

Integrated coastal management and marine protection in the Canadian Arctic

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Abstract

Canada has been implementing integrated coastal management and marine protection in the Canadian Arctic in fulfillment of international obligations under the Law of the Sea Convention and Agenda 21. This implementation has been occurring with the enactment of the federal Oceans Act, and through national and regional initiatives that are coordinated by Fisheries and Oceans Canada and involve government, indigenous peoples and private parties. Integrated management and marine protection are examined for the Beaufort Sea and Hudson Bay, two regions in the Canadian Arctic. In each case, the regional initiative involves different levels of governments, the Inuit and First Nations, industry and environmental interests.

The first instance is the proposed establishment of a marine protected area for beluga whales and other marine species in the Canadian Beaufort Sea. This marine protected area, and any protective regime for adjacent areas with seasonal and environmental restrictions, will occur in the context of expanding oil and gas development in the Canadian and US Beaufort Sea.

The second instance is integrated coastal management and marine protection for Hudson Bay. Hudson Bay is an inland sea wholly within Canada. Its watershed drains much of North America and is subject to upstream environmental impacts, including those occurring as a result of hydroelectric developments. The Bay is also subject to transboundary air and marine pollution. Last, as a shallow ice-covered sea, the Bay is experiencing the impacts of climatic changes and impacted by any increases in marine traffic.

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Introduction

This article discusses integrated management and marine protection for the Canadian Arctic, focusing on two internal regions within Canada. The first instance is the proposed establishment of a marine protected area for beluga whales and other marine species and their habitat in the Canadian Beaufort Sea. This marine protected area, and any protective regime for adjacent areas, is occurring in the context of existing and proposed oil and gas developments in the Canadian and US Beaufort Sea. The second instance is integrated coastal management and marine protection for Hudson Bay. Hudson Bay is an inland sea wholly within Canada. As its watershed drains much of North America, it is subject to upstream environmental effects, including those arising from existing and proposed hydroelectric developments. The Bay is also subject to transboundary air and marine pollution. As a shallow ice-covered sea, the Bay is experiencing the impacts of climate change and impacted by increased marine transportation.

Circumpolar initiatives for integrated management and marine protection affect lands, waters, and marine and terrestrial species who inhabit the Arctic. The circumpolar Arctic has been described as an Arctic sea surrounded by land. Given that visualization, matters that are relevant for the land and waters of one region of the Arctic may also be relevant for adjacent and opposing regions. Therefore, integrated coastal management and marine protection initiatives in certain regions of the Canadian Arctic can be said to be relevant for the rest of Canadian Arctic and the circumpolar Arctic.

Initiatives for integrated management and marine protection in the Canadian Arctic do not exist in isolation. The variety of the presentations at this conference confirm the different faces of integrated management and marine protection for the circumpolar Arctic. These presentations also confirm the high level of interest in these issues. Other presentations at this conference pertaining to integrated coastal management and marine protection include: the North Atlantic Marine Mammal Commission and its approach to marine mammals; Norwegian and Russian co-operation for management of fish stocks in the Barents Sea; sustainable development of the coastal zone of the White and Barents Seas; the arctic nearshore marine environment; Saámi reindeer management in Norway; the Kola Saami People; and common resource management and small-game hunting in Swedish Saamiland.²

² *The North Atlantic Marine Mammal Commission: A Regional Approach to*

Framework for marine protection and integrated management in the circumpolar Arctic

A framework exists for integrated management and marine protection in the circumpolar Arctic. This framework consists of international and regional agreements and conventions, that are nationally implemented in the Arctic countries. There are general conventions and agreements that address marine issues such as the 1994 United Nations Convention on the Law of the Sea. At the next level, conventions address environmental aspects of land activities such as the Convention For The Prevention Of Marine Pollution From Land-based Sources (the Paris Convention of 1974), and the Convention for the Protection of the Marine Environment of the North-East Atlantic (or the Oskar Convention). At a more specific level, conventions address shipping, oil and chemical pollution from ships, and any resulting civil liability.³

These international conventions and agreements are augmented by circumpolar and regional agreements for the marine environment. These include the Agreement Between Denmark, Finland, Iceland, Norway And Sweden On Information And Cooperation In Response To Pollution Of The Sea By Oil Or Other Harmful Substances (Copenhagen Agreements), the Agreement Between Denmark, Finland, Iceland And Sweden (Nordic Agreement), the Convention On The Protection Of The Marine Environment Of The Baltic Sea Area (Helsinki Convention), and the Iqualuit Declaration. Additionally, other

