* (New York: Routledge, 2004).

7. Rob Huebert, "New Directions in Circumpolar Cooperation: Canada, the Arctic Environmental Protection Strategy, and the Arctic Council," *Canadian Foreign Policy* 5/2 (1998): 37-58; Monica Tennberg, *Arctic Environmental Cooperation: A Study in Governmentality* (New York: Ashgate Publishing, 2000).

8. "Canada to join eight-nation Arctic protection body," *Globe and Mail*, 10 June 1991.

9. John English, *Ice and Water: Politics, Peoples, and the Arctic Council* (Toronto: Allen Lane, 2013).

10. "Making the Arctic a Zone of Civility," *Toronto Star*, 20 January 1992.

11. P. Whitney Lackenbauer and Andrew F. Cooper, "The Achilles Heel of Canadian International Citizenship: Indigenous Diplomacies and State Responses," *Canadian Foreign Policy Journal* 13/3 (2007): 99-119; Marshall Beier, *International Relations in Uncommon Places: Indigeneity, Cosmology, and the Limits of International Theory* (New York: Palgrave Macmillan, 2005); Franke Wilmer, *The Indigenous Voice in World Politics Since Time Immemorial* (London: Sage, 1993).

12. Arctic Council, "How We Work," https://arctic-council.org/en/explore/work/.

13. Timo Koivurova and David Vanderzwaag, "The Arctic Council at 10 Years: Retrospect and Prospects," *UBC Law Review* 40/1 (2008): 122.

14. Arctic Athabaskan Council, "Europe and the Arctic: A View from the Arctic Athabaskan Council" (2008), 3, https://www.uaf.edu/caps/resources/policy-documents/aac-Europe-and-the-Arctic-2008.pdf.

15. Arctic Council, *Agreement on Cooperation on Aeronautical and Maritime Search and Rescue in the Arctic* (2011), https://oaarchive.arctic-council.org/handle/11374/531.

FROM AMBITION TO IMPLEMENTATION: A NEW STRUCTURE FOR THE ARCTIC COUNCIL

Marc-André Dubois and Clive Tesar

Every two years, the foreign ministers and/or other representatives of the eight Arctic states and the leaders of the six international Arctic Indigenous Peoples' organizations gather for what is known as the Arctic Council's ministerial meeting. At this meeting, they formally agree to a negotiated text that is supposed to lay out the Council's direction for the following two years. As the Council is not a forum for formal treaty obligations to be made, the Ministerial statement is sprinkled liberally with non-committal language. Each of the many clauses starts with a verb – in this year's Ministerial statement in Reykjavík, the verbs "recognize" and "welcome" are the most common. After the initial "recognizing" and "welcoming," there is not much more instructive language. In some clauses, parties to the Council and Observer states are "encouraged" or "called upon" to take specific action.

This is not a criticism of the Council or the Ministerial process. This approach to international diplomacy, often referred to as "soft law," definitely has a place, and has produced tangible results through the Arctic Council's twenty-five years of existence. As other observers have noted, it is often easier to set ambitious targets through this approach than through "hard law" approaches such as treaties that specify targets and actions.[1] The Council can list many positive scientific and policy-shaping accomplishments, from the early work on persistent organic pollutants and other toxins, through the Arctic Climate Impact Assessment and subsequent climate work, the Council has helped shaped global responses to global threats. The rapid and significant changes in the Arctic, from melting ice to economic development, have drawn global attention to the region and to the Arctic Council as the central mechanism for responding to these changes.

The Council's work is most visible in the reports of its working groups. These reports not only synthesize the knowledge of researchers and Indigenous knowledge holders, but also suggest courses of action to stop or mitigate negative impacts and encourage positive policies. The main shortcoming of the Council's work is that despite the wealth of policy expertise applied to these reports, there has not been a coordinated approach to implementation at a national level, and there exists only fragmented coordination at

the Council level. Monitoring and reporting against Council initiatives has been patchy to non-existent, and as a result, it has been difficult to assess the effectiveness of the initiatives.

There have been some positive steps toward implementation over the past few years. Progress on following up on the recommendations of the Arctic Marine Shipping Assessment has been monitored, and an action plan was developed for the Arctic Biodiversity Assessment. The Arctic Council established and developed a tracking tool to monitor progress on Council projects. The Council added to this in Reykjavík, agreeing to review its working methods, organization, and structure and update them as needed in order to position the Council to successfully implement a new strategic plan. The new Council chair, Russia, has announced that the main theme for its two-year chairmanship is "Responsible Governance for Sustainable Arctic."