Utilisation of Natural Resources and Marine Mammal Management, Grete Hovelsrud-Broda, General Secretary to NAMMCO, Norway. *Norwegian-Russian co-operation on development of multispecies models for management of fish stocks in the Barents Sea*, Sigurd Tjelmeland, Institute of Marine Research, Bergen, Norway, Anatoly Filin, PINRO, Murmansk, Russia. *Towards Sustainable Development of the Coastal Zone of the White and Barents Seas*, Michael Shilin, Sergej Lukjanov, Yevgenij Kluikov, Russian State Hydrometeorological University, St. Petersburg. *Perceptions of and behaviours in the arctic nearshore marine environment: Biological costs in the forgotten realm*, L. Alessa, Depts of Biology and Education, University of Alaska, USA. *Sámi Reindeer Management in Norway: Modernization Challenges and Conflicting Strategies*, Jan Åge Riseth, Narvik University College, Norway. *Living Conditions in the Arctic: The Situation with the Kola Saami People*, Oleg Andreev, Victoria Shyrokaya, The Barents Center for Social Research, Russia. *Common Resource Management in Contradiction with an Indigenous People`s Interests: A Case Study on the Small-game Hunting in Swedish Saamiland*, Nils Vasara-Hammare, Nordic Sami Institute, Norway.

³ The International Convention For The Protection Of Pollution From Ships (MARPOL 73/78); the International Convention on Oil Pollution Preparedness, Response and Cooperation; the International Convention on Civil Liability for Oil Pollution Damage and the Protocol to Amend the International Convention on Civil Liability for Oil Pollution; International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage 18 December 1971; the International Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea.

international and regional agreements focus on the conservation of specific fish stocks and marine mammals that inhabit this environment.

Canadian framework for marine protection and integrated management

This international and circumpolar framework provides the backdrop and guidelines for a Canadian framework for integrated coastal management and marine protection. In turn, Canadian initiatives are an integral part of circumpolar and international initiatives for coastal management and marine protection.

The framework for integrated management and marine protection for northern Canada and the Arctic Ocean is based upon the domestic implementation of international agreements; federal, provincial and territorial legislation in accordance with the Canadian Constitution, and rights and management processes recognized in land claims agreements.

Canada is a federal state where authority is divided between the national government, and provincial and territorial governments. Under the Constitution Act, 1867, the federal government has authority over the offshore lands and waters except in very select instances. The provincial and territorial governments have limited authority over offshore lands and waters. Provincial and territorial authority for integrated management and marine protection is limited to coastal lands, and activities on these coastal lands that may affect marine waters.

Land claim agreements between the federal government and the Inuit, the Inuvialuit and First Nations are superimposed on this constitutional division of powers. Aboriginal and treaty rights are defined to include modern treaties and land claim agreements, and are protected under section 35 of the Constitution Act, 1982. As a result, these agreements modify the existing division of power for offshore lands and water. The Inuvialuit Final Agreement and the Nunavut Final Agreement are the most pertinent agreements for the Beaufort Sea and Hudson Bay, and are briefly discussed in this paper. These agreements recognize subsistence harvesting in the offshore, and establish joint management regimes for wildlife, environment and resources that apply to offshore lands and waters.

Fisheries and Oceans Canada is the federal government department with primary responsibility for integrated management and marine protection for the Canadian Arctic Ocean under the Oceans Act, the Fisheries Act, the Navigable Waters Protection Act, and the Canada Shipping Act. The Oceans Act states that Fisheries and Oceans Canada is the key federal department for integrated management and marine protection for Canada's oceans, and it responsible to co-ordinate the efforts of other parties.

Other federal departments and agencies also have responsibilities for integrated management and marine protection. The Department of Indian Affairs and Northern Development issues mineral, oil and natural gas leases for offshore lands. The National Energy Board regulates energy development on most of the land in Canada's three northern territories, and all the adjacent offshore areas. Environment Canada regulates environmental matters in the offshore, with the Canadian Wildlife Service regulating

birds and terrestrial species, the latter which is defined to include polar bears. The Canadian Environmental Assessment Agency is an independent agency that administers the Canadian Environmental Assessment Act, which is the national legislation that requires a consideration of the environmental impacts of federal decisions and approvals. The Parks Canada Agency implements the National Parks Act, which includes species and habitat protection within national parks and other protected areas. Parks Canada is in the process of establishing marine parks, and has proposed legislation which more clearly defines this role.

If one considers marine protection within this national framework, three programs exist for creating protected areas. The Marine Protected Areas program of Fisheries and Oceans Canada focuses on the conservation and protection of marine species and habitat. The Parks Canada Agency has a mandate to create National Marine Conservation Areas to protect representative areas of Canada's marine environment. Environment Canada may establish Marine Wildlife Areas with an emphasis on protecting critical migratory bird habitat. Efforts are underway to coordinate Canada's three programs for protected areas into a national system of protected areas. Fisheries and Oceans Canada is also seeking to implement a national Integrated Management program which will include marine protected areas as one aspect of a broader management plan.

Canada's national system of protected areas is in turn incorporated into circumpolar and Arctic initiatives. Canada's system is part of the Circumpolar Protected Areas Network of the Conservation of Arctic Flora and Fauna program. This Network was established to protect terrestrial and marine areas of the arctic environment and biodiversity. It does so by identifying significant gaps in national marine protected areas networks, monitoring the state of protected areas, and providing an mechanism for cooperation among members. In turn, the Circumpolar Protected Areas Network is part of a global network of protected areas under the World Commission for Protected Areas. The Commission has a marine program which provides for the long term protection of the world's marine heritage through a Global Representative System of Marine Protected Areas. One of the tasks of the Arctic Task Force formed under the Commission is determine how to implement this global system of protected areas in the Arctic.⁴

Canadian Beaufort Sea

One Canadian initiative for integrated coastal management and marine protection is the proposed establishment of a marine protected area in the Canadian Beaufort Sea. This protected area focuses on beluga whales and their habitat, though other marine species and their habitat will also be protected in this area. Multi-party discussions by government, the Inuvialuit and industry have been underway for the past three years to transform three areas in the Mackenzie River delta region into a marine protected areas consistent with the Oceans Act and other federal legislation. Prior to examining this

⁴ T. Kurvits, *Area Protection in the Arctic Marine Environment: Interplay of Arctic and Broader Processes*, from Report from the Canadian-Norwegian Arctic Cooperation Seminar, April 2-3, 2001, Tromso, Norway.

initiative, it is useful to consider the range and size of the migratory Beaufort Sea beluga whale population.

In spring, the Bering Sea beluga whale population segregate into four presumably discrete stocks. One of these stocks is the Beaufort Sea beluga whale stock and ranges to the Beaufort Sea, Mackenzie River estuary, and Amundsen Gulf each year. The whales arrive in the Beaufort Sea during May and June following an offshore migration hundreds of kilometres offshore of the Yukon coast, through the pack-ice, and aggregate in the Mackenzie River estuary during the month of July. The westernmost parts of this aggregation occur within Yukon coastal waters, specifically near, and offshore of, the Shingle Point area. During and after the estuarine aggregation period, beluga whales make extensive use of offshore waters, including that offshore of the Yukon. They are commonly seen in nearshore areas as well. These waters are only a fraction of the summer range of the stock and that the whales are highly mobile, moving great distances and traveling up to 100 km per day. The return migration takes place through both coastal and offshore waters during August and September, and a portion of the stock passes westward offshore of the Yukon en route to the Bering Sea.

In 1997, beluga whales tagged in the Mackenzie Delta moved westward along the Yukon coast, using a variety of routes ranging from nearshore to hundred's of km offshore, and aggregated near Wrangel Island for the months of October and November before proceeding through the Bering Strait. The best and most recent index of size of the Beaufort Sea beluga whale stock was obtained in aerial survey conducted in July 1992. This survey included counts in the Mackenzie River estuary, the offshore Beaufort Sea, and the western Amundsen Gulf. The population estimate from that survey, not corrected for whales below the surface or outside the survey, was 19,629 animals which suggests the Beaufort Sea beluga whale population is between 15,134 and 24,125 animals.

The region proposed for the marine protected area are Zone 1A lands under the Beaufort Sea Beluga Management Plan, which is an existing management plan for beluga whales involving government, the Inuvialuit and industry. Once established, this marine protected area would protect beluga whales and other marine species, and all their habitat.