The sections that follow are based on a previously published work by the World Wildlife Fund (WWF), co-authored by the two authors of this chapter along with WWF colleagues.[2] This revised version makes some changes to the original, but we acknowledge the contributions of our co-authors in the previous version.

The central question facing the Council now is whether it can meet the policy and management challenges of rapid change. The current Arctic Council structure and rules of procedure provide insufficient institutional grounds for the coordination and integration of the assessments and recommendations flowing from the individual working and expert groups to ensure that the Arctic states implement comprehensive and complementary actions through their national processes.

We propose a new institutional arrangement for the Council to ensure that policy recommendations are ambitious, practical, prioritized, and implemented. The base of this proposal is that the Council should create three new subsidiary structures: a knowledge structure, a policy structure, and an implementation structure. These three structures would enhance the existing Arctic Council functions and structure by integrating working groups, expert groups, task forces, and Senior Arctic Officials (SAOs) into a more interactive system that would allow for the better coordination and execution of decisions on the basis of the best available knowledge, and for sharper policy guidance combined with a focus on implementation at a national level.

The proposed new structure would operate within the Arctic Council's mandate and Rules of Procedure. Arctic Council member states and

Permanent Participants (PPs) would nominate their representatives to each structure. Observers could participate in the work of these groups as per the Rules of Procedure and the Observer Manual, with appropriate amendments.

These structures would enhance the productivity of the existing structure by ensuring that the flow of work, from scientific analysis through the consideration of policy implications and recommendations for implementation actions, is integrated across all working groups (WGs), task forces (TFs), and Senior Arctic Officials (SAOs). This would result in a more integrated system, where gaps and duplication would be clearly visible, and where there would be a more uniform monitoring of progress and implementation of ministerial decisions.

Knowledge Structure

Almost all of the Arctic Council's work currently flows from working groups (WGs) or expert groups (EGs). These groups typically survey the existing evidence on given topics, whether that is mercury, marine shipping, or human development. The proposed knowledge structure would house the existing working groups and expert groups, as well as/or other science and technical focus structures as they may be created by the Arctic Council. The working groups have their own governing structures that then report to a group of Arctic state representatives called the Senior Arctic Officials (SAOs). In theory, this group would have an integrative oversight role. In practice, it has led to fragmentation and the lack of an integrated research agenda. A dedicated structure whose only function would be to coordinate the Council's knowledge base could provide a firmer foundation for an integrated and implementable agenda.

The knowledge structure would be responsible for conducting all assessments, coordinating early warning work (identifying new and emerging issues), producing technical reports, coordinating science and research agendas, and ensuring the use of traditional knowledge for the co-production of new knowledge coming through the Arctic Council. The work and agenda of this structure should be built on:

- Ministerial priorities, as expressed through Ministerial Declarations and in approved SAO reports;
- requests from the policy and implementation structures; and
- following up on established and agreed-upon indicators that require the urgent direction of scientific resources.

The knowledge structure should provide scientific and technical recommendations that would then be forwarded to the policy structure. The knowledge structure should have regular meetings (two between each Ministerial). All products of the working groups (WGs) and expert groups (EGs) would be considered by the structure as one knowledge package with no division into silos. This should strengthen the integration of science and the technical agenda throughout the entire Council. The knowledge structure would be co-chaired on a rotational basis by a senior scientist from a member state and an Indigenous knowledge expert put forward by the Permanent Participants (the six international Indigenous peoples' organizations at the Arctic Council).

Policy Structure

There is currently no structure within the Arctic Council that is effectively doing the delicate work of turning science into policy. That is not to say that the Council does not generate policy, but this process lacks a dedicated structure to generate coherent circumpolar policy. According to the Council itself, "Based on the compiled knowledge – including scientific findings as well as traditional knowledge – of their reports and assessments, the Working Groups often develop scientific summaries. These in turn serve as the starting point for a set of policy recommendations and best practices, which are outlined in a brief summary for policy makers or as part of the full report."[3] The problem lies not in the recommendations put forward by the working groups, but in the fact that the "policy makers" referred to in the quote above are not a coherent body tasked with considering the best possible circumpolar policies. Instead, the recommendations are left to the policymakers of the individual states, regions, and Indigenous governments.

A policy coordination structure could develop and recommend policy options and actions based on the scientific assessments/reports and recommendations submitted by the knowledge structure, and would be responsible for bringing the resulting policy recommendations to the SAOs for the Arctic Ministers' decision. The policy structure could be composed of representatives from the relevant governmental authorities responsible for policy development in all relevant sectors. This would ensure that the appropriate expertise is brought to bear on the policy development aspect of the Council's work: expertise that is intimately familiar with the policy environment in each of the Arctic states, and that can therefore collectively craft policy that is implementable in each of the states.