This marine protected area, and any integrated management regime for this and adjacent areas, will occur in the context of extensive oil and gas exploration and production in the Canadian and US Beaufort Sea. Marine protection and integrated management will occur under the federal legislation, and must conform to the Inuvialuit Final Agreement and the Beaufort Sea Beluga Management Plan.

The Inuvialuit Final Agreement creates the Inuvialuit Settlement Region, whose offshore region includes the Canadian Beaufort Sea. The Agreement recognizes Inuvialuit harvesting rights for beluga whales and acknowledges that the Inuvialuit Game Council, assisted by the Hunters and Trappers Committees, is the Inuvialuit voice on wildlife issues. Unlike other northern land claims agreements, the resource management regime in the Agreement is superimposed upon existing federal and territorial legislation. Therefore, the Agreement does not substitute or replace existing legislation. Instead, the

Agreement establishes a number of Inuvialuit-government joint management boards that are superimposed under existing legislation.

The Fisheries Joint Management Committee as an Inuvialuit-government joint management board with responsibilities for fisheries allocation and management in the offshore. The membership of the Committee illustrates its joint management role. The Committee is formed of a chair, with equal numbers of members appointed by the Inuvialuit Game Council and the government of Canada. The Inuvialuit Game Council and the government of Canada each appoint two members, and all the members appoint the chair. In practice, decisions of the Fisheries Joint Management Committee are consensual. Formal votes are only recorded for matters such as financial allocations, or certain recommendations, such as the one subsequently accepted by government for an Inuvialuit subsistence bowhead whale harvest. The Fisheries Joint Management Committee has the ability to determine the current harvest levels for beluga whales, and to allocate subsistence levels of beluga whales among communities. Neither harvest levels nor subsistence quotas are currently in place for beluga whales as the Beaufort Sea beluga stock has a large healthy population. The Committee's roles and responsibilities under the Agreement are not restricted to the implementation of Inuvialuit rights. The Committee is also required to assist the Minister of Fisheries and Oceans in managing the fisheries in the Inuvialuit Settlement Region.

A Beaufort Sea Beluga Management Plan evolved as a result of governmental initiatives and rights under the Inuvialuit Final Agreement. The Plan is important as it will underpin any marine protected area for beluga whales and their habitat in the Beaufort Sea. The Plan incorporates extensive community consultation and includes the major stakeholders. The Plan, in conjunction with the Hunters and Trappers Committees Beluga By-laws and Tourism Guidelines, has been the central management tool in the Inuvialuit Settlement Region for regulating the beluga whale harvest and protecting beluga whales and habitat. The first version of the Plan was developed by the Fisheries Joint Management Committee in 1991, in co-operation with the Hunters and Trappers Committees of Aklavik, Inuvik, Paulatuk and Tuktoyaktuk, and the Department of Fisheries and Oceans, after several years of discussion and extensive community consultation. The oil and gas industry also participated in the evolution of the first version of the Plan and, in particular, focused on the identification of zone boundaries. The most recent version of the Plan was issued in 2001. Research, monitoring and regulations necessary for the implementation of the Plan are provided by the Hunters and Trappers Committees, the Inuvialuit Game Council, the Department of Fisheries and Oceans and the Committee.

The Beaufort Sea Beluga Management Plan refers to matters within and distinct from the Inuvialuit Final Agreement. The Plan was developed to be consistent with the Inuvialuit Renewable Resource Conservation Management Plan, and has two goals: to maintain a thriving population of beluga whales in the Beaufort Sea; and to provide for optimum sustainable harvest of beluga by Inuvialuit. The Conservation and Protection portion of the Plan is divided in the following interrelated sections: Guidelines for Development Activities; Tourism, Belugas and Beluga Hunting; and By-laws and Regulations.

The Plan provides guidelines for developments that affect beluga whales, where development is defined to include oil and gas exploration, production and transportation, hydroelectric developments, mining, deep-water port development and shipping. The objectives of the Plan are to protect beluga, beluga habitat, and beluga harvesting by the Inuvialuit; to provide guidelines and information to assist government, environmental assessment processes, and the Inuvialuit Lands Administration in their evaluation of development proposals which may affect beluga, beluga habitat or beluga harvesting; and to provide guidelines to assist industry in preparing development proposals. The Plan has four zones with guidelines for each zone, where Zone 1 is afforded the most protection.

Hudson Bay

Integrated coastal and marine management are also beginning to unfold for the Hudson Bay. The Bay and coastal regions in Manitoba and Kivalliq are experiencing greater economic activity and pressure on ecosystems. Common environmental, economic and jurisdictional and aboriginal issues for the region are encouraging a co-operative approach to integrated coastal and marine management. Last, the Bay is experiencing significant impacts from recent climatic changes, long range pollution and hydroelectric projects in the Hudson Bay watershed.

The first efforts for integrated coastal management and marine protection occurred in the western region of the Hudson Bay. This region extends from the Manitoba boundary with Ontario, along the entire Manitoba coast, to the northern limits of the Kivalliq region in the Nunavut Territory. The land portion of the western Hudson Bay is characterized by low lying plains, while the Bay is a shallow sea. Access to Hudson Bay is becoming more important due to the longer ice free season, expansions to the Port of Churchill and increases in maritime traffic throughout the Bay. National and provincial parks and conservation areas in the northern region of the province of Manitoba and the Nunavut Territory are causing significant increases in tourism.

The Nunavut Territory is Canada's most recent political territory being formally established in April 1999 to satisfy commitments made in the Nunavut Final Agreement. The relationship between the Inuit, the Nunavut Final Agreement, and the federal and territorial governments is unparalleled in Canadian history. Government structures and land ownership patterns in the Nunavut Territory reflect the requirements of the Nunavut Final Agreement. Similarly, Inuit rights under the Agreement influence the structures and priorities of both the federal and territorial governments. The Nunavut Final Agreement establishes the Nunavut Settlement Area, and describes the rights and processes that extend to coastal and marine areas north and south of the 60th parallel. The Nunavut Settlement Area is composed of Area A, which is the Arctic Islands and mainland of the Eastern Arctic and adjacent marine areas, and the Area B, which is the Belcher Islands, associated islands and adjacent marine areas in Hudson Bay. The Nunavut Territory includes all these areas, plus the Hudson Strait, James Bay and Ungava Bay and the islands of Hudson Bay.

The political demarcations of Manitoba and the Nunavut Territory do not entirely reflect the traditional territories of the Inuit and Manitoba First Nations.⁵ Resource management arrangements are in place throughout the Bay, and involve Inuit, Manitoba First Nations and federal, territorial and municipal governments. The federal and Manitoba governments and Manitoba First Nations have cooperated in the establishment and the

⁵ The Nunavut Final Agreement recognizes and provides some description of Inuit rights in Manitoba. Other initiatives are underway to determine First Nation rights in the Nunavut Territory. For example, Manitoba First Nation rights in Kivalliq are recognized under the 1999 memorandum of understanding between the federal government and the Manitoba Denesuline.

management of the Wapusk National Park on the Manitoba coast. Resource management areas are established under the Northern Flood Agreement, and are subject to a joint management regime between First Nations and the Manitoba government. The park, resource management areas and provincial wildlife management areas are all subject to First Nation harvesting rights. Last, federal, territorial and provincial governments and Inuit and Manitoba First Nations participate in inter-jurisdictional arrangements for the Beverly and Qamanirjuaq barren ground caribou herds which migrate seasonally through all these jurisdictions.

Common issues throughout the Hudson Bay are relevant for integrated coastal management and marine protection, and will shape future co-operative approaches. For example, there are common jurisdictional issues such the complexity of regulation, duplication and overlap of federal and regional government functions, and allocation of scarce financial resources and staff. There are also common Inuit and First Nation for Hudson Bay. These issues include subsistence and commercial wildlife harvesting; joint wildlife management; establishment and indigenous participation in parks and conservation areas, and tourism and guiding opportunities.

In October 2000 in Winnipeg, Fisheries and Oceans Canada sponsored "The Western Hudson Bay Workshops: Charting a Co-ordinated Approach to Management of the Region". These workshops brought together interested parties and discussed an integrated approach to coastal management, marine protection and environmental quality for the region. A diverse range of parties- including governments, the Inuit, Manitoba First Nations, academics, private parties, and environmental interests- participated in these workshop and indicated a desire to participate in a future co-operative process for the Hudson Bay. This future process could include government, Inuit, First Nations, private parties and environmental interests. A collaborative unanimous process has been suggest where significant efforts proceed with the support of all parties. As the process is inclusive, it would include government departments and agencies, Manitoba First Nations and the Inuit, local communities, and private, commercial and public interest organizations.