Strong participation by the Permanent Participants (PPs) in this process would be a priority given the importance of their role in decision-shaping and decision-making. We propose a similar governance structure to the knowledge structure, with rotating co-chairs. The policy structure would report to the SAOs, who would then make recommendations for consideration by the ministers, allowing the application of a political lens to policy recommendations. In addition to developing policies based on the information and recommendations provided by the knowledge structure, the policy structure could also request that further research be conducted and additional information gathered by the knowledge structure if it finds that more or different information is required in support of particular policies. Before passing any policy recommendations on to the SAOs and ministers, the policy structure would pass its recommendations back to the knowledge structure to ensure that the draft policies are appropriately supported by scientific advice. The policy structure would meet twice between Ministerials, sixty days after the meeting of the knowledge structure, to allow for the timely consideration of the scientific findings and recommendations.

Implementation Structure

The implementation structure would consider the policy decisions provided by Ministers and set up monitoring plans to track the national implementation of the policy decisions. Where the policy decisions would require the Arctic states to work in concert to create, amend, or influence international treaties, whether regional or global, the implementation structure would assist in coordinating the states' actions.

The standards for implementation established by this structure would constitute the benchmarks against which the effectiveness of national or other actions regarding implementation would be measured and reported on. Similar to the other structures, the implementation structure would have rotating co-chairs. Member states would nominate their representatives from among high-ranking public servants with implementation powers. This committee may consider recommending meetings of the Ministers responsible for a certain area of implementation in order to foster national and regional follow-through on Ministerial Declarations. The implementation structure could request that additional research be conducted by the knowledge structure to support the development of its implementation plans, and could request from the policy structure the development of further policy options or recommendations to support implementation needs.

The implementation structure would work closely with the Arctic Council Secretariat on the monitoring, evaluation, and reporting of progress (dedicated staff capacity within the Secretariat) and provide reports and proposals to the SAOs. The implementation structure would meet twice between Ministerials (the first meeting two months after a Ministerial Meeting and the second four to five months prior to the next Ministerial).

National Action Process to Bolster Arctic Council Decision Implementation

Under the system proposed above, SAOs would continue to manage day-to-day Council matters and advise Foreign Ministers. The members of the implementation structure would lead the national implementation of the policies agreed upon at the Arctic Council, given their respective national coordination mandates and in line with national legislation. Their prominent executive status and mandate should be officially recognized in order for different Ministries to respond adequately.

National integrative structures involved in the science-policy interface, such as the U.S. Arctic Executive Steering Committee or Russian State Commission for Arctic Development, should be at the core of Arctic cooperation and integration. To make this successful, each Arctic government would need to create a national implementation committee led by high-level officials, though Foreign Ministers would remain the ultimate decision-makers within the Arctic Council structure. These national committees would be mandated to coordinate national efforts in the Arctic as well as to prioritize and effectively integrate the work of the individual departments and agencies with the activities that are already underway at the subnational and international levels. The national committees should include Indigenous representation, ensuring that Indigenous interests are integrated right through the process, from research, to policymaking, to implementation.

Conclusion

The Arctic States are by no means alone in their difficulties in translating the ambitions of their sustainable development rhetoric into tangible policies at home. As a paper that reviewed more than ninety studies on the failure to improve environmental sustainability in many different regions of the world concluded, "What is clear from this review is that the inability to improve environmental sustainability is due to a complex number of causes and a

significant element is policy implementation failure from the international to the national, regional and local levels of government."[4]

The Ministerial gathering in May 2021 saw the adoption of a strategic plan for 2021-30. This is a good step towards a stronger Arctic Council from an institutional perspective. However, the institutional evolution of the Council is too slow compared to the pace and scope of Arctic change. The Ministerial highlighted the fact that the Arctic region is now warming at three times the global average. As noted in other chapters in this book, this level of warming is already disrupting marine and terrestrial ecosystems, creating disturbances that are likely to be exacerbated by the increase in industrial activities and shipping leading to new and expanded economic activities. Everything is changing around the Arctic Council, and the Council is not keeping pace with the change. The Russian chairmanship is now labelled as the "responsible governance chairmanship." This is the time to decisively change the Council's structure in such a way that it, and the states and Indigenous peoples that compose it, can and do match the ambition of its rhetoric with national, regional, and international implementation.

The time has come to focus on the implementation of Arctic Council decisions by all Arctic States, and by governments and organizations beyond the Arctic. The steps we propose pave the way for greater implementation while simultaneously increasing the overall efficiency, accountability, and visibility of the Arctic Council both within the Arctic countries and internationally. The new architecture that is proposed is built on the strong foundations of the Council but recognizes the new challenges and conditions to which the Council must respond. The proposal strengthens the Council's role in asserting regional stewardship by responding to the challenges of a rapidly changing Arctic and the increasingly more integrated policy frameworks from the local to global scales. In combination, the proposed changes stand to make a strong impact on the future of implementation in the Arctic space at a time of critical juncture. As the changes we propose are purely structural and do not purport to create new binding obligations on countries, we believe that they can be implemented on the basis of an informal agreement among the Arctic States.

The Arctic states are right to celebrate the achievements of the past twenty-five years. They would also be prudent to take steps to ensure that there is something worth celebrating twenty-five years from now.

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CONTRIBUTORS

Clive Tesar grew up in northern Canada and worked as a reporter, editor, and host for CBC North. He works on northern issues in the Canadian and circumpolar north for a variety of organizations and governments. He also teaches in the Master of Northern Studies program at Carleton University. He worked as CARC's communications officer and editor of Northern Perspectives for several years.

P. Whitney Lackenbauer is Canada Research Chair in the Study of the Canadian North and a Professor in the School for the Study of Canada at Trent University. He leads the North American and Arctic Defence and Security Network (NAADSN) and is the former Honorary Lieutenant Colonel of 1st Canadian Ranger Patrol Group (2014-2020). He served on the CARC Board of Directors from 2015-2021.

Marc-André Dubois completed an internship at the Canadian Embassy in Stockholm as well as at the Arctic Council secretariat in Tromso. He worked as an advisor on Arctic governance for WWF's Arctic Programme. He now teaches geography and history in secondary schools in Gatineau to share his passion about nature and the Arctic region.

Jess Dunkin is a settler writer and historian who has lived in Sǫ̀mba K'è̀ (Yellowknife, NT), on Yellowknives Dene territory, since 2015. Jess provides research, writing, and communications support to communities and organizations in the NWT. Jess holds a PhD in History from Carleton University. She is the author of Canoe and Canvas: Life at the Encampments of the American Canoe Association, 1880–1910 (University of Toronto Press, 2019).

Aimee Guile works as the conservation biologist for the Wek'èezhìı Renewable Resources Board. In this role, Aimee provides guidance to the Board on matters relating to Species at Risk, protected areas, plants, and forests.

Anne Gunn worked as a biologist with the Government of the NWT (1979-2006), spending time watching caribou behavior, counting caribou from the ground and the air, listening to and sharing information with co-management boards, government agencies, the public, aboriginal hunters and elders. After 2006, Anne advised on caribou conservation to several co-management boards and internationally, Anne contributes to Circum-Arctic Rangifer Monitoring and Assessment (CARMA) Network and to the International Union for the Conservation of Nature's Deer Specialist Groups.

Suzanne Lalonde is a law professor at the Université de Montréal who specializes in core international legal principles, especially those pertaining to sovereignty and the determination of boundaries on land and at sea, with a particular emphasis on the Arctic. She is the Canadian member of the International Law Association Committee currently investigating state practice in relation to straight baselines, and a member of the Canadian Arctic Security Working Group.

Lois Little has played a leadership role with CARC since 2003. She has lived and worked in the Yukon, Nunavut, and Northwest Territories since 1969 and in Yellowknife since 1975. She is the founding partner of Lutra Associates Ltd., a Yellowknife-based socio-economic research and management consulting firm, and a trail-blazer in socio-economic research and evaluation particularly related to long standing social issues in the north.

Doug Matthews has been involved for over 40 years in northern resource development with experience in each of the mining, petroleum, pipeline and electricity sectors of the economy. He spent twenty-five years with the Government of the Northwest Territories (GNWT), living in each of Tuktoyaktuk, Inuvik and Yellowknife; has worked with most communities in the NWT; and has helped to resolve mining and petroleum issues with groups ranging from hamlet councils to committees of the United States Senate. Matthews lived for five years in Tuk, six in Inuvik and fourteen in Yellowknife before retiring from the GNWT as the Director of the Minerals, Oil and Gas Division. He continues to work in the north and has provided consulting services on oil, gas, mining, energy and remediation issues to the Hamlet of Tuktoyaktuk; the Inuvialuit Regional Corporation; the Gwich'in Tribal Council; the Sahtu Secretariat, Inc; and a number of Sahtu-communities.

Laura Meinert works as a wildlife management biologist with the Wek'èezhìı Renewable Resources Board, providing the Board with scientific research, monitoring and management advice on wildlife, including fish and species at risk, in Wek'èezhìı. Laura previously worked as an environmental advisor in mining in the NWT.