Conclusions

Circumpolar initiatives for integrated management and marine protection are important to preserve fresh and marine waters, onshore and offshore lands, and the overall Arctic marine environment. These initiatives are important for fish and marine mammals who migrate throughout Arctic waters. The circumpolar Arctic can be viewed as an Arctic sea surrounded by land. As a result, matters that are relevant in one region may affect relevant for adjacent and opposing regions. Therefore, integrated coastal management and marine protection initiatives in the Canadian Beaufort Sea and Hudson Bay are relevant for the entire circumpolar Arctic region. The theme and scope of the presentations at this conference confirm shared interest in integrated management and marine protection for the circumpolar Arctic by governments, institutions and peoples of the Arctic.

North American and the Scandinavian Arctic share common issues and approaches for integrated coastal management and marine protection. There is the common need for economic development in northern regions, as well as parallel necessity to mitigate the environmental and social costs of these developments. Resource development throughout the circumpolar Arctic tends to be based on renewable and non-renewable resource developments, with varying levels of environmental and social mitigation. Non-renewable resource developments include terrestrial and offshore oil and natural gas and mining developments. Renewable resource development include subsistence and commercial fisheries, wildlife and tourism. Further, all regions of the circumpolar Arctic are impacted by upstream hydroelectric developments, resource extraction and other land based activities from more southern portions of their nation. Finally, the circumpolar Arctic is experiencing disproportionate impacts from transboundary air and marine pollution, and the climatic changes, and will need to work together to adapt to these impacts.

Indigenous peoples throughout the circumpolar Arctic are demanding and achieving a greater role in land and marine management and a share in the benefits of resource development. One of the key issues for the Scandinavian Arctic, which has been addressed to a greater extent in North America, is the negotiation and implementation of Saami rights. While there are Saami Parliaments in place in these countries, these countries are just beginning to acknowledge Saami rights for self determination within the circumpolar Arctic. Norway, Sweden and Finland are beginning to negotiate the joint management and resource sharing arrangements for lands, waters, fish, forests, minerals, and hydrocarbons that are so prevalent in Alaska and northern Canada. As these Saami rights are negotiated and implemented, they will dramatically reshape the governance structure of the Scandinavian Arctic, including coastal management and marine protection. As they are implemented, these restructured arrangements could be viewed as the purest example of decentralization and local government and control.

Appendix

International agreements and conventions

International Convention on Civil Liability for Oil Pollution Damage, 29 November 1969

Protocol to Amend the International Convention on Civil Liability for Oil

Pollution Damage, 25 May 1984.

Protocol to the International Convention on Civil Liability for Oil Pollution Damage, 19 November 1976.

International Convention on Oil Pollution Preparedness, Response and Cooperation, 29 November 1990.

International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, 18 December 1971.

International Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea, adopted on May 3, 1996.

International Convention For The Protection Of Pollution From Ships, (MARPOL 73/78).

International Convention Relating To Intervention On The High Seas In Cases Of Oil Pollution Casualties, 1969 (Intervention Convention) .

United Nations Convention on the Law of the Sea (1994).

Convention On The Control Of Transboundary Movements Of Hazardous Wastes And Their Disposal (Basel Convention, 1989).

International Convention On Oil Pollution, Preparedness, Response And Cooperation.

Convention On Early Notification Of A Nuclear Accident (Notification Convention, 1986) Together With Convention On Assistance In The Case Of A Nuclear Accident Or Radiological Emergency (Assistance Convention).

Convention For The Prevention Of Marine Pollution From Land-based Sources (Paris Convention, 1974).

Convention For The Protection Of The Marine Environment Of The North-East Atlantic (Oscar Convention).

Convention On The Transboundary Effects Of Industrial Accidents (ECE Convention 92).

Circumpolar and regional agreements

Agreement Between Denmark, Finland, Iceland, Norway And Sweden On Information And Cooperation In Response To Pollution Of The Sea By Oil Or Other Harmful Substances (Copenhagen Agreements).

Agreement Between Denmark, Finland, Iceland And Sweden (Nordic Agreement).