Derek Muir is a Senior Research Scientist with Environment & Climate Change and holds adjunct professor positions in the School of Environmental Sciences, University of Guelph, and in the Dept of Chemistry at University of Toronto. For the past 25 years he has led an environmental chemistry group that studies sources, fate and bioaccumulation of contaminants with a focus on persistent organic pollutants and mercury in the Arctic. In 2018 he received the W. Garfield Weston Family Prize for Lifetime Achievement in Northern Research and the Royal Canadian Geographical Society Martin Bergmann Medal for Excellence in Arctic Leadership or Science.

Bram Noble is a Professor at the University of Saskatchewan, specializing in environmental assessment. He co-leads the CASES international partnership for energy transition in northern Canada, Alaska, Sweden, and Norway. Bram has served as an advisor on environmental assessment to northern governments, industry, and Indigenous communities. He is editor-in-chief of Environmental Management journal and author of Introduction to Environmental Assessment: A Guide to Principles and Practice, currently in its 4th edition.

Kevin O'Reilly has resided in Yellowknife since 1985, where he has worked for Indigenous, federal and territorial governments and agencies on land use planning, environmental assessment and resource management. This work included a ten-year stint as the Research Director for Canadian Arctic Resources Committee, when he set up and ran CARC's Yellowknife office and coordinated the Northern Minerals Program that included interventions in Canada's first three diamond mines. Kevin served as a Yellowknife City Councillor from 1997-2006 and has been a Member of the Legislative Assembly of the NWT since 2015.

Jody Pellissey has worked as the executive director for the Wekʼèezhìı Renewable Resources Board (2010 to present) and the Sahtu Renewable Resources Board (1999 – 2009). As a part of this co-management work, Jody has helped develop and implement caribou range plans and caribou management plans with the Advisory Committee for the Cooperation of Wildlife Management and the Bathurst Caribou Advisory Group.

Jamal (James) Shirley grew up in Rankin Inlet, Nunavut, and earned his Masters of Resource and environmental studies (MES) from Dalhousie University in 2002. He has worked with the Nunavut Research Institute (NRI) in Iqaluit since 1998 and is currently the NRI's Director of Innovation and Research. Jamal has helped to develop guidelines and protocols for collaborative research in Nunavut and has been directly involved in the design, implementation, and evaluation of a wide range of community based research projects spanning the natural, health, and social sciences disciplines across Nunavut.

Edward Struzik is a fellow at Queen's Institute for Energy and Environmental Policy in the School of Policy at Queen's University and the 2022 Jarislowsky Fellow at the University of Waterloo. He has lived and worked in the north for the better part of 35 years as an Arctic correspondent for Equinox Magazine, as the bureau chief (one person) for the Southam News organization in Yellowknife and as a naturalist in Kluane National Park in the Yukon. Each one of his eight books deals with the Arctic in some way. He served on the CARC Board of Directors from 2015-2018.

John B. Zoe is a member of the Tłı̨chǫ Nation, residing in Behchokǫ̀, an Indigenous community on the shores of Marian Lake, NWT. John was the chief negotiator for the negotiation and settlement of the Tłı̨chǫ Agreement, a land claim and self government agreement. John is currently an advisor to the Tłı̨chǫ Government on various items, including sitting as chair of Hotıì ts'eeda, the NWT SPOR (Strategy for Patient-Oriented Research) Support Unit, which is funded by the Canadian Institute for Health Research, embedded in the Tłı̨chǫ Government, and governed by participating representatives of Indigenous governments.

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Lines in the Snow

Thoughts on the Past and Future of Northern Canadian Policy Issues

Edited by Clive Tesar and P. Whitney Lackenbauer

Over the course of the past fifty years, CARC has encouraged a better-informed national conversation over aspects of northern development, providing opportunities for experts from diverse backgrounds to elaborate policy alternatives for the north and to comment on national policy initiatives. Starting with the Mackenzie pipeline proposal, CARC has supported the efforts of Indigenous peoples of the north to reclaim their land and governance rights and to ensure that northern voices were part of the policy conversations. This volume includes excerpts from past CARC interventions across twelve policy areas alongside original insights from expert commentators on future issues and opportunities for the Canadian North

Contributors: Marc-André Dubois, Jess Dunkin, Aimee Guile, Anne Gunn, P. Whitney Lackenbauer, Suzanne Lalonde, Doug Matthews, Laura Meinert, Derek Muir, Bram Noble, Kevin O'Reilly, Jody Pellissey, Jamal Shirley, Edward Struzik, Clive Tesar, John B. Zoe