Convention On The Protection Of The Marine Environment Of The Baltic Sea Area (Helsinki Convention).

Iqualuit Declaration.

Canadian constitutional documents

Constitution Act, 1867.

Constitution Act, 1982.

Inuit Final Agreement.

Inuvialuit Final Agreement.

Gwich'in Final Agreement.

Vuntut Gwich'in First Nation Final Agreement

Canadian legislation

Arctic Waters Pollution Prevention Act. RSC 1985, A-12.

Canada-Yukon Oil and Gas Accord.

Canada-Yukon Oil and Gas Accord Implementation Act.

Canada Marine Act. SC 1998, c 10. C-6.7.

Canada Oil and Gas Operations Act. RSC 1985, O-7.

Canada Petroleum Resources Act. RSC 1985, C-8.5

Canada Shipping Act. RSC 1985, S-9.

Canada Wildlife Act. RSC 1985, c W-9.

Canada-Yukon Oil and Gas Accord Implementation Act, SC 1998, c 5.

Canadian Environmental Assessment Act. SC 1992, c 37. C-15.2.

Canadian Environmental Protection Act SC 1999, c 33.

Department of Indian Affairs and Northern Development Act, RSC 1985, c I-6.

Federal Real Property Act, SC 1991, c 50.

Fisheries Act. RSC 1985, F-14.

Gwich'in Land Claim Settlement Act, SC 1992, c 53.

Indian Act, RSC 1985, c 1-5.

Mackenzie Valley Resource Management Act, SC 1998, c 25.

National Energy Board Act, RSC 1985, c N-6.

National Parks Act. RSC 1985, c N-14.

Navigable Waters Protection Act. RSC 1985, c N-22.

Northern Pipeline Act, RSC 1985, c N-26.

Northwest Territories Act, RSC 1985, c N-27.

Northwest Territories Waters Act, SC 1992, c. 39.

Nunavut Act, SC 1993, c 29.

Nunavut Land Claims Agreement Act, SC 1993, c 29.

Oceans Act. SC 1996, c 31.

Pilotage Act. RSC 1985, c P-14.

Transportation of Dangerous Goods Act, 1992. SC 1992, c 34. T-19.01.

Territorial Lands Act. RSC 1985, c T-7.

Western Arctic (Inuvialuit) Claims Settlement Act, SC 1984, c 24.

Yukon Act. RSC 1985, c Y-2.

Yukon First Nation Land Claims Settlement Act, SC 1994, c 34.

Yukon First Nation Self-Government Act, SC 1994, c 35.

Yukon Waters Act, SC 1992, c 40.

Relevant published documents by author

Regulatory Framework for Integrated Management and Marine Protection in Canadian Arctic Ocean (Prepared for Fisheries and Oceans Canada, 2001).

Jurisdictional, Manitoba First Nations and Inuit Issues for the Western Hudson Bay Region (Prepared for Fisheries and Oceans Canada, 2001).

Regulation of Marine Transportation and Implications for Oceans Management in Hudson Bay (Prepared for Fisheries and Oceans Canada, 2000).

Jurisdictional Issues for Fish and Marine Management in Northern Manitoba (Prepared for Fisheries and Oceans Canada, 1999).

"North American Models for First Nation Participation in Energy Development, with Emphasis on Environmental Development", Annex to Chap. 4 of *Energy and Environmental Law in Latin America and the Caribbean: Legislative Inventory and Analysis* published by the University of Calgary/OLADE Energy and Environment Project, October 1999.

Analysis of the Inuvialuit Final Agreement and Marine Protected Areas under the Oceans Act (Prepared for Fisheries Joint Management Committee, 1997).

Comprehensive Land Claims Agreements for the Northwest Territories: Implications for Land and Water Management, book co-published by the Arctic Institute of North America and the Canadian Institute of Resources Law, November 1994.

Relevant research by the author

A Hudson Bay Integrated Management Project.

The Hudson Bay Integrated Management Project is beginning to unfold for the western Hudson Bay region. In October 2000, Fisheries and Oceans Canada sponsored "The Western Hudson Bay Workshops: Charting a Coordinated Approach to Management of the Region" in Winnipeg. These workshops brought together interested parties together and led to discussions on an integrated approach to coastal management and marine protection for the region.. Contact Helen Fast, Integrated Management, Oceans Sector, Central & Arctic Region, Fisheries & Oceans Canada (telephone 204 984 3483, email: fasth@dfo-mpo.gc.ca) for copies of workshop proceedings and reports on the region.

B. Canadian Oceans Management Network: Integrated Management Node - Integrated Management, Complexity and Diversity of Use: Responding and Adapting to Change

The Integrated Management Node has been accepted for the Canadian Ocean Management Network under SSHRC/Department of Fisheries and Oceans competition. The Integrated Management Node consists of twenty-five persons, plus representatives of the six Northern partners: Aurora College, Inuvik; the Canadian Arctic Resources Committee, Yellowknife; the Fisheries Joint Management Committee, Inuvik; the Kivalliq Inuit Association, Rankin Inlet; the Nunavut Research Institute, Iqaluit; and the Tuktu & Nogak Project, Cambridge. Letters of support for the application came from the six partners, plus Fisheries and Oceans Canada, the Parks Canada Agency and the Canadian Wildlife Service of Environment Canada. The team has representation from a total of eight provinces and territories. Universities includes British Columbia, Brock, Calgary, Carleton, Lethbridge, Manitoba, McGill, and Alaska (USA). The Integrated Management Node is a network node to create knowledge for the application of critical thinking and best practice to oceans management in Canada. The node is interdisciplinary and provides a forum for researchers in social sciences, natural sciences, and health sciences to evaluate the state of knowledge, facilitate value-added research, provide seed funding, promote the use of best practice, and establish a long-term research agenda. The node works with the other nodes of the SSHRC/DFO Ocean Management National Research Network Initiative, and the National Secretariat, to create linkages, integrate lessons learned, transfer knowledge and help create an expert core of ocean

researchers for the implementation of the Oceans Act and the development of an Oceans Management Strategy.

Projects of M Muir under Integrated Management Node

1. Transboundary air and marine pollution affecting the Canadian Arctic Ocean, including coastal and marine areas, institutions and people

Research is focused on understanding existing and future impacts of transboundary air and marine pollution for the Canadian Arctic Ocean, examining international agreements and conventions, and considering ways that government, institutions, the Inuit and First Nations can address these issues.

2 Environmental and wildlife issues for Hudson Bay

One area of research is environmental issues for Hudson Bay, including transboundary air and marine pollution, existing and future hydroelectric development, hydrocarbon and mining development, and impacts of climatic change. Another area of research is wildlife use and management of migratory species for coastal and marine areas of Hudson Bay. These species include caribou, polar bears, fish and marine mammals. Subsistence and commercial harvesting, and joint management approaches are explored.

3. Watershed management of the Hudson Bay and other watersheds

This research is a comparative analysis of watershed management for the Hudson Bay watershed, the Fraser River and estuary (British Columbia), and the Thames River (United Kingdom). This comparative analysis will be used to develop ideas and dialogue for integrated management of the Hudson Bay watershed.

C. Wildlife Utilization and Management, and the Role of Traditional Indigenous Knowledge

This project focuses on wildlife utilization and management and the role of traditional indigenous knowledge in circumpolar arctic countries, and other areas of the world. Circumpolar arctic countries considered include Canada, the United States, Greenland, Iceland, Scandinavian countries and the former Soviet Union. The project also explores wildlife issues and developments pertaining to indigenous hunters in North and South America, Africa and Asia. Other issues being explored include caribou and reindeer management in Canada, United States and Saami Land; northern bush “economies” and the value of subsistence harvesting; subsistence and commercial interests in developing wildlife strategy; and sustainable wildlife utilization and management in relation to parks and conservation areas in Kenya, Tanzania and southern Africa.

D. Parallels for Indigenous and Migratory Peoples in the Americas, Europe and Africa

The project focuses on research, information and technology transfer, and capacity development on common issues for indigenous peoples in North and South America, and indigenous and migratory peoples of Europe and Africa. The European aspect focuses on Saami and Roma/Gypsy peoples. The African aspect focuses on migratory and pastoral peoples in northern and eastern Africa. This project is being conducted in cooperation with indigenous and migratory peoples, and academic, governmental and non-governmental organizations. Some issues include land tenure and indigenous land claims, the accommodation of pastoral interests and nomadic lifestyle within urban or agrarian societies, indigenous resource interests and co-management, participation in environment and socio-economic aspects of developments, and systematic human rights abuses.